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Department of Freshmen Engineering Presents International Conference on

5th Online/Offline Mega International Conference on "Continuity, Consistency and Innovation in Applied Sciences and Humanities" on 19th & 20th June 2024



(ICCIASH-2024) PROCEEDINGS

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### **Department of Freshmen Engineering**

5<sup>th</sup> Online/Offline Mega International Conference on "Continuity, Consistency and Innovation in Applied Sciences and Humanities" on 19<sup>th</sup> & 20<sup>th</sup> June, 2024 (ICCIASH-24)

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I am extremely pleased to know that the Department of Freshmen Engineering of SMEC is organizing 5<sup>th</sup> Online/Offline Mega International Conference on "Continuity, Consistency and Innovation in Applied Sciences and Humanities (ICCIASH-2024)" on 19<sup>th</sup> & 20<sup>th</sup> June, 2024. I understand that the large number of researchers has submitted their research papers for presentation in the conference and for publication. The response to this conference from all over India and Foreign countries is most encouraging. I am sure all the participants will be benefitted by their interaction with their fellow researchers and engineers which will help for their research work and subsequently to the society at large.

I wish the conference meets its objective and confident that it will be a grand success.

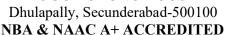
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Sri. G. CHANDRASEKHAR YADAV EXECUTIVE DIRECTOR



#### **MESSAGE**

I am pleased to state that the Department of Freshmen Engineering of SMEC is organizing 5<sup>th</sup> Online/Offline Mega International Conference on "Continuity, Consistency and Innovation in Applied Sciences and Humanities (ICCIASH-2024)" on 19<sup>th</sup>&20<sup>th</sup> June, 2024. For strengthening the "MAKE IN INDIA" concept many innovations need to be translated into workable product. Concept to commissioning is along route. The academicians can play a major role in bringing out new products through innovations.

I am delighted to know that there are large number of researchers have submitted the papers on Applied Science & Humanities. I wish all the best to the participants of the conference additional insight to their subjects of interest.

I wish the organizers of the conference to have great success.

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G. CHANDRASEKHAR YADAV

**Executive Director** 



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#### Dr. P. SANTOSH KUMAR PATRA



I am delighted to be the Patron & Program Chair for the 5<sup>th</sup> Online/Offline Mega International Conference on "Continuity, Consistency and Innovation in Applied Sciences and Humanities (ICCIASH-2024)" organized by the Department Freshmen Engineering on 19<sup>th</sup> & 20<sup>th</sup> June, 2024. I have strong desire that the conference to unfold new domains of research among the Applied Sciences and Humanities and will boost the knowledge level of many participating budding scholars throughout the world by opening a plethora of future developments in the field of Applied Sciences and Humanities.

The Conference aims to bring different ideologies under one roof and provide opportunities to exchange ideas, to establish research relations and to find many more global partners for future collaboration. About 430+ research papers have been submitted to this conference, this itself is a great achievement and I wish the conference a grand success.

I appreciate the faculties, coordinators and Department Head of Freshmen Engineering for their continuous untiring contribution in making the conference a reality.

(Dr. P. Santosh Kumar Patra) Professor & Group Director

#### **CONVENER**

Dr. RANADHEER REDDY DONTHI
Professor & Head, Department of FME



The 5<sup>th</sup> Online/Offline Mega International Conference on "Continuity, Consistency and Innovation in Applied Sciences and Humanities" (ICCIASH-2024) has concluded its work successfully on 19<sup>th</sup> & 20<sup>th</sup> June, 2024 in St. Martin's Engineering College (SMEC), Hyderabad, India.

The ICCIASH-2024 was organized hybrid mode by the Department of Freshmen Engineering, SMEC, and the objective of this conference was to bring together experts from academic institutions, industries, research organisations for sharing of knowledge and experience in the recent trends and advances in Applied Sciences and Humanities.

The speakers from various reputed universities addressed the audience, presented their knowledge expertise and shared the major findings on the advances in multi-disciplines. The student participants, paper presenters have been well benefited through this conference.

Nearly 430+ theoretical and research papers were presented by authors from national and international universities. The standard papers of the conference will be published in reputed UGC Care print journals.

ICCIASH-2024 has been a grand success as the conference has received a huge response from the aspirant scholars, professors and students. The management of SMEC and respected Group Director, Dr. P. Santosh Kumar Patra sir has timely motivated for achieving the fruitful results.

I convey my heartfelt gratitude to our Group Director sir and the management team. The journey of knowledge sharing will continue with your constant support.

Dr. RANADHEER REDDY DONTHI

Professor & Head, Department of FME

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#### Analysis of 6T Full Adder Using EX-OR, EX-NOR In 45nm Technology

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Abstract: The primary design constraints in advancing nanometer technology schematics revolve around power consumption and delay factors. A pivotal element within a processor's Arithmetic-Logic-Unit is the full-adder. Hence, any substantial modifications to the parameters of the Full Adder would directly impact not only the ALU but also the overall parameters of the processor. In this study, we advocate for the Evolution of a Six-transistors full-adder utilizing Two- transistors EX-OR an And Two-transistors EX-NOR modules within the GPDK 45nm Cadence Virtuoso technology framework. Subsequently, we propose the substitution of the 2T EX-OR and 2T EX-NOR modules with Complementary-Pass-Transistor - Logic (CPTL) in Six-Transistors full adder design. Our investigation reveals that the 2T EX-OR module employing PTL exhibits the lowest product of power& delay of 2.895214a, while the 2T EX-OR module integrating CPTL demonstrates the lowest delay of 13.37ps. This paper concludes by presenting insights gleaned from parametric analyses encompassing noise output, power dissipation, and delay characteristics derived from the previous circuit configurations.

**Keywords:** Cadence VIRTUOSO GPDK 45nm, ALU

UGC AUTONOMOUS

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#### **Iot Based Home Automation using Arduino**

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#### **Abstract:**

The object of present paper is to study the properties of Hopf lightlike hypersurfaces of indefinite Kenmotsu manifold. Two monographs by Duggal-Jin and Duggal-Sahin contain a collection of many interesting results on lightlike hypersurfaces, and have, further, motivated other scholars to take an active role in the study of lightlike geometry. The object of present paper is to study the properties of Hopf lightlike hypersurfaces of indefinite Kenmotsu manifold.

**Keywords:** Hopf lightlike hypersurfaces, Kenmotsu manifold 2010 AMS Classification Number: 53C15, 53C25, 53C50,



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# Smart Street Lighting and Monitoring System Based On sunlight Intensity Detection Using Iot and Cloud

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#### **ABSTRACT**

The smart street lighting system that uses IOT aims to reduce labor force and reduce power consumption in order to save energy. Although they safeguard roadways, improve night vision, and enhance communal spaces, streetlights are an essential component of every city. However, they use a colossal amount of power. Even in situations when there is sufficient light, the labor-intensive streetlight system's lights are power-driven from twilight to morning with a fervent intensity. You may avoid this waste of electricity by having lights turn off on their own.

**Keywords:** *Microcontroller, Cloud Server, IOT, Sunlight intensity detection, LED.* \*Corresponding Author: N. Sindhuja



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### A Comprehensive Framework for Integrating Cyber Threat Intelligence: Strengthening Proactive Defense Strategies and Optimizing Incident Response

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#### Abstract

This research presents a comprehensive framework integrating cyber resilience and Cyber Threat Intelligence (CTI) to fortify organizations' security and enhance cyber hygiene practices. Cyber resilience ensures an organization can maintain critical functions and services amidst cyber-attacks and promptly recover from disruptions. It encompasses proactive measures like gathering threat intelligence and managing risks, along with reactive actions such as incident response planning, data backup, and recovery. The Cyber Threat Intelligence process involves collecting, analyzing, and leveraging information about potential cyber threats to empower organizations in preventing, detecting, and responding to cyber-attacks. By aggregating data from diverse sources, including open-source intelligence, social media, and specialized feeds, CTI offers a complete perspective of the existing threat landscape, including attackers' tactics, techniques, and procedures (TTPs) and the most exploited vulnerabilities. This study proposes an integrated architecture combining cyber resilience and CTI to develop proactive defense strategies and optimize incident response capabilities. This approach enables organizations to manage cyber security risks effectively and counter the escalating threat of cyber attacks. The research presents a new approach to Cyber Threat Intelligence called Cognitive Cyber Threat Intelligence (CCTI). Various structured and unstructured data sources are analyzed, gathered, and presented using Big Data analytics, machine learning, and natural language processing. CCTI enhances threat intelligence accuracy and timeliness, identifies emerging threats, and supports proactive defense strategies.

**Keywords:** Cyber Threat Intelligence, Proactive Defense Strategies, Incident Response, Cyber Resilience, Threat Intelligence Sharing, Cognitive Cyber Threat Intelligence.

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#### ParkSense – A Sensor Enabled Smart Parking System

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#### Abstract:

Parking management systems are vital for mitigating congestion and enhancing user experience in urban and commercial settings. However, existing systems often struggle with inefficient space utilization and a lack of real-time monitoring. To address these challenges, this paper presents an IoT-based Vehicle Parking Management System tailored for malls and large corporations. The system utilizes RFID sensors, IR sensors, and Raspberry Pi devices for real-time monitoring of parking slots. RFID tags facilitate seamless vehicle authentication, while IR sensors detect occupancy for optimal space utilization. By enhancing IoT components, the system provides scalable and adaptable parking management, significantly improving the overall parking experience for customers and employees.

Keywords: Parking, Sensors, RFID, IR, Raspberry Pi, Application.



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Lyrics and Music Generation System Using Generative AI Models

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### **Abstract:**

Music is a universal language that can express emotions, convey stories, and inspire creativity. However, music composition is a complex and challenging task that requires musical knowledge, skills, and creativity. Many people who love music may not have the opportunity or the resources to learn how to compose music or to access professional music production tools. Therefore, there is a need for a novel and user-friendly music and lyrics generation platform that can leverage the power of generative AI models to create personalized and high-quality musical compositions and Lyrics that cater to the individual tastes and needs of the users. Existing projects and systems work on their own large complex models which require a good amount of resources and not every user can understand its complexity, Hence In this paper, we decided to build a web application that leverages on Open AI's GPT model for Lyrics generation and Facebook's Music Gen – Small model for music generation based on given user inputs as context.

**Keywords:** Music, Lyrics, Generative AI, Open – AI, Facebook. GPT.



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**Enhanced Key Generation algorithm with valid auditing scheme for Secure cloud storage** 

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**Abstract:** 

Data integrity and security are the main factors while storing our data in to the cloud storage. Before accessing the cloud data, data auditing and security are used to check the integrity and security of the outsourced data. The key challenge in these existing methods is the efficiency of the auditing and security. Existing auditing protocols audits all the data which is really unnecessary because some of the data just had been audited and some data will go for audit in the future. So auditing all these data, waste the resources and time. The general and popular method used to secure our data is user based key generation. Unbreakable User based key generation is an important phase which takes time to produce secret key. So In this paper I propose

- User Identity based key generation algorithm in which secure key is generated to avoid the attacker.
- This method avoids the attacker to access the data and only authorized user can access the data.
- I also address the waste of resources because of the invalid audit in the cloud storage by introducing the user behavior prediction.

**Keywords:** Data integrity, Security, Key Generation, Valid Auditing, Cloud Storage, System Model, User Authorization.

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# The Role of Earthworm Biodiversity in Soil Fertility and Improved Crop Productivity

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#### Abstract:

Earthworms are biological indicators of the soil ecosystem because they indicate the health and fertility of the soil for proper farming. In the soil, for good aeration, nutrient-rich earthworms are essential organisms. They improve nutrient content, increase water retention and improve soil microbial activity. There are about 3,627 species of earthworms in the world. There are two types of earthworms: microdrilli and megadrilli. In the microdrilli group, there are about 280 species, the rest all belong to megadrilli. Earthworms belonging to the Megadrilli group are earthworms that live in soil, they are divided into 3 subgroups: epigeal, endogetic and anecic. Earthworms work for them day and night without having to spend much labor and make the soil more nutritious and aerated, helping agricultural production. The main problem today is recycling organic waste into humus products. To improve agricultural production, organic fertilizers are a better choice than chemical fertilizers. Earthworms decompose organic waste into compost. Through the use of worm farming techniques (using earthworms and organic waste), in the presence of oxygen, organic waste will be converted into fertilizer. The diversity and number of earthworms in the soil changes the soil's texture and improves its nutrient content.

Keywords: Vermicompost, Biodiversity, Soil, Waste recycling, Earthworms.

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An Analysis: Body Language to Understand Human Behaviour

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### Abstract:

The purpose of this paper is to find out some gestures, and postures to understand the human behaviour without verbal communication. Body language is universal. Everyone has body language; one is born with it. It is expressed differently across cultures, but its innate use is common to all human species on the planet. This form of nonverbal communication is extremely important because it is the purest form of human expression. Body language that expresses a certain meaning in a silent language through elements such as eye contact, gestures, posture, smiles, movements and expressions is an important means to people communicate with each other. Body language is the non-verbal element of communication that we use to express our true feelings and emotions. Our gestures, facial expressions and postures for example. Tone and pitch of the voice are part of the verbal signal, they are also part of body language. Breathing and perspiration depend on your definition of body language. This Paper was based on observational and experience methods. Research has shown that people more readily pay attention to their impressions of how a person acts through body language than what is being said through words. Three easily detected actions that reveal a person's feelings are head nodding, leg shaking, and eye contact.

**Keywords:** *gestures, posture, body language, facial expression.* 

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Air Pollutants Prediction Using Ensemble Deep Learning Techniques

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### Abstract:

Internationally, air pollution is a serious natural issue that affects individuals' wellbeing and personal satisfaction. Its primary drivers are air pollutants such sulfur dioxide (SO2), nitrogen dioxide (NO2), ozone (O3), and particulate matter (PM2.5, PM10), which might bring about serious cardiovascular and respiratory circumstances. Our review plans to utilize refined machine learning ways to deal with gauge air pollution levels with high accuracy, to settle this fundamental issue. LSTM, GRU, LSTM+GRU, CNN, and CNN+LSTM are among the models whose exhibitions we break down in view of variables like air quality files, pollutant focuses, and season. The objective of this exploration is to make a dependable expectation model that can expect air quality, which could bring about better ecological and general wellbeing guidelines. Our strategy gives a reliable instrument to controlling and observing air contamination, prompting a better and cleaner climate, with an accuracy of more than 90%.

**Keywords:** Air quality, machine learning, deep learning, predictive models, statistical methods.

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# An Analysis of Successful Digital Marketing Strategies in Punjab's Education Sector

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### **Abstract:**

One of the most important strategies for commercial organizations to successfully reach their target audience is digital marketing. Since digital marketing has surpassed traditional marketing methods and is rapidly modernizing, it is always hard. Businesses are fixated on finding new and creative ways to meet the opportunities and problems presented by the digital age. Businesses utilize digital marketing, a channel of electronic communication, to promote their products and services to consumers. There are currently more than 465 million internet users worldwide, with India ranking as the second-largest online market. Approximately 635.9 million Indians will have access to the internet by 2021, accounting for 80% of the country's population that uses smartphones for daily activities. The majority of people spend their time online, especially young people in school and working executives. As a result, digitalization has supplanted traditional methods of disseminating information, as seen by viewers. This paper examines the potential effects of digitalization on decision-making within a particular target group, using the education sector as a case study.

Keywords: digital marketing, electronic communication

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# Dileesh Pothan's Joji: An Exploration of Authorial Impression Anjitha Anil

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### **Abstract:**

Adaptations have held significant importance throughout history, and they can be observed almost everywhere in the contemporary world. Adaptation is often accompanied by the influence of its source material, which may cast a shadow on the adapted work. To discuss adaptation thoroughly, one cannot overlook the contributions of William Shakespeare, whose timeless works have captivated numerous writers and filmmakers. The enduring appeal of Shakespeare's work has led to its global translation and adaptation. Even today, his influence is evident in the international marketplace. By the 20th and 21st centuries, his works were translated, adapted, and assimilated into numerous Indian languages. For instance, Indian filmmakers have transformed Macbeth into an Indian setting, as seen in Vishal Bhardwaj's Maqbool (2001), Jayaraj's Veeram (2016), and Dileesh Pothan's Joji (2021). This paper, titled "Dileesh Pothan's Joji: An Exploration of Authorial Impression," aims to analyze Joji, the recent Indian film adaptation of Macbeth, using the lens of auteur theory. When discussing fidelity, the director of the film often takes a backseat, while the author of the source text takes centre stage. However, successful directors of adaptations can be considered equal to the authors of the source text if they assert their creative voice through their films. This paper seeks to evaluate the success of Dileesh Pothan in adapting William Shakespeare's Macbeth into Joji.

**Keywords:** *Macbeth, Joji, film adaptation, author, director, auteur theory* 

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### **Unpacking Diasporic Identity in Benyamin's Goat Days**

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### Abstract:

This study delves into the diasporic novel Goat Days, written by Benny Daniel and translated by Joseph Koyippally, to explore the struggles and sufferings of the protagonist, Najeeb, as a reflection of the diasporic experience. Through a close analysis of Najeeb's narrative, this research examines the themes of post-traumatic stress, loneliness, and solitude, which render him vulnerable and traumatic amidst his life conditions. The novel's non-linear narrative, oscillating between Najeeb's past and present, serves as a powerful tool to illuminate the complexities of Gulf migration, economic crisis, and diasporic identity. This study argues that Goat Days not only offers a literary perspective but also provides valuable sociological insights into the experiences of migrants in Middle Eastern countries. By exploring the concept of diaspora as fragmentation, scattering, hybridity, and ambivalence, this research sheds light on the emotional and psychological toll of displacement on individuals, highlighting the universal human longing for a sense of belonging and connection to one's native land.

**Keywords:** migration, diaspora, Gulf, crisis, trauma, identity

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Ableism in Disability: A story of surmounting the Dual Discrimination in the Indian Cultural Context

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### Abstract:

Disability culture encompasses a broad spectrum of challenges faced by individuals with disabilities, including issues such as separation, social isolation, discrimination, intolerance, and the need to overcome various barriers. Those who are marginalized due to their identity often find themselves having to exert extra effort to attain social recognition compared to individuals deemed more deserving. The process involves transcending their identity and empowering themselves to integrate into an unstigmatized community.

"Ableism in Disability: A Story of Surmounting the Dual Discrimination in the Indian Cultural Context" is a study in the limelight of Critical disability theory probing into the experiences of Kariveppil Rabiya, a social worker with physical challenges hailing from Kerala, India. Rabiya faced dual discrimination based on her gender and the fact that she had disabled legs due to polio at the age of seventeen. Despite these adversities, her relentless pursuit of education and commitment to uplifting the illiterate members of her community led to her being honoured with the Padma Shri, the fourth-highest civilian award in India, in January 2022. This research article analyses the hardships, determination, and thoughts that propelled Rabiya to overcome her seemingly invincible circumstances, with a primary focus on her autobiography, "Dreams have Wings" (2009). It emphasizes that disability literature is not a conclusion but a trajectory, an expansive journey, and a gesture toward understanding rather than a definitive endpoint.

**Keywords:** Disability culture, empowered women, education, social upliftment

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## The Role of Social Media in Manipulating the Natural Decision Making Process of Human Beings

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### **Abstract:**

Social media has been profoundly influencing the decision-making process of human beings. The study employs a comprehensive approach to investigate social media's influence on human beings' natural decision-making process, focusing on three fundamental constructs of Information Consumption and Cognitive Biases, Behavioural Nudges and Emotional Manipulation, Social Comparison and Influence. Through an extensive literature review and empirical analysis, the paper elucidates how these constructs shape individuals' choices, preferences, behaviours, and decisions. The research, carried out with a participant pool of 360 individuals from India, falling within the age bracket of 18 to 35 years, reveals compelling findings regarding how social media platforms manipulate the natural decision-making process of the users.

Keywords: Social Media Manipulation, Social Media Influence, Cognitive Bias



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## Demythologizing the Character of Krishna in Mahabharata Through J.Rajasekharan Nair's All Lies, Says Krishna

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### Abstract:

J. Rajasekharan Nair's All Lies, says Krishna, is an odd but perceptive work that provided the first philosophical explanation of the deeply psychologically tortured conditions under which the epic Mahabharata's characters lived. The characters are effectively shown as everyday people with all the strong, archetypal human emotions—distress, disappointment, nostalgia, longings, retaliation, vengeance, etc. In a nutshell, the book aimed to undertake a thorough mental analysis of the epic's characters. J. Rajasekharan Nair, the author, attempted to demythologize the attitudes of the characters in order to make the use of the psychoanalytic technique to examine the psyche of the characters easier. The author's endeavor to demythologize does not stop with analyzing the traumatic psychic states of the main characters; it also helps contemporary readers understand the Mahabharata from a completely cutting-edge perspective. Despite their royal origins and characteristics, the Mahabharata characters are shown in the book as fallible human beings. According to Freud, suppressed feelings will always find a way to surface. They exhibit neurotic behavior frequently, which is a reflection of their repressed emotions and agonies. A few of the main characters are depicted as having had traumatic flashbacks, which explain why they act in a reserved manner. This paper focuses on the one who is often referred as one of the supreme heroes of Mahabharata- Krishna.

**Keywords:** Dwaraka- The city in which Krishna lived, Vrindavan-The place where Krishna spent his childhood, Radha- One of the Consorts of Krishna

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Emancipation via Knowledge: Existential strife in Arun Joshi's "The Strange Case of Billy Biswas"

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### Abstract:

Generally, Wisdom is the key factor in any experience of true liberation. It is the ultimate result of mindfulness. Various philosophers belong to different schools of thought defined wisdom, liberation, mindfulness and other philosophical terms in accordance to their ideology. Ultimate result of their argument is that wisdom is a spectrum of experience that begins with insight into empty nature of all phenomena including the self. It finds its realization in the liberation of mind that direct knowing of unconditioned and transcendent wisdom. When the liberation of mind and liberation by wisdom are joined together, they can be taken to indicate two aspects of eligible deliverance. Liberation of mind signifies the release of his mind from craving and its associated defilements where as liberation by wisdom is the liberty from ignorance. Keeping this in the mind, this article throws light on the Joshi's novel and how the characters, situations and attitudes are released from the liberation of mind and liberation by wisdom. The first one is the attainment of eligibility by leaving sensual desires and realization of ignorance and the later one is the attainment of liberation through wisdom.

Keywords: Wisdom, Liberation, Realization, Internal conflict

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# **Enhancing Waste Classification Efficiency: Implementation of a Hybrid Deep Learning Algorithm for Optimized Waste Sorting**

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### Abstract:

This research endeavours to revolutionize waste management through the creation and application of a novel hybrid deep learning algorithm dedicated to optimizing waste classification. By amalgamating multiple deep learning architectures and techniques, this study aims to propel the accuracy, speed, and efficacy of waste sorting processes, thereby significantly contributing to improved recycling endeavours and overall waste management systems. The methodology involves a meticulous design phase, meticulously selecting and integrating diverse deep learning models—such as Convolutional Neural Networks (CNNs), Recurrent Neural Networks (RNNs), and possibly attention mechanisms—to form a comprehensive hybrid algorithm. This amalgamation will undergo rigorous training, involving data preprocessing steps, augmentation techniques, and hyperparameter tuning, ensuring the model's robustness and adaptability Evaluation metrics encompassing accuracy, precision, recall, and computational efficiency will gauge the model's performance against conventional approaches, demonstrating its superiority in accurately classifying various waste materials. The analysis of results and their practical implications within waste sorting facilities will underscore the algorithm's potential for real-world application, paving the way for sustainable and efficient waste management practices.

**Keywords:** Waste Classification, Deep Learning Algorithm, Hybrid models, Optimized Waste Sorting, Recycling efficiency, real world application.

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# Optimizing Recycling Operations: A Comparative Study on Enhanced Segregation Accuracy through Computer Vision-Based Automated Waste Sorting

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### Abstract:

This study investigates the efficacy of implementing computer vision-based automated waste sorting to enhance the precision of segregation in recycling facilities, aiming to optimize overall recycling operations. Traditional waste sorting methods often lack the accuracy needed to efficiently segregate diverse waste streams, leading to inefficiencies in the recycling process. In response, this research presents a comparative analysis between conventional sorting techniques and the proposed computer vision-based automated system. The methodology involves the deployment of advanced machine learning models and computer vision algorithms to facilitate real-time recognition and categorization of various types of waste materials. The comparative study assesses the accuracy, speed, and efficiency of waste segregation achieved by these automated systems against conventional manual sorting methods. Results demonstrate a significant enhancement in segregation accuracy and operational efficiency through computer vision-based automated waste sorting. Notably, the automated system showcases superior capabilities in distinguishing and separating different recyclable materials, thereby reducing sorting errors and streamlining the recycling process. The implications of this research extend to substantial improvements in recycling facilities, promising enhanced resource recovery rates and minimized contamination in recycled materials.

**Keywords:** Recycling, waste management, automated waste sorting, computer vision, machine learning, segregation accuracy, efficiency optimization.

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# Real-Time Autonomous Car Implementation with Image Processing and IoT

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### **Abstract:**

The current delivery frameworks (TLD) do not allow for Vehicle-to-Infrastructure connection, which is why Traffic Sign Detection and Path Identification are still considered important tasks for self-governing cars and Driver Assistance Systems (DAS) or Self-Driving Cars. Businesses are switching from traditional models like HOG and others to more complex neural network models like Convolutional Neural Network (CNN) in order to achieve increasingly precise results. Deep Neural Network is able to extract and process progressively more pure highlights from the Raw RGB image obtained from nature. Deep neural networks, such as CNN, involve extremely intricate computations. This paper suggests an autonomous car or robot that can recognize various articles in a given condition, group them using a CNN model, and make decisions continuously based on this data. This kind of autonomous vehicle or robot can be used with self-driving cars, autonomous cars, or driving assistant systems (DAS).

**Keywords:** CNN, Deep Neural Network, Autonomous Vehicle, Driving Assistance System (DAS).

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# SNR Dynamics in Orthogonal Systems: Distance, Noise, and Power Optimization

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### **Abstract:**

This study investigates the intricate dynamics of the signal-to-noise ratio (SNR) in orthogonal time–frequency space systems (OTFS system), focusing on its relationships with distance, noise variance, and average power. Through systematic exploration, three key results emerge, shedding light on the nuanced interplay between these variables. This study delves into the optimization of the SNR across various scenarios, providing insights that enhance system performance. These findings offer valuable considerations for the design and operation of orthogonal Systems, emphasizing the importance of managing distance, noise, and power to achieve optimal SNR outcomes.

**Keywords:** Orthogonal Systems, Signal-to-Noise Ratio (SNR), Time-Frequency Space, Optimization, Distance, Noise Variance, Average Power



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## Theorizing Gramacian Hegemony in Tsering Woeser's Tibet on fire

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### Abstract:

This paper endeavours how Tibetans gave voice for Tibet's independence and race their voice against modernism. In Tibet, most of the people are illiterate they follow their art and tradition. So china trued to control Tibet under the government of china but through many fights and movements Tibet secured their tradition from modernism. Tibet on fire is an account of the discrimination and atrocities faced by Tibetans in twenty first century Tibet and their resistance to Chinese Rule and occupation. In 2008 nearly one fifty Tibetans most of them monk have set fire to themselves to protest foreign occupation of their country., Most have died and injured. It is important to understand the book is not about self-immolation, but horrific reality and emotions the Tibetan and their long search for national and individual freedoms.

This book provides ideals and personal motivation driving those who resist self-immolation and also other Tibetans like the author. Tibetan plateau is dominated by Chinese political party, The Gramsci an theory of hegemony can be applied to the situation in Tibet.

**Keywords:** Tibetan identity, challenges, oppression, self-immolation, Hegemony & struggle for Human Rights.

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# Pythagorean Plithogenic Possibility Hypersoft sets in Sustainable Waste Management

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### Abstract:

Plithogenic sets are a kind of viable representation which is more comprehensive in nature. This research work explores the applications of Pythagorean Plithogenic possibility Hypersoft sets. This study is an extension of Plithogenic Possibility Hypersoft representations to Pythagorean sets. This study is an intersection of Plithogenic hypersoft sets, possibility theory and Pythagorean sets. The similarity measures are explored with the Pythagorean representations and its applications are discussed with regard to sustainable waste management. This research offers more insights on the extensive implications of the proposed decision model with the combination of Plithogeny, Possibility and Pythagorean. The proposed notion is too flexible and feasible and henceforth it shall be applied to other decision domains. The Plithogenic possibility hypersoft sets shall also be discussed with other extended representations of Pythagorean sets.

Keywords: Plithogenic sets, Possibility, Pythagorean sets, Hypersoft sets

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# **Exploration of Myths and Binary Oppositions in Easterine Kire's When the River Sleeps through Structuralism**

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### Abstract:

When the river sleeps is a novel written by Easterine Kire. It revolves around the remote mountains of Nagaland, a place alive with spirits of nature and myths. When the River sleeps, narrates the story of Vilie, a lone hunter, who undertakes a dangerous journey in quest of a river that frequently appears in his dreams. As Vilie treks through the forest, we walk alongside him in enchanting world of nature and explores myths and binary opposition through structuralism approach. Claude Levi-Strauss, Ferdinand de Saussure, Roland Barthes and Vladimir Toporov are some of the structuralist thinkers to explore binary opposition and myths in this novel

Keywords: Structuralism, Myths and Binary opposition

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# Production Inventory Model with Sustainable Cost Parameters A.Theeba<sup>1</sup>, Nivetha Martin<sup>2</sup>

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### Abstract:

Inventory modeling is very significant in maintaining optimal production runs. Economic efficiency is the core objective of every inventory model however, this research presents a production inventory model with the components of sustainability. A sustainable kind of production model is formulated in this research work with the notion of defective rectification and waste disposal. The costs associated with sustainability are incorporated in the inventory model to develop an environmental centered inventory model. A differential equation stating the inventory levels in the time intervals of [0,t1] and [t1,T] with rates of repair and disposal is modelled. A sensitivity analysis is made to determine the influence of sustainable cost parameters on the optimal order quantity and total inventory costs. The proposed model shall be discussed with different demand patterns as a part of extension of this research work. The sustainable production inventory model proposed in this research work will facilitate the manufacturers in economic optimization and environmental promotion. The proposed deterministic model shall also be extended and discoursed with uncertain parameters.

**Keywords:** Inventory model, production, sustainability, defective rate, disposal

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## Study of Ultrasonic Velocities and Related Properties of Blends of Oils

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### Abstract:

The present study investigates the intricate relationships between ultrasonic velocities and the Thermoacoustic properties of oil mixtures. Oil blends are widely used in many sectors to improve particular aspects; yet, comprehending the molecular dynamics and associated attributes of these mixes is still a scientific quandary. Velocity measurements were made using sophisticated ultrasonic method, which are an essential metric for understanding molecular interactions, density, and viscosity changes in the mixes. By methodically examining how temperature, pressure, and composition ratios affect ultrasonic velocities, the study sheds light on both the kinetic and thermodynamic components of oil mixing. Furthermore, the study reveals relationships between critical characteristics including thermal conductivity and ultrasonic velocities. An integrated viewpoint on oil mix behaviour under various circumstances is provided by these connections. This discovery holds significant implications for sectors that depend on oil blends, offering customized solutions for food processing, medicines, and lubricants. Industries can optimize blending operations and improve production systems' sustainability and efficiency by having a thorough grasp of ultrasonic velocities and their connections with different attributes.

**Keywords:** Ultrasonic Velocity, Pulse overlapping technique, Oil blends, Thermoacoustic properties, Attenuation Co-efficient

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# **Interval-valued Plithogenic Cognitive Maps in Decision Making**

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### **Abstract:**

Plithogenic Cognitive Maps (PCM) are comprehensive decision models applied in several areas of decision making considering complicated factors. Researchers have developed different kinds of PCM models. This research work intends in developing a PCM model with interval valued representations. The newly developed decision-making model with Plithogenic representations is applied to a decision-making model on making optimal decisions on sustainable supply chain systems. The interval-valued representations are discussed in different instances of fuzzy, intuitionistic and neutrosophic scenarios. The Plithogenic cognitive approach of investigating the factors associated with the decision-making problem yields promising results comparison with other single valued representations.

**Keywords:** Plithogenic sets, interval-valued sets, sustainability, transportation system

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Crossing the Emotional Boundaries and Spreading the Aroma: A Study of Divakaruni's Mistress of Spices

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Abstract:

Chitra Banarjee Divakaruni secured a prominent place among a plethora of immigrant writers who contributed to the diasporic literature. Her enriched and versatile portrayal of immigrant experience is well appreciated in the literary circles. Her novel the Mistress of Spices portrays her longing for being an insider. She spices the Indian Diaspora by projecting the Indian culture and feminine sensibility.

Mistress of Spices is a novel of awakening, for the development tale of the protagonist in them is not of uninterrupted progress. Part of the development is concealed in coded memories while the rest appears as the result of several epiphanic moments. The very awakening to the quest is the result of a revelation that is usually spread over a series of incidents; the subsequent quest culminates in another epiphany which forms the climax of this novel. Even this final awakening is not always a totally happy awareness, it is an awakening to inner aspirations as well as social limitations.

**Keywords:** Loneliness, alienation, displacement, immigrant experience, feminine sensibility, belonging

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# Cultivating success: a smart crop recommender harnessing svm And random forest classifier for precision agriculture

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### **Abstract:**

Agriculture is pivotal to both the Indian economy and employment sector. A prominent issue encountered by Indian farmers is the lack of appropriate crop selection based on soil requirements, leading to considerable declines in productivity. Given the limited availability of domestic land, the strategic selection of crops based on local conditions has become imperative to maximize yield. The current crop recommendation systems often rely on traditional methods and basic statistical models to suggest crops based on historical data, soil conditions, and climate parameters. These systems may lack the sophistication to handle dynamic changes in environmental factors, leading to suboptimal recommendations. Additionally, the existing systems might not effectively consider the intricacies of local agricultural practices, limiting their adaptability and accuracy. The proposed crop recommendation system aims to overcome the limitations of the existing approaches by taking various input of soil condition such as Nitrogen, Potassium, Phosphorus and another parameters such as temperature, humidity, pH and rainfall. Perform algorithms like SVM and random forest. And model suggest the most suitable crops for a given farm. Our system not only increases crop yield and profitability but also promotes sustainable farming practices.

**Keywords:** — prediction; machine learning; crop recommendation; smart farming; historical data, SVM, Random Forest

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## **Twitter Sentiment Analysis Using Machine Learning**

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### Abstract:

Sentiment analysis on Twitter has become an indispensable tool for comprehending trends and public opinion in the world of social media. The existing system for Twitter sentiment analysis relies heavily on traditional machine learning models, which face challenges in capturing the nuances of language, handling sarcasm, and adapting to rapidly evolving linguistic expressions. These limitations hinder the accuracy and efficiency of sentiment classification, leading to suboptimal results. By utilizing cutting-edge machine learning algorithms and cutting-edge natural language processing approaches, the suggested solution improves sentiment analysis performance on Twitter. To propose technique, provides a more robust and adaptive solution captures the complexities of sentiment expression in the dynamic context of Twitter using Random Forest Algorithm.

**Keywords:** — Natural language processing techniques, sentiment classification, Twitter sentiment, Random Forest Algorithm



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Impact of Job Crafting and Employee Personality on Work Engagement and perceived career satisfaction of employees across IT industries in Bengaluru

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### Abstract:

This study explores the interplay between job crafting, employee personality traits, work engagement, and perceived career satisfaction among employees within the Information Technology (IT) sector in Bengaluru, India. Job crafting, a proactive approach by employees to redesign aspects of their jobs, has garnered significant attention due to its potential to enhance work-related outcomes. Furthermore, personality traits play a vital role in influencing individual behaviours and perceptions within the workplace. The IT industry, known for its dynamic and demanding work environment, provides a pertinent context to investigate these relationships.

Drawing upon a sample of employees from various IT companies in Bengaluru, this research employs quantitative methods to examine the relationships between job crafting behaviours, employee personality traits, work engagement, and perceived career satisfaction. Data collection involves standardized surveys measuring job crafting behaviours, personality traits, work engagement, and perceived career satisfaction. Data is collected through surveys administered to employees across multiple IT companies, utilizing validated scales to measure the key variables. A survey was administered to a sample of 400 employees selected through the convenient sampling technique. According to the results, job crafting and employees' personalities greatly affect their level of engagement at work and how satisfied they are with their career prospects. Results from this study should provide light on how factors like job crafting and employee personality affect IT-related results on the job.

**Keywords:** — Job Crafting (JC), employee personality (EP), work engagement (WE), perceived career satisfaction (PCS).

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# Depiction Of Women In The Writings Of Select Indian Women Diasporic Novelists

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### **Abstract:**

Indian diasporic writings portray women in a complex and multifaceted manner. One common theme in Indian diasporic writings is the experience of displacement and migration. Women who migrate to new countries often face challenges such as adapting to a new culture. They may also experience racism, sexism, and other forms of discrimination. Despite these challenges, Indian diasporic women are often portrayed as resilient. Another common theme in Indian diasporic writings is the exploration of identity. Women who live in multiple cultures often negotiate their identities in complex ways. They may feel torn between their traditional Indian heritage and the values of their new home. They may also have to grapple with the different expectations that are placed on them by their families, communities, and workplaces. For instance, In Jhumpa Lahiri's novel The Namesake, the protagonist, Gogol Ganguli, struggles to reconcile his Indian heritage with his American upbringing. His mother, Ashoke, a strong character, experiences the challenges of displacement and migration. In Bharati Mukherjee's novel Jasmine, the protagonist, Jasmine, escapes from an abusive marriage in India and immigrates to the United States. She experiences the challenges of racism and sexism in her new home. In Chitra Banerjee Divakaruni's novel The Mistress of Spices, the protagonist, Tilo, is a young woman who has the power to control the emotions of others through spices. But she faces the challenges of being a woman of colour in the United States.

**Keywords:** — culture, diaspora, discrimination, displacement, migration, resilient.

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# Introducing The Concept Of Glocalization In English Language Teaching Dr. Rajesh Lankapalli

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### Abstract:

Since English is the only language recognized as lingua trad throughout the world, several professional and industrial fields have embraced and chosen English as their official language of communication. Languages, particularly British English, are spreading throughout the world as a result of the rapid globalization of many facets of life, with the goal of becoming close to and fluent in the target language. In my experience teaching English in Andhra Pradesh, a lot of students and teachers consider native English to be a superior language. As a result, especially students are psychologically buying into the myth that western, specifically British and American, cultures are superior to their own. It is time to adopt glocalization, especially in English language teaching in Indian schools and colleges, to strongly adopt to local knowledge and use of materials that depict richness of culture and use English language teaching in a way that promotes respecting our great culture and tradition. As an experienced English teacher from India, I have great respect for our great culture and tradition, and I strongly aspire to assimilate the foreign norms due to their occupation of our land and the culture that is misleading, especially young generations of our country.

**Keywords:** — *Culture, Heritage, Language Teaching, English and globalization.* 



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Notion Of Alienation In The Works Of Chitra Banerji Divakaruni

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Abstract:

The term 'alienation' refers to the feeling of being emotionally isolated or disconnected from others, as well as the experience of feeling estranged or separated from people, things, or oneself. Essentially, alienation is a mental state. According to Encyclopedia Britannica, it is described as "the sensation of feeling separated or estranged from one's surroundings, including work, its outcomes, and one's own identity." When there's a clash of cultures, immigrants often face personal criticism and feel socially isolated. The Indian Diaspora recognizes this feeling of alienation. Immigrants find themselves trapped in the pressure to assimilate and feel a sense of rejection in the tumultuous world. They seek solace in their glorious heritage and attempt to link their past with their present reality.

Following their migration, immigrants' identity issues become a global issue affecting human society. Things like one's ethnic group, customs, dharmas, and culture vanish once identity difficulties strike. Conflicts, interventions, and the search for one's identity center on a variety of topics, including modern versus conservative, new versus old, and West against East. Immigrants attempt to defend their native cultures once they arrive in a new nation because they are uneasy about them in a foreign environment. They do everything in their power to stay attached to their home country. This turns becomes the most important explanation for the South Asian diaspora's identity dilemma.

**Keywords:** — Immigrants, cultural identity, gender discrimination, societal expectations, tradition and rituals..

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## Analysis And Investigation Of Weed Detection For Kheda Region Using Machine Learning Techniques

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### Abstract:

In our world, food is the most necessary for human survival. More than 55% of Indians do farming to live their life. Weeds are unwanted plants that compete with crops for essential resources, leading to significant reductions in agricultural productivity. Recent advancements in artificial intelligence (AI) and machine learning (ML) techniques have the potential to revolutionize and modernize crop cultivation, care, and yield prediction. This research introduces an innovative image processing-based approach for automatic weed identification in agricultural fields. The proposed system applies novel methods to address long-standing challenges faced by farmers. By leveraging convolutional neural networks (CNNs), the system can accurately identify weeds and predict crop yields in the native language of the farmers. The performance of this weed detection system is rigidly tested on multiple levels of real-world datasets, exhibiting its capability to differentiate between weeds and crops accurately. This precision agriculture tool offers numerous benefits, including more targeted herbicide application, which reduces chemical usage that damages the soil and minimizes environmental impacts. This paper represents weed detection using multiple machine-learning techniques in the Kheda region. Mostly pulses, vegetables, and fruits are available in the Kheda region. This report is of great significance to farmers in related research fields, providing valuable insights into real-time weed control solutions.

**Keywords:** — Automatic Weed Detection, Image Processing, Machine learning, Artificial Intelligence, Convolutional Neural Networks.

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Portrayal Of Women Protagonists In Shakespeare Tragedies

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Abstract:

Female characters and their representation in Shakespeare's plays, as well as the discussions and analyses of his female characters, and the performances of them are now the issues of scholarly study. Thus, women in Shakespeare's play are diverse in types and roles assigned to them. Rachel Falconer's textual analysis reveals that the female characters in Shakespeare are intelligent, vital, and independent women within the gallery. Specifically, Shakespeare's attitudes toward women are best described as rather progressive compared to his contemporaries, as well as to previous critics and dramatists; therefore, some critics view him as a 'woman's man,' as a woman's advocate.

However, several critiques focus on the fact that all Shakespeare's women, no matter how positively depicted, had their imperfections. This they argue goes to show that Shakespeare had a bias against women, a prejudice that was quite rampant in the society during his time. William Shakespeare was an Elizabethan writer in other words all his works depict the social norms of that time. According to the trend that was observed in the portrayal of Women during the Elizabethan period, they were depicted as weaker creatures as compared to men. A woman was supposed to be unseen and unanswered, that is the lesson of the period. As a result, this article seeks to explore the representations of women in Shakespeare's tragedies to comprehend the Bard's attitude toward women and their roles in society.

Among his tragedies, some are selected for the analysis of how his female characters are portrayed in his dramas and how their emotions are portrayed throughout their struggles?.

**Keywords:** — Shakespeare, Female Characters, Tragedies, Personal Freedom, Intelligence.

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# Investigating the Dynamics of Spectral Efficiency: Impact of Delay and Doppler Shift for OTFS system

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### **Abstract:**

Propagation delay and Doppler effects from the relative motion of the transmitter and receiver have a significant impact on spectral efficiency, which is an essential indicator of a communication system's bandwidth application. This paper analyses the dynamics of spectral efficiency for OTFS (orthogonal time frequency and space) systems. For spectral efficiency, analytical equations have been obtained. In order enhance spectral efficiency in practical deployments, this study offers essential insights into the design of more reliable and effective wireless communication systems that can adjust to changing mobility situations and dynamic settings.

**Keywords:** — Spectral Efficiency Wireless Networks Delay Spread Doppler Shift Rayleigh Fading Multipath Propagation Signal-to-Noise Ratio (SNR) Bit Rate Channel.



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# Multi-Collinearity in Software Quality Prediction: Review of Challenges and Solutions

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### Abstract:

Software quality prediction is critical in ensuring the reliability, maintainability, and efficiency of software systems. However, one of the significant statistical challenges in predictive modeling is multi-collinearity, where predictor variables are highly correlated, potentially distorting the results and leading to unreliable models. This paper delves into the intricacies of multi-collinearity within the context of software quality prediction. This study reviews the causes and implications of multi-collinearity, emphasizing its detrimental effects on model accuracy and interpretability. The study reviews the recent techniques to mitigate the impact of multi-collinearity, incorporating advanced statistical techniques and machine learning algorithms. The findings of this review presents the methodology and implementation of these new techniques in producing more robust and reliable software quality predictions. This study not only contributes to the theoretical understanding of multi-collinearity in software metrics but also offers practical solutions for practitioners aiming to enhance the predictive performance of their models.

**Keywords:** — *Software quality, reliability, interpretability* 



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## Some Topological Polynomials Of Carbon Nanotubes

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### **Abstract:**

Let G=(V,E) be a graph, where V(G) is a non-empty set of vertices and E(G) is a set of edges. The degree of a vertex  $u\in V(G)$  is the number of vertices joining to u and denoted by d\_u. In this paper we define Geometric-Arithmetic polynomials, ABC polynomials, Randic polynomials, Sum connectivity polynomials, First, Second and Third Zagreb polynomials, Augmented polynomials, Hyper Zagreb polynomials, Harmonic polynomials, Forgotten topological polynomials, Inverse Sum indeg polynomials and Somber polynomials for HAC\_5 C\_6 C\_7 [r,s] and TUC\_4 C\_6 C\_8 [r,s] nanotubes are investigated

**Keywords:** — Geometric-Arithmetic polynomials; ABC polynomials; Randic polynomials; Sum connectivity polynomials; First and Second Zagreb polynomials; Augmented polynomials, Harmonic polynomials; Hyper Zagreb polynomials; Third Zagreb polynomials; Forgotten topological polynomials.



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# Draupadi cult in Tamilnadu: Interconnection between Folk and Classical worship

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### Abstract:

The Mahabharata myth has spread across most regions of India in various versions and variations. The epic Mahabharata is presented as a local myth reflecting the cultural elements of the respective region by mixing with the local cultural elements or absorbing the local cultural elements into itself at the regional level. In that sense, the Mahabharata myth has had an impact on the folk worship system in Tamil Nadu. Draupadi Amman worship is a widely performed folk form of worship in north Tamil Nadu. The cult of Draupadi is performed by the performing arts known as "Therukoothu" and by the rituals of "Aravan Sacrifice" and the "Navadhania seedling". According to MN Srinivasan, "Contrary to the claim that folk deities become sanskritic and become classical deities, worship of draupadi came from a classical character in the folk tradition. The scholar Alf Hiltebeitil, who studied the worship of Draupadi, called Draupadi worship a part of Hinduism. But the rituals performed in the worship of Draupadi Amman are agrarian rituals. The story of The Mahabharata, which took place in the North Indian region, became the deity of a particular ethnic group in Tamil Nadu, the worship practices of Draupadi character of Mahabharata and the impact of the story of Mahabharata on Tamil society are discussed in this paper.

**Keywords:** — Droupathiyamman worship, Mahabharatha, Folk Religion, Fertility Rituals, Sanskritation.

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## **Artificial Intelligence in Sports & Athletes Performance**

### Naveen Kumar Ramteke

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### Abstract:

The ability of machines to engage in cognitive functions including thinking, seeing, learning, solving problems, and making judgements is known as artificial intelligence (AI). AI is motivated by how people perceive, learn, reason, and make decisions. AI is viewed as an assistive technology that uses different techniques, like data analysis and training scenario simulation, to specifically help athletes with physical education. A video analysis programme for a variety of sports is called Coach's Eye. Suitable for most sports that require a close-up examination of human athletic activity, including jump or bat swing analysis. Dartfish: Skill-based video may be recorded using apps that analyse it and provide you with instant feedback. AI and machine learning are also helping game officials, such as umpires, judges, and referees, make wise judgements while officiating. My Swing Professional app from swing to all analysis movements. When the human eye is unable to detect even the smallest level variations or split-second variations, the third umpire in cricket is used. This umpire is assisted in making decisions by AI-driven visualisation. Modern sports and games are using artificial intelligence more. AI in sports is here to stay, and it will become even more essential as the technology develops with better sensors, processors, and algorithms. Sports organisations increasingly require AI to compete at the highest levels, whether via an internal IT organisation or external AI platforms. This study emphasises the benefits of artificial intelligence (AI), such as its innovative applications, practical applications, and good correlation with physical education instruction.

**Keywords:** — Dartfish, AI, Coach's Eye; Cloud storage, Wearable Devices, My Swing Professional.

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Optimizing Regenerative Braking Control for Enhanced Vehicle Performance In Electric Vehicles

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Abstract:

Electric vehicles (EVs) have gained immense attention in recent years due to their potential to reduce greenhouse gas emissions and decrease our dependence on fossil fuels. One critical aspect of EV design that significantly influences their performance is regenerative braking. Regenerative braking allows the recovery of kinetic energy during deceleration and braking, converting it back into electrical energy for storage or immediate use.

This paper provides an overview of regenerative braking control strategies in electric vehicles and explores optimization techniques to enhance energy efficiency, braking effectiveness, and overall driving experience. Regenerative braking strategies have evolved, including adjusting regenerative braking force, optimizing the blending of regenerative and friction braking, and employing predictive algorithms to maximize energy recovery while maintaining safe braking.

Various optimization techniques have been employed to fine-tune regenerative braking systems. These include parameter tuning, advanced control algorithms, and integrating regenerative braking with other vehicle systems like regenerative suspension. These efforts aim to strike a balance between maximizing energy regeneration, extending the vehicle's range, and ensuring a comfortable and secure driving experience..

**Keywords:** — Electric vehicles, EVs, regenerative braking, control strategies, optimization techniques, energy efficiency.

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## Challenges For Effective Oral Presentation Skills Of Engineering Students: A Survey

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#### **Abstract:**

Oral presentation skills are identified as one of the fundamental needs for engineering students who are pursuing various courses in Bachelors of Technology (Bhattacharyya Ena, 2014). In this regard, students in Vignan's Deemed to be University are expected to deliver oral presentations on mini and major projects as a part of their curriculum before an academic committee(s), in seminars, and classroom. This practice is to hone the required skills for their successful career to attend job interviews or to face interview for their higher studies. However, the students struggle during the presentations due to their ineffective oral communication skills. In this context, the present research paper tries to comprehend challenges for ineffective oral skills for the engineering students of Vignan's University, Andhra Pradesh. The study identified that students' ineffective oral presentation skills are due to low linguistic competence which have been inherited from their previous learning backgrounds where speaking and presentation skills are almost neglected. As a result, they lacked communicative competence, confidence as well as they have developed negative attitude, lack of enthusiasm, fear and anxiety towards English language and presentations. Further, they need a course in oral presentation and communication skills in their present study to improve their confidence, oral presentation skills and communicative competence.

**Keywords:** — Oral Presentation Skills, Communicative Competence, Language Proficiency, Learning Backgrounds.

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## Resilience Against discrimination: The Successful Rise of a Dalit in Vasant Moon's Growing Up Untouchable in India

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 <sup>2</sup>Dr. M.KoteswaraRao, Associate Prof. of English Department of English, Krishna University, Machilipatnam, Andhra Pradesh, India

### Abstract:

Since twentieth century educated Dalits, having been influenced by the modern architect of India Dr B.R. Ambedkar, started questioning Brahmanical hegemony and the construction of a distinct Dalit identity have a deep-rooted history. The caste system is a deeply entrenched hierarchical social structure that assigns individuals fixed social positions based on their birth. In the deeply entrenched hierarchical social structure, Brahmins occupy the highest position and Dalits being at the lowest. The search for identity among Dalits involves reclaiming their history, culture, and traditions, which have often been marginalized or suppressed. By constructing their own identity, Dalits aim to break the established social structure and fight to free themselves from the constraints imposed by the caste system and assert their humanity, dignity, and rights. The present article is an attempt to examine Dalits' quest for identity in Vasant Moon's autobiography 'Growing up Untouchable in India'.

**Keywords:** — Dalit Autobiography, Marginalization, social structure, caste system, Identity.

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## Survey of Exploring the Integration of Artifici al Intelligence in Daily Life: Implications and Applications Mamta Megha<sup>1</sup>, Dr. Monika Patel<sup>2</sup>

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### Abstract:

This paper explores the integration of artificial intelligence (AI) into household systems for creating intelligent living environments, commonly known as smart homes. With the proliferation of Internet of Things (IoT) devices and advancements in AI technologies, smart homes have become increasingly capable of automating tasks, enhancing convenience, and optimizing energy usage. This study provides an overview of AI-powered applications in smart home environments, including smart thermostats, lighting systems, security cameras, healthcare, education, transportation, finance, smart homes, robotic appliances and entertainment, this paper provides insights into how AI is reshaping human experiences. It discusses the role of AI in learning user preferences, adapting to changing conditions, and improving overall efficiency and comfort. The paper also addresses challenges such as privacy concerns, algorithmic bias, and interoperability issues, along with potential solutions and best practices for designing and deploying AI-enabled smart home systems. Through case studies, user surveys, and interdisciplinary collaborations, this research aims to contribute to the advancement of intelligent living solutions and inform policymakers, industry practitioners, and homeowners about the opportunities and implications of integrating AI into household environments. Moreover, it delves into the ethical considerations and future directions of AI integration, emphasizing the importance of responsible deployment and ongoing research in this rapidly evolving field.

**Keywords:** — • Artificial Intelligence (AI), Smart Devices, Healthcare, Education, • Remote Work

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## Analysis of Millimeter Wave On Different Bands For Wireless Communications And Applications

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### **Abstract:**

While a lot of the millimeter-wave (mm-wave) technology being researched and developed for 5G cellular can be influenced by communications networks, specific consideration must be given to the particular requirements. This study describes the unique communications needs of specific area networks and how different bands of millimeter-wave technology can help accomplish both high data speeds and covertness at the same time. Dynamic output power limits and the need for swift adjustments to concealed communication zones in response to network nodes moving swiftly are satisfied by adaptive tuning for changing atmospheric absorption.

**Keywords:** — 5G, military communications, millimeter-wave propagation

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# A Study on The Environmental Legislations In 75 Years of India's Independence Anupriya.M¹ and Prof. D.Ramakrishnan²

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#### **Abstract:**

Environment plays a pivotal role in human life as well as in the development of society. The anthropogenic activities like Industrialization, urbanization, poverty, population explosion, overexploitation of natural resources, use of insecticide, pesticides, and manures are the main factors which led to environmental deterioration. Entire life is under threat due to continuous deterioration of the nature and natural resources These problem led to the needs of legislation to save the environment on large scale in India. Pure and natural environment was on top priority in ancient India as it reflected in daily lives of the people and was a part of Indian tradition. There was no proper system or legal measures to protect environment in India before independence of India. The awareness among people, public movement and the United Nations Conference on Human Environment, held in Stockholm in 1972 led to legislation on various provisions to protect the environment. Any environmental problems faced by human beings needs a solution for better survival of future generation and for sustainable development. There is urgent need of the legislation to protect entire environment at global level, as pollution has no boundaries. In India effective legislation in this regard took place after independence. The Indian government passed acts to prevent further deterioration of environment and to protect the whole environment. Some provisions included in Indian Constitution has become a Constitutional mandate, binding on all governments as well as on the public. Hence, this study focus on the seven decades of India's environmental policies and their functions..

**Keywords:** — Environmental Legislation, Constitutional Provision, Urbanization

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# The Rise of AI in ELT: Opportunities and Challenges for Language Learning L. Sunitha<sup>1</sup>, Dr. M. Sandra Carmel Sophia<sup>2</sup>

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#### **Abstract:**

The landscape of English language teaching (ELT) is undergoing a significant transformation with the emergence of artificial intelligence (AI). This paper explores the potential of AI to revolutionize the way we learn and teach English, focusing on its impact on various aspects of ELT. AI-powered platforms can tailor learning experiences to individual student needs and learning styles, offering a more effective and engaging approach. AI tools can provide real-time feedback on pronunciation, grammar, and writing, allowing for personalized guidance and faster learning progress.AI can create interactive and gamified environments that promote engagement and enhance motivation for language acquisition. The integration of AI in ELT also presents challenges that need to be acknowledged. Biases inherent in AI algorithms must be addressed to ensure fair and inclusive learning experiences for all students. Educators need adequate training and support to effectively utilize AI tools and integrate them seamlessly into their teaching practices. While AI offers valuable tools, it is crucial to maintain a balance with traditional, human-cantered methods of language learning. This paper will explore these opportunities and challenges, drawing upon insights from recent research and practical examples. By critically examining the potential of AI in ELT, we can pave the way for a future where technology empowers both learners and educators, fostering a more effective and sustainable learning environment.

**Keywords:** — Artificial intelligence, ELT, personalized learning, feedback, assessment, immersive learning, ethical considerations, teacher training, overreliance

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# A Comprehensive Study of Nifty Stocks Using Performance-Adjusted Ratios Ms. Anushree Ganguly<sup>1</sup>, Ms. Saniya Marwah<sup>2</sup>

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### **Abstract:**

Performance analysis is crucial for investors, aiding in return assessment, goal monitoring, risk management, and informed decision-making. The NSE and Nifty, a prominent benchmark index in India, encompassing 50 large-cap companies, play a pivotal role in providing a market snapshot. It serves as a reference for portfolio managers and traders, guiding asset allocation and market tracking. The study, focuses on assessing and comparing the performance of stocks listed on NIFTY50. Using statistical techniques like word cloud and risk-adjusted performance ratios, the analysis covers daily return data from 2013 to 2023. The findings empower individual investors to evaluate stocks based on risk-adjusted returns.

**Keywords:** — Equity, NIFTY50, NVivo, NSE, Performance, Stocks

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## Not fastened down" – A Self-Reliant Journey in the Short Fiction of Alice Munro "Oranges and Apples

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### Abstract:

Trust and the betrayal of trust are the two pivots over which the married life of man and woman rests. Nevertheless, there are many revealing moments in one's married life, trust is prioritized. Occasionally, the relationship demands to corroborate the trust on each other failing which skepticism takes the position as a replacement to affection. It is obvious that the bonding between a husband and a wife solely rely on mutual trust. It is not only husband and wife but entire human relationships demand for trust at every stage and in every situation. The discourses of human relationships are always connected to the bond in between the relations which eventually develops trusting each other. Most of the stories of Alice Munro delineate the theme of man-woman relationship, bond in between them and the trustworthiness. One such story is "Oranges and Apples" in which Alice Munro depicted a married life of a couple in which trustworthiness is challenged by skepticism and ultimately trustworthiness wins and makes the relationship stronger than earlier.

**Keywords:** — Trustworthiness, Skepticism, Infidelity, Destruction of Love, Notion of love and belittling.

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**QR Code Generator – Using Python** 

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### **Abstract:**

QR Code is a machine-readable matrix barcode that uniquely represents information. With the increase in optical capabilities of smartphones, the use of QR codes started increasing. A QR code contains black squares and dots on a white background, with information that any smartphone or device with a dedicated QR scanner can decode. Unlike a traditional bar code, which holds information horizontally, a QR code holds the data in two dimensions, and it can hold over a hundred times more information. To create a black-and-white QR code object that encodes some content, you'll have to use the make \_q r () function. This ensures that you're creating a full-size QR code, and the only mandatory argument you'll need to pass is the information that you want to encode. QR codes are capable of handling all types of data, such as alphanumeric characters, symbols, and even URLs. In this project, we will build a QR Code generator using Python Modules.

Keywords: Machine-Readable matrix, Scanner, Bar Code, Decode, Argument

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## **Number Guessing Game: A Python Implementation**

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### **Abstract:**

This project presents a simple yet engaging Python program for a number guessing game. The game prompts the user to guess a randomly generated number within a specified range. Through a series of iterations, the program provides feedback to the user, indicating whether their guess is too high, too low, or correct. Utilizing basic Python constructs such as loops, conditionals, and random number generation, the game offers an interactive experience for users to test their intuition and numerical skills.

The main components of the program include:

Random Number Generation: The game generates a random number within a predefined range using Python's random module.

User Input: The program prompts the user to input their guess for the randomly generated number.

Looping Structure: The game is structured within a loop, allowing the user to make multiple guesses until they guess the correct number or choose to exit the game.

**User Interaction:** The program interacts with the user through console input and output, creating an immersive and interactive experience.

**Scoring System:** Optionally, the program can implement a scoring system to track the number of attempts made by the user before guessing the correct number.

**Keywords:** Python, Number guessing game, Random number generation, User input, Looping structure, User interaction, Scoring system, Programming education, Beginner-friendly

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## Predicticing of Marks by AI - Programming

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## **Abstract:**

In the realm of education, predicting student performance is crucial for personalized learning and academic intervention strategies. This study explores the application of artificial intelligence (AI) programming techniques in predicting student marks. Specifically, we utilize Python, a versatile programming language with robust AI libraries, to develop predictive models.

The study employs a dataset comprising various student attributes such as attendance, study hours, previous exam scores, and demographic information. Through exploratory data analysis, feature engineering, and model selection, we construct predictive models based on machine learning algorithms including linear regression, decision trees, and neural networks.

Furthermore, we investigate the impact of different feature sets and model architectures on prediction accuracy. The evaluation metrics encompass mean absolute error, root mean squared error, and coefficient of determination (R-squared) to assess the models' performance.

Additionally, the study compares the efficacy of traditional statistical approaches with AI-based methods in predicting student marks. Insights gleaned from this comparative analysis shed light on the strengths and limitations of each approach, providing valuable guidance for educators and data scientists alike.

Ultimately, this research contributes to the advancement of predictive analytics in education and underscores the potential of AI programming in enhancing student learning outcomes through targeted interventions.

**Keywords:** Artificial Intelligence, AI Libraries, dataset, decision trees, linear regression.

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**Dice Roller: A Python Implementation** 

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### **Abstract:**

The dice roller has been a fundamental tool for generating random outcomes in various games, simulations, and decision-making processes for centuries. In the digital age, the traditional physical dice have been replaced by virtual dice rollers, offering convenience, versatility, and enhanced functionality. This abstract explores the evolution and significance of the dice roller in contemporary contexts. It discusses the transition from physical to digital dice rollers, highlighting the advantages such as accessibility across devices, customizable settings, and the elimination of bias or manipulation.

Furthermore, the abstract delves into the applications of dice rollers across different domains, including tabletop role-playing games, educational simulations, statistical analysis, and randomization in programming and software development. It emphasizes the role of dice rollers in fostering fairness, creativity, and unpredictability in game mechanics, learning environments, and experimental designs.

**Keywords:** Dice roller, randomization, digital transformation, software integration, AI, block chain, VR.

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## **Contact Management System**

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### **Abstract:**

The purpose of Contact Management System is to automate the existing manual system by the help of computerized equipment's and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. The required software and hardware are easily available and easy to work.

Contact Management System, as described above, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus it will help organization in better utilization of resources. The organization can maintain computerized records without redundant entries. That means that one need not be distracted by information that is not relevant, while being able to reach the information.

The aim is to automate its existing manual system by the help of computerized equipment's and full-fledged computer software, fulfilling their requirements, so that their valuable data/information can be stored for a longer period with easy accessing and manipulation of the same. Basically, the project describes how to manage for good performance and better services for the clients.

**Keywords:** contacts, management system, database, user interface, search, sorting, filtering, import/export, security, backup, authentication, integration

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## Flight Booking System

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### **Abstract:**

This project presents a flight booking system implemented in Python, designed as a comprehensive learning experience for a college-level course. It simulates a real-world flight booking platform without relying on external APIs. Users interact with a user-friendly interface to search for pre-defined flights within the system. Search criteria include departure and arrival cities, travel dates, number of passengers, and preferred airlines. The system manages an internal database of flights containing schedules, simulated seat availability (using pre-defined seat limitations), and fares. Search results are displayed with clear comparisons, allowing users to choose the most suitable flight.

Beyond basic search functionalities, the project incorporates user registration and passenger information management. Users can register with the system and store passenger details for future bookings. The booking process is simulated, allowing users to select a flight, confirm passenger information, and receive a confirmation message. This project emphasizes core programming concepts such as data structures, user interaction, and database management. It provides a controlled environment for students to learn and practice the development of a comprehensive flight booking system, focusing on user experience and efficient flight booking simulation.

**Keywords:** API's, Airlines, Simulation, data base, interface.

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## Library Management System

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## **Abstract:**

The Library Management System (LMS) is a Python-based software solution designed to streamline the management of books within a library. It offers functionalities for librarians to efficiently handle tasks such as adding new books, searching for existing books, checking out books to patrons, and managing book availability.

The system consists of two main classes: Book and Library. The Book class represents individual books with attributes such as title, author, and ISBN. Meanwhile, the Library class serves as the central management system, allowing librarians to perform operations on the collection of books. Key features of the Library Management System include:

- 1.\*Book Management:\* Librarians can add new books to the system, providing details like title, author, and ISBN.
- 2.\*Book Search:\* The system enables users to search for books by title, author, or ISBN, facilitating easy access to specific books within the library collection.
- 3.\*Book Checkout:\* Patrons can check out books from the library by providing the title of the desired book. The system ensures that the book is available for checkout before completing the transaction.
- 4.\*Book Return:\* Upon completion of reading, patrons can return books to the library. The system updates the book's availability status accordingly.

Keywords: Books, Members, loans, Catalog, Search, Database, Reports

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## **Train Ticket Reservation**

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#### **Abstract:**

The railway reservation system facilitates the passengers to enquiry about the trains available on the basis of source and destination, booking and cancellation of tickets, enquiry about the status of the booked ticket, etc. The aim of case study is to design and develop a data base maintaining records of different trains, train status and passengers. This project contains introduction to the railways reservation system. It is the computerized system of reserving the seats of train seats in advance. It is mainly used for a long route. Online reservation has made the process for the reservation of seats very much easier than ever before

In our country India, there are number of counters for the reservation of the seats and one can easily make reservations and get tickets. Railway reservation system, has described above, can lead to error free, secure, reliable and fast management system. It can assist the user to concentrate on their other activities rather to concentrate on the record keeping. Thus it will help organization it better utilization of resources. Administrator of the project, with the help of a password, can enter new train record, display all train records, modify train records and delete train records. The record of train includes its number, name, source, destination, and days on which it is available, whereas record of train status includes dates for which tickets can be booked, total number of seats available, and number of seats already booked Railway reservation system is developed for to automate the railways reservation system. It includes modules required to successfully operate railways reversion process smoothly. It has train master to add modified train information.

**Keywords:** Reliable, enquiry, tatkal booking, automation, covid pass, user-friendly.

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## Development of a Bus Reservation System- Analyze It's Working and Convey Changes

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### Abstract:

The demand for efficient and user-friendly transportation systems has led to the development of various booking platforms. This paper presents the design and implementation of a Bus Reservation System using Python programming language. The system provides a convenient platform for users to search, book, and manage bus tickets online. The system architecture consists of three main components: the user interface, the backend server, and the database. The user interface is designed to be intuitive and accessible, allowing users to easily search for available buses based on their preferences such as departure time, destination, and seat availability. The backend server handles the logic for processing user requests, managing bookings, and interacting with the database. Python's versatility and extensive library support make it an ideal choice for developing such a system. The Flask framework is utilized for building the backend server, providing a lightweight and flexible solution for handling HTTP requests. SQLite is employed as the database management system for storing bus schedules, user information, and booking records. Key features of the system include real-time seat availability updates, secure user authentication, and flexible booking options.

**Keywords:** Bus Reservation System, Python Programming, Flask Framework, SQLite Database, User Interface, Backend Server

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## **Fitness Tracker and Planner**

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### **Abstract:**

The fitness tracker and planner system is a cutting-edge solution meticulously crafted to cater to the diverse needs of individuals striving for improved health and wellness. At its core, this system seamlessly merges innovative technology with intuitive interfaces, creating an immersive experience that empowers users on their fitness journey.

One of the fundamental features of this system is its ability to comprehensively monitor various facets of fitness. Through advanced sensors and data collection mechanisms, users can effortlessly track their exercise routines, keeping tabs on activities ranging from cardio sessions to strength training workouts. Moreover, the system diligently records nutrition intake, offering insights into dietary habits and suggesting adjustments to support optimal performance and overall well-being. By also monitoring sleep patterns, users gain a deeper understanding of their rest quality, enabling them to make informed decisions to enhance recovery and vitality.

Central to the effectiveness of the fitness tracker and planner system is its utilization of data analytics and personalized algorithms. By analyzing the wealth of information gathered from users' activities and habits, the system generates tailoredrecommendations and actionable insights. These insights not only help individuals optimize their fitness regimes but also serve as a source of motivation and encouragement throughout their journey.

**Keywords:** Fitness tracker, Planner system, Health & wellness goals, Exercise routines, Nutrition intake, Sleep patterns, Data analytics, Personalized algorithms, set goals, Track progress.

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## **COFFEE MACHINE PROJECT-An Analysis of Operation and Suggestions for Enhancement**

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## **Abstract:**

The Enhanced Coffee Vending System is a Python-based application developed to mimic the functionalities of a modern coffee vending machine. It offers an intuitive interface where users can select from a variety of coffee options, including espresso, latte, and cappuccino, catering to diverse preferences. With an emphasis on user experience and efficiency, the system integrates features for customizing coffee orders with additional ingredients such as syrup, milk, or sugar.

Upon initiating the program, users are greeted with a welcoming message, establishing a friendly and inviting atmosphere. The menu presents a clear list of available coffee choices, facilitating easy navigation and selection. Users are prompted to input their preferences, initiating the order process. The system dynamically calculates the cost of the selected coffee based on the chosen ingredients, ensuring accurate pricing and transparency in transactions.

In addition to its core functionalities, the Enhanced Coffee Vending System incorporates advanced reporting capabilities to facilitate operational insights and management.

Authorized users can access comprehensive report by inputting a designated password. This report provides real-time updates on the current inventory levels of essential ingredients such as water, milk, and coffee, enabling proactive inventory

Furthermore, the system caters to users 'preferences for additional ingredients, offering the option to include extra syrup, milk, or sugar in their orders.

**Keywords:** Enhanced Coffee Vending System, Python Program, User Experience, Transaction Processing, Inventory Management, Reporting Capabilities, Innovation.

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## **Snake Game Using Python**

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#### **Abstract:**

Snake Game is a classic arcade game. The player's main goal in this game is to catch as many fruits as possible without hitting the wall or himself. While learning python, making a snake game can be a fun challenge. It's one of the best new layer projects that every new programmer should try. Learning to make a video game is an interesting and enjoyable experience. This snake game will be made with python. Python is a free and open-source library for creating video games. It includes graphics and sound libraries.

In this article we will be developing a snake game using python and also form scratch with scores.

Keywords: Python Libraries, Open Source, Graphics, Sound Libraries.

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## A Study on Usage of Online Store on Amazon

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### **Abstract:**

Amazon product ordering is a feature that allows customers to order large quantities of items at a discounted price. This feature is especially useful for businesses and individuals need to purchase items in bulk. The feature is available for a wide range of products, including office supplies, electronics and household items. Customers can choose the quantity they need, and the discounted price is automatically applied at checkout. This feature helps customers save money and time by streamlining the ordering process. Amazon is known for its advanced order processing and fulfillment capabilities. The company utilizes sophisticated algorithms and logistics systems to efficiently manage and fulfillment orders. Customers can place orders for a wide range of products through Amazon's website or mobile app. Once an order is placed, Amazon's system processes the payment and verifies the availability of the item. If the item is in stock, it is prepared for shipment from one of Amazon's fulfillment centers. Amazon Fresh is Amazon's online grocery store, where customers may order groceries online and have them delivered the Next day. The organization does an excellent job with its online grocery selling. Food and commodities are housed at Amazon's huge warehouse facilities, which are also used to keep non-edible inventory. Amazon Logistics offers a website for delivering goods. This Paper is focused on the consumer preferences to purchase grocery on Amazon site.

Keywords: Online Grocery, Inventory, Logistics, Delivery.

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## Python Program To Implement Rock- Paper-Scissor Game R.Sneha<sup>1</sup> R. Chaitanya Sai<sup>2</sup> R. Satyanarayana Reddy<sup>3</sup> S.Vahini<sup>4</sup>

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### **Abstract:**

Python is a multipurpose language and one can do anything with it. Python can also be used for game development. Let's create a simple command-line Rock-Paper-Scissor game without using any external game libraries like PyGame. In this game, the user gets the first chance to pick the option between Rock, paper, and scissors. After the computer select from the remaining two choices(randomly), the winner is decided as per the rules.

**Keywords:** Python, Multipurpose language, Game development, Command-line, Rock-Paper-Scissor Game, Libraries, PyGame.



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## **Creating Web Browser – Using Python**

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## Abstract:

A Web browser is a software program that allows you to access the internet and all the web pages in it. Most common web browsers are Google Chrome, Microsoft Edge, Brave, Firefox, and Safari. Web browser is a software application for accessing information on the World Wide Web. When a user requests a web page from a particular website, the web browser retrieves the necessary content from a web server and then displays the page on the screen.

The objective of this Python project is to create a GUI based Web Browser. To build this, you must have intermediate understanding of the PyQt5 library, and its modules, including the WebEngine Widgets module that you will need to install separatelyPyQt5 is cross-platform GUI toolkit, a set of python bindings for Qt v5. One can develop an interactive desktop application with so much ease because of the tools and simplicity provided by this library.

**Keywords:** Software Application, Web Browser, GUI, PyQt5, Library.



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## Google Image Downloader

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### **Abstract:**

In the age of big data, images have become a crucial part of data analysis, machine learning, and various applications across different fields. However, obtaining a large dataset of images can be challenging and time-consuming. This paper presents a Python-based solution for automated downloading of images from Google, which can aid in building extensive image datasets efficiently. The implementation involves the use of Python libraries such as Selenium for web automation, Beautiful Soup for HTML parsing, and Requests for handling HTTP requests. Additionally, the use of the Google Custom Search API is explored for a more structured and reliable image retrieval process.

The paper concludes with an evaluation of the downloader's performance, including speed, accuracy, and reliability. Potential improvements and future work, such as enhancing CAPTCHA bypass techniques and integrating with cloud storage services, are also discussed. This Python-based Google Image Downloader aims to streamline the process of acquiring large image datasets, thereby supporting various applications that require extensive visual data.

Keywords: HTML, HTTP Request, API's, datasets, python libraries.



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# Student Grade Prediction Using Machine Learning Rajat Sharma<sup>1</sup> Nikhil Agarwal<sup>2</sup> Sai Chaitanya<sup>3</sup> Mohd. Nawaz Pasha<sup>4</sup>

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### Abstract:

This paper presents a comprehensive approach to predicting student academic performance based on various input parameters. Leveraging machine learning techniques, particularly regression models, the study explores the predictive power of different algorithms and feature selection strategies. The dataset encompasses critical factors such as previous grades (G1 and G2), study time, failures, and absences. Through rigorous experimentation, including hyper parameter tuning and ensemble methods, the study evaluates the effectiveness of Ridge Regression, Random Forest, and Gradient Boosting algorithms. Key highlights include: - Utilization of Ridge Regression with hyper parameter optimization for accurate prediction of student grades. - Investigation of feature selection techniques, specifically SelectKBest, to identify the most influential predictors. -Evaluation of ensemble methods, Random Forest and Gradient Boosting, to assess their performance in predicting academic outcomes. - Comparative analysis of model performance through metrics such as Mean Squared Error (MSE) and Mean Absolute Error (MAE) and Visualization of actual versus predicted values to provide insights into model accuracy and predictive trends. The study contributes to the field of educational data mining by offering valuable insights into the predictive modeling of student academic performance, with implications for personalized learning interventions and educational policy formulation.

**Keywords:** Student academic performance, Machine learning, Regression models, Feature selection, Ridge Regression, Random Forest, Gradient Boosting, Ensemble methods, Hyper parameter tuning, Mean Squared Error (MSE), Mean Absolute Error (MAE), Educational data mining, Personalized learning interventions, Educational policy formulation.

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## Enhancing Online Shopping Experience Through Price, Comparison Of Websites; A Python Based Approach

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### **Abstract:**

With the exponential growth of e- commerce, consumers are presented with an overwhelming array of options when making purchasing decisions. In this context, online price comparison websites have emerged as invaluable tools to help users navigate this vast landscape by aggregating product information and presenting it in a user- friendly manner. This paper proposes a Python-based approach to develop an online price comparison website, leveraging the power of web scraping, data processing, and user interface design. The proposed system aims to provide users with real-time access to price and product information from multiple online retailers, enabling them to make informed purchasing decisions efficiently. Key features of the system include data extraction from e-commerce leveraging the power of web scraping, data processing, and user interface design. The proposed system aims to provide users with real-time access to price and product information from multiple online retailers, enabling them to make informed purchasing decisions efficiently. Key features of the system include data extraction from ecommerce websites using libraries such as Beautiful Soup and Scrapy, data processing and normalization to ensure consistency and accuracy, and a user-friendly web interface implemented using frameworks like Flask or Django. The system also incorporates features such as search functionality, product categorization, and price alerts to further enhance the user experience.

**Keywords:** E-commerce, Python-based approach, Web scraping, Data processing, Multiple online retailers, BeautifulSoup, Scrapy, Data normalization, Flask, Django, Product categorization.

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## **Password Generator**

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### **Abstract:**

We know that passwords are a real security threat. To keep your account safe and prevent your password from being hacked. We have to make our password hard enough that nobody can guess. It is a tool that generates passwords based on the given guidelines that we set to create an unpredictable strong password for our accounts. The objective of this project is to create a password generator using python. The password generator project will be build using python modules like Tkinter, random, string, pyperclip. This article uses a mixture of numbers, alphabets, and other symbols found on the computer keyboard to form a n-character password which is unpredictable and cannot easily be memorize.

Keywords: Digital Library, Bar-Code, Online, Of Line, Identification Number,

UGC AUTONOMOUS

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**Efficiency and Expertise: Your Trusted Mechanic Shop** 

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#### **Abstract:**

Our mechanic shop application offers unparalleled convenience and reliability for vehicle owners seeking professional automotive services. With user-friendly navigation and a comprehensive suite of features, including appointment scheduling, service history tracking, and real-time updates on repairs, we prioritize efficiency and transparency. Our team of skilled mechanics ensures topnotch service, utilizing the latest diagnostic tools and techniques to keep your vehicle running smoothly. Experience peace of mind knowing that your car is in capable hands with our mechanic shop application.

**Keywords:** Mechanic Shop, Automotive Services, Appointment Scheduling, Service History Tracking, Real-Time Updates, Skilled Mechanics, Diagnostic Tools, Efficiency, Transparency, Reliability



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## **Forecast Reporting System Using Python**

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#### **Abstract:**

This project presents an innovative Forecast Reporting System developed using Python, aimed at optimizing forecasting accuracy and streamlining reporting processes. Accurate forecasting is essential for businesses to make informed decisions and allocate resources effectively. However, traditional forecasting methods often lack flexibility and fail to capture the complexities of dynamic market conditions. To address these challenges, this system leverages advanced statistical models and data visualization techniques implemented in Python. The Forecast Reporting System employs a combination of time series analysis, machine learning algorithms, and statistical techniques to generate forecasts with improved precision and reliability. By analyzing historical data trends, seasonal patterns, and external factors influencing demand, the system adapts its forecasting approach dynamically to enhance predictive performance. Moreover, Python libraries such as pandas, NumPy, and Matplotlib facilitate data manipulation, modelling, and visualization, enabling users to gain actionable insights from forecast reports efficiently. One of the key features of this system is its comprehensive reporting functionality, which provides stakeholders with intuitive dashboards and interactive visualizations summarizing forecast results. Users can customize report parameters, generate ad-hoc analyses, and explore forecast accuracy metrics in real-time. Additionally, the system supports automated report generation and distribution, enabling seamless integration with existing business workflows.

Keywords: Weather Forecast, Reporting, Online, Offline, Visualization, Results

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## **Contact Management System**

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#### **Abstract:**

This project is aimed at creating a contact management system in Python that enables users to add, delete, edit, and list contacts. This system is also capable of producing a detailed list of all the contacts added by the user. The system enables the user to store additional information such as the contact's name. Existing system: The existing Contact Management System is built using Python and offers basic contact management capabilities. It allows users to create, update, and delete contacts, along with their associated details such as name, phone number, email address, and notes. The system employs a simple user interface that enables users to interact with the contact management proposed system: To enhance the existing Contact Management System, a proposal is made to introduce a validation rule for contact numbers. The proposal suggests implementing a check that ensures a contact number must be exactly 10 digits in length. If a contact number provided by the user is less than 10 digits or greater than 10 digits, it will not be allowed to be stored in the system.

Keywords: Python, Contact Management System, validation rule.

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## **Credit Card Fraud's Detection**

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#### **Abstract:**

This project introduces an advanced credit card fraud detection system leveraging machine learning techniques implemented in Python. With the increasing prevalence of online transactions, the risk of credit card fraud has also escalated. Traditional methods of fraud detection are often insufficient to tackle sophisticated fraudulent activities. Thus, this system aims to provide a robust and intelligent solution to identify fraudulent transactions promptly and accurately. The proposed system utilizes a diverse set of machine learning algorithms, including logistic regression, decision trees, random forests, and neural networks, to analyze transaction data and detect fraudulent patterns. By training on a comprehensive dataset containing both legitimate and fraudulent transactions, the system learns to distinguish between genuine and fraudulent activities effectively. Additionally, feature engineering techniques are employed to extract relevant information from transaction data, enhancing the model's predictive performance. Incorporating real-time monitoring capabilities, the system continuously evaluates incoming transactions and assigns a risk score indicating the likelihood of fraud. Transactions flagged as potentially fraudulent are subjected to further scrutiny, either through manual review or automated verification processes. By leveraging Python's rich ecosystem of libraries such as scikit-learn and Tensor Flow, the system offers scalability, efficiency, and adaptability. Overall, this project contributes to the development of robust fraud detection mechanisms crucial for safeguarding financial transactions in the digital age. Financial fraud is an ever growing menace with far consequences in the financial industry. Data mining had played an imperative role in the detection of credit card fraud in online transactions.

**Keywords:** Digital Library, Bar-Code, Online, Of Line, Identification Number, Website.

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## **Cricket Alert**

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#### **Abstract:**

Cricket Alert is a mobile application designed to provide real-time updates and notifications on cricket matches worldwide. Users can follow their favorite teams, players, and tournaments to stay informed about live scores, match results, player statistics, and upcoming fixtures. The app sends push notifications for important events during a match, such as wickets, boundaries, milestones, and match outcomes. Cricket Alert also offers in-depth analysis, expert opinions, and interactive features for fans to engage with the game. With a user-friendly interface and customizable settings, this app is a must-have for cricket enthusiasts looking to stay connected to the sport anytime, anywhere.

**Keywords:** Live score, Match result, Match update, Fixtures, Tournament, ICC, ODI, T20, century, Wicket, Run, Six, Four, Series, Batsman, Bowler, Stats, Points table.



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## **Live Cricket Alert**

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## **Abstract:**

In the fast-paced world of cricket, staying updated with live match events is crucial for fans and analysts alike. This essay delves into the development of a Live Cricket Alert system using Python, a powerful programming language renowned for its versatility and efficiency in handling real-time data. The system is designed to fetch live cricket match data through web scraping and API integration, ensuring that users receive timely updates on key events such as wickets, milestones, and match outcomes. To achieve this, the system leverages various Python libraries. The 'requests' library is used for making HTTP requests to fetch data from cricket websites and APIs. 'Beautiful Soup' assists in parsing HTML content, enabling the extraction of relevant information from web pages. For data organization and manipulation, 'Pandas' proves to be invaluable. These libraries collectively enable the seamless retrieval and processing of live match data. Once the data is collected and processed, the system employs the 'twilio' library to send SMS alerts to users. Twilio's API allows for the efficient delivery of notifications directly to the user's mobile device, ensuring they are promptly informed about significant match events. This real-time alert mechanism enhances the user experience by providing immediate and relevant updates. The Live Cricket Alert system exemplifies Python's capability to manage real-time applications, showcasing its strength in integrating various tools and libraries to build a cohesive and functional product. In conclusion, the implementation of the Live Cricket Alert system using Python demonstrates the language's proficiency in handling real-time data processing and its application in sports analytics.

**Keywords:** Twilio's API, Live Cricket Alert, HTTP, HTML

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## Web Scrap

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## **Abstract:**

Web scraping involves extracting data from websites, which can be highly useful for various applications like data analysis, automation, and machine learning. For a Python project focusing on web scraping, an abstract should provide an overview of the project's objectives, methods, and expected outcomes. Here's a sample abstract for a Python web scraping project. The objective of this project is to develop a robust Python-based web scraping tool to collect and analyze data from specified websites. This tool will utilize libraries, such as Beautiful Soup for HTML parsing. Requests for HTTP requests, and Selenium for handling dynamic content and JavaScript rendering. The scraped data will be cleaned and stored in a structured format, allowing for subsequent analysis and visualization. The project aims to demonstrate the capabilities of web scraping in gathering large datasets from the web efficiently. It will cover techniques to handle various challenges such as pagination, rate limiting, and data extraction from complex web elements. Additionally, ethical considerations and legal aspects of web scraping will be addressed to ensure compliance with website terms of service and data privacy regulations. The expected outcomes include a detailed documentation of the scraping process, a repository of scripts and tools developed, and a dataset ready for analysis. This project will provide insights into the practical applications of web scraping in data- driven projects and contribute to the field of automated data collection. This abstract outlines the main components of the project and sets the stage for a comprehensive exploration of web scraping using Python.

**Keywords:** Digital Library, Bar-Code, Online, Offline, Identification Number, Website

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**Dino Game: A Python Based Approach** 

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**Abstract:** 

With the exponential growth of e-commerce, consumers are presented with an overwhelming array of options when making purchasing decisions. In this context, online price comparison websites have emerged as invaluable tools to help users navigate this vast landscape by aggregating product information and presenting it in a user- friendly manner. This paper proposes a Python-based approach to develop an online price comparison website, leveraging the power of web scraping, data processing, and user interface design. The proposed system aims to provide users with real-time access to price and product information from multiple online retailers, enabling them to make informed purchasing decisions efficiently. Key features of the system include data extraction from e-commerce leveraging the power of web scraping, data processing, and user interface design. The proposed system aims to provide users with real-time access to price and product information from multiple online retailers, enabling them to make informed purchasing decisions efficiently. Key features of the system include data extraction from ecommerce websites using libraries such as BeautifulSoup and Scrapy, data processing and normalization to ensure consistency and accuracy, and a user-friendly web interface implemented using frameworks like Flask or Django. The system also incorporates features such as search functionality, product categorization, and price alerts to further enhance the user experience.

**Keywords:** Function, Variable, Loop, Conditionals, Sprite, Collision Detection, Frame Rate, Game Loop, Pygame-Specific, Python-Specific, Development And Debugging, Libararies And Frameworks

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Study of Library Management - Analyze It's Working and Convey Changes

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**Abstract:** 

A library management system is a computer based software solution designed to manage and automate library tasks such as cataloging, circulation, acquisitions, and reporting. With the advancement of technology, it is imperative to exalt all the systems into a user-friendly manner. The Library Management system (LMS) acts as a tool to transform traditional libraries into digital libraries. In traditional libraries, the students/user has to search for books which are hassle process and there is no proper maintenance of database about issues/fines. The overall progress of work is slow and it is impossible to generate a fast report. The librarians have to work allotted for arranging, sorting books in the book sells. At the same time, they have to check and monitor the lend/borrow book details with its fine. It is a tedious process to work simultaneously in different sectors. LMS will assist the librarians to work easily. The LMS supports the librarians to encounter all the issues concurrently. The users need not stand in a queue for a long period to return/borrow a book from the library. The single PC contains all the data's in it. The librarians have to assess the system and provide an entry in it. Through LMS the librarian can find the book in the bookshelves. The LMS is designed with the basic features such as librarian can add/view/update/delete books and students' details in it. In this, we aim to develop a library management system using the pytho programming language.

**Keywords:** Management System, .Net, SQL Server,LAN,DBMS1.

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# **Expense Tracker**

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#### **Abstract:**

An expense tracker is a digital tool designed to help individuals manage and monitor their financial transactions. This application allows users to record their expenses and income, categorize spending, and generate detailed reports on their financial habits. The primary objective of an expense tracker is to promote better financial management by providing users with a clear and concise overview of their spending patterns, thereby enabling them to make informed decisions about budgeting and saving. Modern expense trackers often integrate with banking systems, utilize data analytics, and offer features such as automated expense categorization, budget planning, and expense forecasting. The adoption of such tools can lead to improved financial discipline, reduced unnecessary expenditures, and a stronger foundation for achieving long-term financial goals. In conclusion, the Expense Tracker represents a comprehensive solution for individuals and organizations seeking to take control of their financial health. By offering seamless expense tracking, insightful analytics, and personalized budgeting recommendations. With its user-friendly interface and robust security features, the Expense Tracker stands as a valuable ally in the pursuit of financial stability and prosperity.

**Keywords:** Expense Tracker, Financial Management, Budgeting Data Analytics, Financial Planning, Spending Patterns.

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# Web Scraping API

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#### **Abstract:**

Web scraping is a powerful technique for extracting data from websites, which can be particularly useful when an official API is unavailable or limited in functionality. This essay discusses the development of a web scraping API in Python, designed to provide a structured and efficient way to retrieve and utilize web data programmatically. The system leverages Python's robust libraries, such as BeautifulSoup and Scrapy, to parse HTML content, extract relevant information, and serve it through a well-defined API interface. This approach allows developers to access web data seamlessly, enabling the creation of diverse applications that rely on real-time or periodically updated web content. The development of a web scraping API in Python provides a robust solution for extracting and utilizing web data when traditional APIs are unavailable or insufficient. By leveraging libraries like BeautifulSoup and Scrapy, and frameworks such as Flask or Fast API, developers can create efficient and user-friendly APIs that serve valuable web content. Adhering to best practices and ethical guidelines ensures that web scraping is conducted responsibly, allowing for the beneficial use of web data across various applications. This approach not only enhances data accessibility but also empowers innovation in fields ranging from research to business intelligence.

Keywords: API, HTML

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# **Twitter Bot**

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#### **Abstract:**

In this fast-digitizing world where social media is ruling our lives, Instagram is among the most influencing social networking sites. It is very important to detect the bots that harm the internet by spreading false information and messages. The Instagram Bot is a sophisticated automation tool designed to enhance user engagement and streamline social media management on the Instagram platform. Leveraging advanced algorithms and machine learning techniques, the bot can perform a variety of tasks including, but not limited to, auto-liking, auto-commenting, autofollowing, and direct messaging. These functionalities aim to increase follower count, improve post visibility, and foster community interaction while reducing the manual effort required by social media managers and influencers. The bot integrates seamlessly with Instagram's API, ensuring compliance with the platform's terms of service, and provides customizable settings to tailor its behaviour according to user preferences. Additionally, it includes robust analytics features that track engagement metrics and provide insights to optimize social media strategies. This abstract outlines the bot's core features, technological underpinnings, and its potential impact on enhancing social media presence.

**Keywords:** Instagram Automation, Social Media Management, Machine Learning, User Engagement, Analytics, API Integration, Social Media Strategy

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## **Chat Bot**

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#### **Abstract:**

This project aims to develop an intelligent Chabot leveraging Python's extensive libraries and tools. The chatbot, designed for customer service applications, integrates Natural Language Processing (NLP) to understand and respond to user queries in real-time. Utilizing libraries such as NLTK and Spacy for NLP, and Tensor Flow for deep learning, the chatbot is capable of processing user inputs, interpreting their intents, and generating appropriate responses. Key features of the chatbot include contextual understanding, sentiment analysis, and learning from user interactions to improve over time. The chatbot will be deployed on a web interface using Flask, allowing users to interact with it seamlessly. By implementing this chatbot, businesses can enhance customer engagement, reduce response times, and provide 24/7 support.

**Keywords:** Natural Language, Libraries and Framework, APIs and Integration, Data Handling, Deployment, User Interfaces, Conversation Design, Security and Privacy.



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# **Body Mass Index**

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#### Abstract:

This Python project aims to develop a Body Mass Index (BMI) calculator, a simple yet effective tool for individuals to assess their health status based on their height and weight. BMI as a sole indicator of health, including its inability to differentiate between muscle and fat mass and its limited applicability to certain populations. The project utilizes fundamental concepts of programming, including user input, mathematical calculations, and conditional statements. The BMI calculator will provide users with their BMI value along with a corresponding interpretation of their weight status, such as underweight, normal weight, overweight, or obese, based on standard BMI categories. Additionally, the project will incorporate error handling to ensure robustness and usability. The BMI calculator not only serves as a practical tool for individuals to monitor their health but also offers an educational opportunity to understand the significance of maintaining a healthy weight. Understanding the complexities and nuances of BMI is crucial for healthcare professionals, researchers, and policymakers to make informed decisions regarding individual and population health interventions.

Keywords: Body mass index, health assessment, weight, height, underweight, normal weight, health management, BMI interpretation.

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# **Face Detection Attendance System**

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#### **Abstract:**

In response to the growing need for streamlined attendance management solutions across diverse sectors, this project endeavors to design, develop, and implement a sophisticated Face Detection Attendance System (FDAS). Grounded in cutting-edge advancements in computer vision and machine learning, the FDAS represents a pivotal leap forward in automating attendance tracking processes within educational institutions, corporate enterprises, governmental agencies, and public venues. By harnessing the power of facial recognition algorithms, the systems aims to accurately and efficiently identify individuals, authenticate their presence, and seamlessly record attendance data in real-time, thereby obviating the need for manual intervention and mitigating the associated risks of error and inefficiency. The architecture of the FDAS encompasses a comprehensive suite of functionalities, including robust face detection mechanisms, feature extraction algorithms, and database matching protocols, all underpinned by a framework that prioritizes data privacy, security, and regulatory compliance. The system's modular design facilitates seamless integration with existing infrastructure and software ecosystems, ensuring scalability, interoperability, and adaptability across a myriad of organizational contexts and operational environments. Moreover, the FDAS is engineered to optimize resource utilization, minimize latency, and uphold performance benchmarks, thereby enhancing user experience and organizational productivity.

**Keywords:** Face Detection, Attendance Management, Computer Vision, Machine Learning, Facial Recognition, Real-time Data Processing, Data Privacy, Security, Regulatory Compliance, Interoperability, Scalability, Resource Optimization, Biometric Authentication, Augmented Intelligence.

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Python Speech-to-Text Converter: Bridging the Gap between Voice and Code-Analyze Its Working and Convey Changes

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#### **Abstract:**

This speech-to-text converter for Python provides a seamless bridge between spoken language and code execution. Leveraging advanced machine learning techniques and Python libraries such as Speech Recognition and Py Audio, the converter accurately transcribes spoken commands into executable Python code. The speech recognition model is trained on diverse datasets to ensure robustness across various accents and languages. Through a user-friendly interface, developers can dictate code snippets, function definitions, or even complex algorithms, speeding up the coding process and enhancing accessibility for individuals with disabilities. This abstract explores the architecture, implementation, and potential applications of the Python speech-to-text converter, highlighting its role in empowering developers to code effortlessly using their voice.

**Keywords:** Speech recognition, Transcribe, Robustness, Techniques, Developers, Accessibility, Implementation



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# Language Translator Using Artificial Intelligence Sri Paneeth<sup>1</sup> Kirankumar Reddy<sup>2</sup> Shreehas<sup>3</sup> Chaitanya<sup>4</sup>

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#### **Abstract:**

In this project, we'll create a language translator using Artificial Intelligence. The goal is to build an application that can seamlessly translate text from one language to another. Imagine scenarios where you're traveling in a foreign country and need to communicate with locals who speak a different language. This tool will come in handy! Speech Recognition is an application which will recognize spoken input in one language and Translation will translate the input to the desired target language and through voice it detects the language and give the output in text with voice i.e voice to voice.

Keywords: Speech Recognition, Translation, Voice to Voice, Target Language



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# Study of Digital Library – QR Code Generator Using Python

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# **Abstract:**

The Quick Response (QR) codes seem to appear everywhere these days. We can see them on posters, magazine ads, websites, product packaging and so on. Using the QR codes is one of the most intriguing ways of digitally connecting consumers to the internet via mobile phones since the mobile phones have become a basic necessity thing of everyone. In this paper, we present a methodology for creating QR codes by which the users enter text into a web browser and get the QR code generated. Drupal module was used in conjunction with the popular Libran code C library to develop user interface on the web browser and encode data in a QR Code symbol. The experiment was conducted using single and multiple lines of text in both English and Thai languages. The result shows that all QR encoding outputs were successfully and correctly generated.

The implementation encompasses key functionalities such as:

- 1. \*Data Encoding:\* The generator supports encoding of text, URLs, contact information, and arbitrary data, ensuring compatibility with a wide range of applications.
- 2. \*Error Correction:\* Flexible error correction levels (Low, Medium, Quartile, High) are provided, balancing data redundancy and code compactness to withstand errors and damage.
- 3. \*Customization:\* Parameters such as QR code size, border size, and color palette can be customized to suit specific branding or aesthetic preferences.
- 4. \*File Output:\* Generated QR codes can be saved as image files (PNG, JPEG, SVG), enabling seamless integration into digital and print media.

**Keywords:** OR code, Ouick Response Code, Storage Capacity, Online OR Code Generator.

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**Instagram Automation Tool - Analyze its Working and Convey Changes** 

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**Abstract:** 

Instagram is one of the leading social media apps today you yourself must have not some

experience in using Instagram. But often you might have got tired of following, liking, commenting

on some person or some post every now and then so why not automate the process using simple

selenium automation techniques? Using selenium web driver we can interact with a webpage like a

real user and perform various actions like clicking, scrolling, tying to achieve goals like following,

liking, and commenting.

Web automation today is a go to solution for testing an application, but it also has various other use

cases like automating redundant processes for digital marketers and SEO specialist. Also, we can

use automatic to gather data for a particular business page, helping them with better user

engagement by helping them figure out their audience's sentiment using NLP analysis on comments

(challenge yourself by trying this out). For various computer vision models datasets are required. A

good way to gather the data specific to the use case is by using automation rather than using the

generic datasets on the web. This project can be head start for your data extraction journey. Use

skills acquired in this project and build scripts for other websites as well.

Modern websites dynamically load data which makes it hard to just make curl requests to that site,

rather we need to interact with the page in order to extract the data. Apart from this, it is also really

fun to build automation scripts for your daily web chores.

Keywords: Instagram, automation, automation tool social media

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# Password Generator - Analyze It's Working

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#### **Abstract:**

In today's digital landscape, where the security of personal and sensitive information is paramount, the importance of strong and unique passwords cannot be overstated. The Password Generator project aims to address the need for robust password creation by providing a reliable tool for generating secure passwords. This project leverages the versatility and simplicity of Python programming to develop a user-friendly application. The Password Generator utilizes various parameters such as length, complexity, and character sets to generate passwords that meet specific security requirements. By allowing users to customize these parameters, the application ensures flexibility and adaptability to diverse security needs. Overall, the Password Generator project represents a valuable tool in the arsenal of individuals and organizations striving to enhance their cyber security posture. By empowering users to create strong and unique passwords effortlessly, it contributes to safeguarding sensitive information in an increasingly interconnected world.

**Keywords:** security, cyber security, information, parameters

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# **Voice Assistant Using Artificial Intelligence**

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# **Abstract:**

The project aims to develop a Voice assistant. It has been designed to provide a user-friendly interface for carrying out a variety of tasks by employing certain well-defined commands. Users can interact with the assistant either through voice commands or using keyboard input. As a personal assistant, Jarvis assists the end-user with day-to-day activities like general human conversation, searching queries in google, bing or yahoo, searching for videos, retrieving images, live weather conditions, word meanings, searching for medicine details, health recommendations based on symptoms and reminding the user about the scheduled events and tasks. In the current days, a voice assistant is everywhere which is a lot useful in these busy days. Nowadays, almost everyone in the current world is using voice assistant because its everywhere which will be useful to do works starting from entertaing to users till turing on and off the household products (Internet of Things). One of the greatest features is that it will be that very useful to everyone physically challenged people for example, who are not able to walk use this Internet of Things (IOT) features to operate household products to maintain them. So, we tend to develop a voice assistant which will be very useful to uses same as the other voice assistant which are currently in the world.

**Keywords:** Artificial Intelligence, Python, Voice commands, IoT feature

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Chat-Bot Song Recommender System- Analyze its Working And Convey Changes

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#### **Abstract:**

In today's era of streaming services and vast music libraries, discovering new songs tailored to individual preferences has become both a challenge and an opportunity. To address this, we propose a Python-based Chat Bot Song Recommender System, leveraging the power of natural language processing (NLP) and machine learning algorithms. Our system integrates seamlessly into messaging platforms, offering users a conversational interface to interact with. Through sophisticated NLP techniques, the chat bot understands user preferences, music tastes, and contextual cues. Leveraging collaborative filtering, content-based filtering, or hybrid recommendation approaches, the system sifts through extensive music databases to suggest personalized song recommendations.

Keywords: NLP, chat bot, Song Recommender System

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**Cricket Alerts-Real Time Score Updates** 

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**Abstract:** 

Cricket, often dubbed as a gentleman's game, has evolved into a global sensation, captivating millions of fans worldwide. With the advent of technology and the rise of digital platforms, the demand for real-time updates and alerts during cricket matches has surged exponentially. In response to this growing demand, our project aims to develop a comprehensive solution for cricket alerts, catering to the diverse needs of cricket enthusiasts.

The proposed system leverages cutting-edge technologies to provide users with timely and accurate updates on various aspects of cricket matches, including live scores, match statistics, player performances, and key moments. Through a user-friendly interface, cricket fans can customize their alerts based on their preferences, ensuring a personalized experience tailored to their specific interests. In conclusion, our project aims to revolutionize the way cricket fans stay updated and engaged with their favourite sport. By offering a comprehensive solution for cricket alerts, we seek to enhance the overall cricket-watching experience and cater to the diverse needs of cricket enthusiasts around the world.

Keywords: Real-time Updates, Customizable Alerts, player Performance, Analysis,

Interactive interface

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Three Level Password System- Analyze It's Working

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**Abstract:** 

In contemporary digital environments, ensuring robust authentication protocols is imperative to safeguard sensitive information against unauthorized access. This abstract introduces a Three-Level Password System (TLPS) designed to fortify authentication mechanisms. TLPS comprises three tiers of authentication, each adding layers of security to the system. The first tier involves conventional password-based authentication, where users input a password. The second tier integrates biometric authentication, leveraging unique biological traits like fingerprints or facial recognition. Finally, the third tier implements a behavioral authentication layer, analyzing user behavior patterns such as typing speed and mouse movements. This multi-tiered approach offers enhanced security by mitigating the vulnerabilities associated with single-factor authentication. Moreover, TLPS incorporates adaptive features, dynamically adjusting authentication requirements based on contextual factors and user behavior.

Through simulations and real-world implementations, TLPS demonstrates its efficacy in thwarting various authentication attacks, including brute force, dictionary, and shoulder surfing attacks. Additionally, user acceptance studies reveal positive perceptions regarding usability and security, indicating TLPS's potential for widespread adoption across diverse digital platforms.

**Keywords:** Authentication Security, Password System, Multi-factor Authentication, Biometric Authentication, Behavioural Authentication.

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# **Bank Employee Details Management**

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# **Abstract:**

The purpose of this Python code is to provide a system for managing bank employee details. It allows users to input information such as employee names, ages, job titles, salaries, and departments. The code then stores this information in an organized manner and provides functionality to view and manage the employee details. This system aims to streamline the management of bank employee information and improve efficiency in maintaining accurate record.

Keywords: Python, bank employee, streamline

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Digital Clock Using Python-Turtle - Analyze It's Working And Convey Changes

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#### **Abstract:**

In this project, we harness the power of Python alongside the dynamic capabilities of Turtle graphics to construct a visually captivating digital clock. By leveraging the simplicity and versatility of Python's syntax and the creative canvas provided by Turtle graphics, we embark on a journey to design a sleek and functional digital timepiece. This Python program utilizes the turtle module to generate a graphical representation of a digital clock. By leveraging the datetime module, it continuously retrieves the current time, which is then parsed into hours, minutes, and seconds. Through step-by-step implementation, we delve into the intricacies of time manipulation, graphical rendering, and user interaction, culminating in the creation of a digital clock that seamlessly blends aesthetics with utility. This project serves as a testament to the synergy between programming prowess and artistic expression, offering a simple yet effective solution for displaying time in a captivating manner.

**Keywords:** Python, Turtle graphics, digital clock, visualization

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Streamlining Communication: A User-Friendly Telegram Bot

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**Abstract:** 

In today's fast-paced digital age, effective communication is key. Our Telegram bot aims to

simplify and enhance communication for users across various platforms. With its user-friendly

interface and intuitive functionality, the bot provides a seamless experience for individuals and

organizations alike.

The primary goal of our Telegram bot is to make communication easier and more efficient.

Through natural language processing and simple commands, users can interact with the bot

effortlessly. Whether it's sending messages, setting reminders, or accessing information, the bot

responds promptly and accurately to user requests.

One of the key features of our bot is its ability to automate tasks. Users can schedule events, set

reminders, and even receive notifications without having to manually input each task. This

automation saves time and reduces the likelihood of forgetting important appointments or

deadlines.

Additionally, our bot is highly customizable to meet the unique needs of each user. From

personalized responses to tailored notifications, users can configure the bot to suit their

preferences and workflow. This flexibility ensures that the bot adapts to the user's

communication style and requirements.

**Keywords:** *Telegram bot, user-friendly interface, tailored notifications.* 

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# **Temperature Converter**

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# **Abstract:**

The Temperature Converter Python project offers a versatile tool for converting temperatures between Celsius, Fahrenheit, and Kelvin scales. Through a user-friendly interface, individuals can input temperatures in any of the supported units and swiftly obtain the equivalent values in the other two units. Leveraging Python's simplicity and efficiency, the project employs basic mathematical conversions to ensure accurate results. Additionally, error handling mechanisms are implemented to enhance the robustness and usability of the converter. This project not only serves practical purposes, aiding individuals in everyday temperature conversions, but also provides an educational platform for beginners to grasp fundamental programming concepts such as user input processing, mathematical operations, and conditional logic. Thus, the Temperature Converter Python project stands as an accessible entry point into both temperature conversion and programming for aspiring enthusiasts.

**Keywords:** Celsius, Fahrenheit, Kelvin, Conversion, User interface, Error handling, GUI(Graphical user interface), Data types, Variables, Constants.

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**Exploring CLI-Based Applications: A Review and Analysis** 

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**Abstract:** 

This paper offers a concise examination of Command Line Interface (CLI)-based chat applications, tracing their evolution, features, and relevance in contemporary digital communication. It explores the efficiency, accessibility, and scriptability of CLI interfaces, analyzing their role in diverse contexts such as software development, system administration, and privacy-focused communication. Key features like text messaging, file sharing, user authentication, and encryption are highlighted, along with considerations for user experience and customization options. The paper also addresses challenges such as limited multimedia support and compatibility issues, while noting ongoing developments and emerging trends in CLI-based communication tools. In conclusion, CLI-based chat applications retain significance in digital communication ecosystems due to their efficiency, flexibility, and integration with existing workflows. Continued research and innovation in this field are expected to further enhance their capabilities and usability.

**Keywords:** Command Line Interface (CLI) Chat applications, Evolution Efficiency, Accessibility, Scriptability, Software development System, administration, Privacy-focused communication, Text messaging, File sharing, User authentication, Encryption User experience Customization, Multimedia support Compatibility, Emerging trends

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# **Library Management System Using Inheritance**

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#### **Abstract:**

The usage of library has increased a lot in nowadays, either online or offline. Reading books and gaining knowledge has fascinated everyone into libraries. Previously libraries were managed manually using notebook and pen which made the work tedious for the library manager.

This project presents a Library Management System utilizing the concept of inheritance in object-oriented programming. This system is designed for efficient management of library assets, including books and DVDs which reduces the tedious work for the library manager.

Inheritance enables code reusability, reducing redundancy and enhancing maintaining ability. This system demonstrates an efficient and organized approach to managing library resources and operations.

UGC AUTONOMOUS

**Keywords:** *Inheritance, Object-oriented programming, library operations.* 

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**Custom Python IDE: From Concept to Code** 

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**Abstract:** 

This work explores the concept of developing a custom Python Integrated Development Environment (IDE) embedded within a pre-existing IDE. It delves into the benefits and considerations of such a nested environment. This project outlines the core functionalities a basic embedded Python IDE might possess, including a code editor, an execution mechanism, and an output display.

We acknowledge the inherent challenges associated with developing an embedded IDE. Resource management becomes a critical factor, as the nested environment must operate efficiently within the constraints imposed by the host IDE. Additionally, potential conflicts between the functionalities of the embedded IDE and the host IDE require careful consideration to ensure a smooth user experience.

Despite these challenges, the creation of an embedded Python IDE presents several compelling advantages. From an educational standpoint, it can provide a safe and controlled environment for learners to experiment with Python code within a familiar IDE interface. For experienced programmers, it offers a high degree of customization, allowing them to tailor the embedded environment to their specific workflow and preferences.

In conclusion, this project explores the possibility of constructing a Python IDE encapsulated within another IDE. We discuss the core functionalities, potential challenges, and the educational and customization benefits that such a nested environment can offer to programmers of varying skill levels.

**Keywords:** Integrated Development Environment (IDE), Python.

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# Methodology to Implement Slicing And Ranging operations In Python

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#### **Abstract:**

This paper explains the Python's slicing and ranging functionalities are fundamental to manipulating sequences like lists, tuples, and strings efficiently. This paper provides a comprehensive exploration of slicing and ranging techniques in Python, covering syntax, usage, and best practices. Beginning with basic concepts, such as slice notation and index manipulation, the paper progresses to advanced topics, including negative indexing, step values, and slicing with ranges. Through code examples and explanations, readers will gain a deep understanding of how to leverage slicing and ranging effectively in their Python programs. Furthermore, the paper discusses common pitfalls and performance considerations, empowering developers to write cleaner, more efficient code. We explore the capabilities and limitations of these techniques, demonstrating their use in real-world data analysis scenarios. By mastering slicing and ranging, developers and data scientists can streamline their workflows, improve code readability, and unlock new insights in data-driven projects.

Keywords: Python, Slicing, Ranging, Data Manipulation, Data Analysis, Efficiency, Productivity.

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# Implementation of Inheritance in Python

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#### **Abstract:**

This abstract explores the implementation of inheritance in Python, a powerful object-oriented programming feature that enables code reuse and organization. Inheritance allows classes to inherit attributes and methods from other classes, promoting modularity and flexibility in software design Inheritance is a mechanism where a new class (subclass) can inherit properties (attributes and methods) from an existing class (superclass). Subclasses can extend or override superclass functionality, enhancing code modularity and promoting the DRY (Don't Repeat Yourself) principle. A practical example demonstrates the implementation of inheritance in Python, showcasing how subclasses inherit and customize functionality from a superclass. The example illustrates how classes representing different animals can inherit common behavior from a generic 'Animal' superclass, while also defining unique behavior for specific animal types. Inheritance promotes code reuse, reducing redundancy and enhancing maintainability. Well-designed class hierarchies improve code organization and scalability. Developers should carefully consider class relationships and avoid excessive levels of inheritance to maintain code clarity. Inheritance is a fundamental feature of object-oriented programming in Python, enabling developers to create modular and extensible software solutions. Understanding the syntax and principles of inheritance empowers developers to leverage this feature effectively in their Python projects, leading to more efficient and maintainable codebases.

Keywords: Inheritance, Promoting Modulaity.

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# Implementation of OOP – Object Oriented Programming in Python G.Venkata Manikanta<sup>1</sup> V.Sheshadri Naidu<sup>2</sup> S.Venkata Sravan<sup>3</sup> T.Chiranjeevi Amarnath<sup>4</sup>

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## **Abstract:**

Alan Kay developed the phrase "Object-Oriented Programming" (OOP) in 1966, while still in graduate school. The goal of Object-Oriented Programming (OOP) is to create "objects." An object is a collection of interconnected variables and functions. These variables are frequently referred to as object attributes, an function are referred to as object behavior. These objects improve and clarify the program's structure.

Creating objects is a popular method for solving computer problems. Python Object-oriented Programming (OOPs) is a programming paradigm that makes use of objects and classes. A class can be viewed as a "blueprint" for things. The primary idea behind OOPs is to tie the data and the functions that act on it as a single unit so that no other portion of the code may access it.

For example, an automobile can be an item. If we regard the car to be an item, its properties include its color, model, price, brand, and so on. And its behavior/function would be acceleration, deceleration, and gear shift.

**Keywords:** OOP Object Oriented Programming, Inheritance, Encapsulation, Abstraction, Polymorphism

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# **Bus Reservation System Implemented in Python**

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#### **Abstract:**

A bus reservation system is a software application that facilitates the booking and management of bus tickets. It allows passengers to search for available buses, select their preferred routes, book tickets, and even cancel reservations if needed. These systems typically involve a database to store bus details, passenger information, and booking records. Python, being a versatile programming language, is commonly used to build such systems due to its simplicity and ease of integration with web frameworks like Django. Developers can create user-friendly interfaces, handle authentication, and ensure smooth communication between passengers and the system. Overall, a Python-based bus reservation system streamlines the entire booking process, making it convenient for travelers and bus operators alike

**Keywords:** Bus Reservation System, Passengers, Database, Database, Django.

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# **Website Blocker Using Python**

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#### **Abstract:**

In today's digitally saturated world, maintaining focus and productivity can be challenging amidst the allure of endless online distractions. To address this issue, the development of a website blocker program using Python presents an innovative solution. This project aims to create a customizable and user-friendly tool that empowers individuals to regulate their internet usage effectively. By leveraging Python's versatility and accessibility, the program enables users to designate specific websites to be inaccessible during predetermined periods, allowing for uninterrupted concentration on tasks at hand. Through a streamlined user interface, users can effortlessly input their desired blocking parameters, including the target websites and the duration of the blocking intervals. Implementation involves employing techniques such as modifying the system's host file or utilizing browser extensions to enforce the blocking rules effectively. Moreover, the program facilitates seamless configuration and persistence across system reboots, ensuring consistent operation over time. Additionally, a notification system may be integrated to keep users informed about impending blocking periods, thereby aiding in better time management and task planning. Ultimately, this website blocker program serves as a valuable tool in promoting productivity, enhancing focus, and fostering healthier digital habits in an increasingly connected world.

Keywords: Host path, redirect\_ip, is\_working hours.

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# **Credit Card Fraud Detection**

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Abstract:

"Financial fraud is becoming more prevalent in the financial business, with far-reaching implications. Data mining is required to detect credit card fraud in internet transactions. To detect credit card frauds, it is a data mining task and very hard because of two fundamental issues:

- Firstly, because the portraits of legits and fraudulent behaviour vary often, and
- Secondly, the datasets of credit card frauds are highly skewed.

The sampling strategy used in the dataset, the variables chosen, and the technique(s) used for the detection purpose all have an influence on the accuracy in detecting credit card frauds. The performances of naves bayes, KNN, and the logistic regression on significantly skewed data of credit card frauds is determined in this paper. Credit card is a transaction dataset of 284,807 transactions was given by European cardholders. A hybrid method of under-sampling and oversampling is utilised to work with skewed data. The 3 techniques are forced upon the unprocessed and pre-processed data.

"Fraud may be committed in exception ways and in lots of industries. Credit card frauds are clean and friendly objectives. E-Commerce and plenty of online websites have extended the net price modes, increasing the chance for online fraud. Credit card frauds commonly happen when the cards are stolen for any of the unauthorized functions or maybe whilst the fraudster make use of credit card facts for his use. Lots of money are lost due to credit card fraud every year. The system prediction degree and accuracy of fraud detection isn't one hundred percent correct".

**Keywords:** *online, fraudulent, website, detection, skewed.* 

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# A Comparative Analysis of Conditional and Unconditional Statements in C and Python

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#### **Abstract:**

Conditional and unconditional statements are fundamental control structures in programming languages, enabling developers to manage program flow and make decisions based on specific conditions. This abstract compares and contrasts the usage of conditional and unconditional statements in C and Python, two popular programming languages with distinct syntax. In C, conditional statements (if-else, switch) and unconditional statements (goto, break, continue) are essential for controlling program flow. The if-else statement evaluates a condition and executes corresponding blocks of code, while the switch statement selects a case based on an integer value. Unconditional statements like goto, break, and continue alter program flow without conditions. C's syntax requires explicit curly braces and semicolons, ensuring clarity and avoiding ambiguity. Key differences between C and Python include:

- Conditional statement syntax: C's if-else and switch statements differ from Python's if-elifelse statement.
- Unconditional statement usage: C's goto statement is not available in Python, and Python's pass statement has no direct C equivalent.
- Error handling: C requires manual error handling with if-else statements, while Python uses try-except blocks for error handling.
- Conditional expression syntax: C's ternary operator (condition ? true\_value : false\_value) is more concise than Python's if-else statement.

**Keywords:** *C, Python. Conditional and Unconditional statements.* 

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# **Artificial Intelligence Voice Assistant**

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#### **Abstract:**

A Voice Assistant is one of the hot topics in the current world that are programs that listens to human's verbal command and respond to them which makes it a human computer/device interaction. In the current days, a voice assistant is everywhere which is a lot useful in these busy days. Nowadays, almost everyone in the current world is using voice assistant because it's everywhere starting from Google smartphone assistant which even 5 years old kids will know how to use because of the current world pandemic which makes them use smartphones till Amazon's Alexa which will be very useful to do works starting from entertaining the users till turning on and off the household products (Internet of Things). One of the greatest features is that it will be very useful to even physically challenged people, for example, people who aren't able to walk use the Internet of Things (IoT) feature to operate the household products and maintain them. So, we tend to develop a voice assistant which will be very useful to the users same as the other voice assistants which are currently in the world.

**Keywords:** Python, IoT, AI.

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# **Functions in Python**

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#### **Abstract:**

The uses of function in python has increased a lot nowadays in programming language. Functions in python are the backbone of the language versatility, enabling developers to encopsulate logic, promote code news and enhance maintain ability. In C, functions are typically defined with a return type and can be called with arguments passed by value or reference. They often require explicit memory and have striker syntax rules. In C, functions are defined using the void keyword. In C, we cannot have the multiple variable arguments. In python, functions are defined using the def keyword and can return multiple values. Arguements are passed by reference, and memory management is handled automatically by the interpreter. Python functions are more flexible and allow for variable argument list and keyword arguments. In python, you can define a function that accepts a variable number of arguments using the ashtrick(\*) syntax. This allows you to pass any number of arguments to the function. In summary, functions in python eptiomize the languages, philosophy of simplicity, readability and flexibility.

Keywords: Def, Void, Variable argument, Syntax.

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# **Employee Management System Using Inheritance**

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#### **Abstract:**

This project introduces an Employee Management System (EMS) that employs inheritance in object-oriented programming to streamline administrative tasks associated with overseeing employees. The system is designed to offer a structured solution for managing employee information, covering personal details, job roles, and performance records.

The system offers a flexible framework for efficiently managing employee data, facilitating the seamless addition of new job roles or departments with minimal code repetition. By encouraging code reuse and modular design principles, this approach enhances the system's adaptability, scalability, and maintainability, enabling organizations to effectively navigate changes in their workforce dynamics.

**Keywords:** Employ Class, Full time employee, part time employee, Pay roll system.

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# **To-Do List Application**

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#### **Abstract:**

The To-Do List Application is a simple tool designed to help the user to manage his daily tasks by adding and removing the tasks. It was developed by using Python Tkinter library.

This application provides user to add the tasks and remove the tasks and takes the task details task priority, task status and task due date displays a particular task details when user wants to know. The application stores the task data locally in JSON file. The application simple yet effective for managing the daily tasks of the user and it has user friendly interface which makes user easy to add tasks and manage the tasks. For the priority level predefined options were defined and are "High", "Medium", "Low". The user just need to select the options given. Similarly, for the task status has options "Incomplete" and "Complete"

Keywords: To-Do List, Python Tkinter library, JSON file.

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# Comparison of Looping Statements in C and Python

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#### **Abstract:**

This paper compares looping statements in two popular programming languages, C and Python. Looping statements are essential for executing a block of code repeatedly. In C, programmers commonly use "for", "while", and "do-while" loops, while in Python" for" and "while" loops are more prevalent. The comparison explores syntax, flexibility, and ease of use in both languages, highlighting their differences and similarities. Understanding the nuances of looping in C and Python can help programmers choose the most suitable language for their specific needs.

In basic terms, both C and Python have looping statements that let you repeat tasks, but they work a bit different in C, you use "for", "while", or "do-while" loops. These are more rigid and require careful management of loop control variables and termination conditions.

In Python, you mainly use "for" and "while" loops. Python's loops are more flexible and often require fewer lines of code compared to C. Python also offers additional features like list comprehensions, which make certain types of loops even simpler. Overall, Python's looping statements tend to be more intuitive and concise compared to C, making Python a popular choice for tasks involving lots of repetition.

**Keywords:** C and Python, Looping statements, "while", and "do-while" loops.

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Study of Password Strength Checker - Analyse It's Working

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#### **Abstract:**

This study presents a Python implementation of a Password Strength Checker. Utilizing advanced algorithms, the tool assesses the robustness of user-generated passwords. Through predefined rules for password strength, the system provides real-time feedback on password strength. Designed for simplicity and effectiveness, it guides users towards creating stronger credentials. The implementation showcases Python's versatility in cybersecurity applications. With an emphasis on efficiency and accuracy, the checker enhances security measures across digital platforms. In today's digital landscape, ensuring robust security measures is paramount, with password strength being a critical component in safeguarding sensitive information. This paper introduces a Python-based Password Strength Checker aimed at assessing the resilience of user-generated passwords. The proposed tool employs a combination of at least 8 characters long with an uppercase letter, lowercase letter, number & special character to evaluate the strength of passwords comprehensively. Leveraging Python's versatility and simplicity, the system provides users with real-time feedback on the strength of their passwords, guiding them towards creating stronger and more secure credentials. Through a detailed analysis of the methodology and implementation, this paper demonstrates the effectiveness and efficiency of the proposed Password Strength Checker in bolstering cybersecurity measures across various digital platforms.

**Keywords:** password strength, security, real-time feedback, predefined rules.

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# Airline Seat Reservation System Using Sets and Dictionaries Ch. Vineela<sup>1</sup> N. Akshaya Reddy<sup>2</sup> Mohammad Kaif<sup>3</sup> M. Akshitha<sup>4</sup>

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#### **Abstract:**

The proposed Airline Seat Reservation System is a python-based application developed using Sets and Dictionaries. The system allows customers to search and book available seats on flights, view seat availability, and cancel or modify reservations. The system also enables airline staff to manage flight schedules, seat assignments, and passenger information. The project utilizes a user-friendly interface, ensuring easy navigation and interaction. The system's backend is built using Python, with a system to store and retrieve data efficiently. This project aims to streamline airline operations, enhance customer experience, and reduce manual errors.

**Keywords:** Airline Seat Reservation System, Sets and Dictionaries, user-friendly interface.

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UGE AUTONOMOUS

## **Codecraft: Pythonic Adventures**

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#### **Abstract:**

"Codecraft: Pythonic Adventures" invites learners on an exhilarating odyssey through the captivating world of Python programming. This immersive experience guides adventurers on a quest to embody the essence of Pythonic coding, emphasizing readability, simplicity, and effectiveness. Participants traverse diverse landscapes of challenges, unraveling the intricacies of Python's syntax and libraries while honing their skills to craft elegant and efficient solutions. Along this dynamic journey, they cultivate a deep understanding of Python's philosophy and best practices, emerging as adept navigators of the Pythonic frontier.

Participants embark on a quest to master the art of writing Pythonic code, delving into the principles of readability, simplicity, and efficiency. Through a series of engaging challenges and puzzles, adventurers hone their skills, unlocking the secrets of Python's syntax and libraries. Along the way, they cultivate a deep understanding of Python's philosophy and best practices, emerging as adept craftsmen of elegant and effective code. Join us on this thrilling adventure and unlock the full potential of Pythonic. Through engaging challenges and hands-on projects, adventurers learn the principles of Pythonic coding, emphasizing readability, simplicity, and effectiveness. Guided by expert mentors and a supportive community, participants navigate through diverse scenarios, honing their skills and gaining a deeper understanding of Python's philosophy and best practices. Join us on this exciting adventure and unleash your potential as a Pythonic coder!

**Keywords:** Python programming, Pythonic coding, Code mastery, Readability, Simplicity, Efficiency, Challenges, Hands-on projects, Guided learning, Community support, Best practices, Syntax, Libraries, Skill development, Exploration

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Facepy: Real Time Facial Emotion Recognition Technology

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#### **Abstract:**

FacePy: Next-Gen Real-Time Face Recognition Technology" is a face recognition system to revolutionize real-time identification process. It is engineered to redefine the landscape of security, personalized experiences. It is designed in Android, in locking the doors, emotions detection, attendance. This project implements the facial detection by using deep face library, opency. Deep face library provides the pre-trained models for face emotion detection, opency used for image and vedio processing. Human emotion detection from image is one of the challenging research task in social communications. Human expressions are natural expressions which comes from people make naturally, without any conscious effort, maintained by reflexing of Facial muscles. Facial expressions plays a major role in recognizing emotions. Emotion is expressed as joy, anger, surprise, fear etc.

Keywords: Artificial Intelligence, Image Processing, Machine Learning, Face Detection.

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## Finding Day Of Birth From Date Of Birth Using Python

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#### **Abstract:**

The "Finding day of birth from date of birth" is a python project that aims to provide users with a user-friendly graphical interface for determining the day of week on which they were born. The project utilizes the Tkinter library to create an interface GUI that prompts the user to enter their date of birth. Upon entering the date, the project employs an algorithm to calculate the corresponding day of week.

This method involves converting the input date of birth into a datetime object and then utilizing the 'strftime' function to extract the corresponding day of week. Accept the date of birth as input in the format 'YYYY-MM-DD'. Utilize the 'date time' module to convert the input string into a datetime object. Use the 'strftime' method to extract the day of week from datetime object. Return or print the day of week.

**Keywords:** Python programming, date of birth, strftime, datetime object, strftime, Tkinter library

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# Guess The Numericals as A Python Program S.Vasavi<sup>1</sup> J.Vaishnavi<sup>2</sup> N.Mihira<sup>3</sup> R.Pradeep Kumar<sup>4</sup>

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#### **Abstract:**

This program titled 'GUESS THE NUMERICALS' this is a PYTHON based GUI program implements a Numericals Game, where the player is provided with set of Rules/Instructions, later the player needs enter the name and guess the number between 1 and 100. The program provides hints to the player based on whether the guess is higher or lower than the actual number. The player gets 10 points for each play, but points get depleted for every wrong guess. The game ends when the player either guess the number correctly or loses all the points. The program also displays the number of guesses made by the player, the time taken to guess the number and the final score. The player gets the chance to restart the game after or in the middle of the game also the player can know the scores he achieved and the scores are permanently stored in the device.

**Keywords:** Python programming, GUI program, Numericals Game, player, final score.

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Image Restoration Techniques and Challenges: A Review

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### **Abstract:**

Image restoration is a critical field in computer vision and image processing, focusing on recovering an original image from a degraded version. This paper provides a comprehensive review of various image restoration techniques and the associated challenges. The primary objective of image restoration is to reconstruct an image with minimal loss of information and maximum fidelity to the original. Techniques such as deblurring, denoising, and super-resolution have been extensively studied and developed to address specific types of degradation caused by factors like noise, motion blur, and low resolution.

In this paper, we explore classical methods like Wiener filtering, total variation minimization, and more recent advancements in deep learning-based approaches, including convolutional neural networks (CNNs) and generative adversarial networks (GANs). Each method's underlying principles, advantages, and limitations are discussed in detail, highlighting the trade-offs between computational efficiency and restoration quality.

Moreover, the paper delves into the challenges inherent in image restoration, such as the handling of complex noise patterns, the preservation of fine details, and the prevention of artifacts. The evaluation metrics used to assess the performance of restoration techniques are also reviewed, emphasizing the importance of both subjective visual quality and objective measures like PSNR and SSIM.

**Keywords:** *Image* Restoration, Deblurring, Denoising, Super-Resolution, Deep Learning, Convolutional Neural Networks, Generative Adversarial Networks, Evaluation Metrics.

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## **Network Usage Tracker Using Python**

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### **Abstract:**

In an era where internet connectivity is integral to daily operations, efficient network usage tracking is paramount for optimizing performance and ensuring security. This paper presents the design and implementation of a Network Usage Tracker using Python. The tool leverages Python's extensive libraries and frameworks to monitor and analyze network traffic in real time. Key features include bandwidth usage tracking, identification of connected devices, and detailed logging of data transfer rates. The implementation involves using libraries such as psutil for system and network statistics, scapy for packet analysis, and matplotlib for data visualization. This tracker aims to provide users with actionable insights into their network usage patterns, facilitate troubleshooting, and enhance overall network management. The paper discusses the architecture, methodologies, and potential applications of the Network Usage Tracker, highlighting its effectiveness in both personal and professional environments.

**Keywords:** Network Usage Tracker, Python, Bandwidth Usage, Real-time Monitoring, Network Traffic Analysis, Connected Devices, Data Transfer Rates, psutil, scapy, matplotlib, Network Management, Troubleshooting.

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Py Pass Gen - Python Password Generator

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Abstract:

In today's interconnected digital landscape, the significance of strong passwords cannot be overstated. To address the escalating need for robust passwords, this project introduces Password Generator, an innovative password generator designed to enhance online security. This abstract presents an overview of the key features and benefits of password generator Password Generator leverages advanced cryptographic algorithms and randomization techniques to generate highly secure and unique passwords. The generator offers a wide range of customizable options, including password length, character sets, and the inclusion of special symbols. This flexibility enables users to generate passwords tailored to the specific requirements of different online platforms while maintaining a high level of security.

The user interface of password generator is intuitive and user-friendly, making it accessible to users of all technical backgrounds. With a simple and straightforward design, users can easily configure their desired password parameters and generate a strong password with a single click. The generated password is immediately displayed, allowing users to quickly copy and use it for their accounts. To ensure that generated passwords are not only secure but also memorable, the password generator incorporates innovative techniques for creating mnemonics and patterns. By employing these methods, users can generate passwords that are easier to remember without compromising security.

**Keywords:** python, password, generator, security, random, characters, authentication, cryptography

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Python Detective: Unraveling the Mystery Number

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## **Abstract:**

In the enigmatic world of numbers, lies an intriguing mystery waiting to be decoded by the astute mind of a Python detective. Like a cryptic puzzle, this mystery number hides in the depths of numerical obscurity, challenging the investigator to unveil its secrets through the lens of logic and code. Armed with the power of Python programming, our detective embarks on a journey of deduction and analysis, equipped with algorithms as their trusty companions. With each line of code, they meticulously sift through data, scrutinizing patterns and anomalies, determined to crack the code of this elusive number. Thee investigation progresses, the detective encounters a myriad of numerical clues, each adding a layer of complexity to the puzzle. From prime factors to mathematical sequences, every piece of information serves as a breadcrumb leading closer to the ultimate revelation. Yet, the path is not without obstacles. Along the way, the detective must navigate through a labyrinth of false leads and red herrings, testing their intellect and perseverance. With each setback, they refine their approach, honing their skills as both a sleuth and a coder. Finally, after hours of relentless pursuit, the Python detective stands on the brink of discovery. With a final keystroke, the mystery number is unveiled, its significance revealed in a triumphant display of logic and intuition. In the end, the journey of unraveling the mystery number transcends mere mathematics it is a testament to the power of curiosity, ingenuity, and the indomitable spirit of inquiry. Through the lens of the Python detective, numbers cease to be mere symbols on a page, transforming into portals to a world of endless possibility and discovery.

**Keywords:** Detective, Mystery, Number, Investigation, Puzzle-solving, Code, Clues, Algorithm, Solution.

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## **Guess a Number**

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## **Abstract:**

This abstract presents a Python program designed to engage users in a number guessing game. The program prompts the player to think of a number within a specified range and proceeds to guess the number through a series of iterations. Using a combination of user feedback and binary search algorithm, the program intelligently narrows down the range of possible values until it accurately guesses the number. The program utilizes key concepts such as conditional statements, loops, and user input/output to facilitate an interactive experience. It employs a divide-and-conquer approach to efficiently determine the target number, maximizing the chances of success while minimizing the number of guesses required.

Keywords: Python Program, Iterations, Binary Search Algorithm.

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**Python Play: Uniting Gamers in Multi - Player Adventures** 

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## Abstract:

Python Play is a project designed to foster a sense of community among gamers by enabling them to create and participate in exciting multiplayer adventures using Python. This project caters to individuals with no prior coding experience, offering a fun and engaging way to learn Python fundamentals through interactive game development. Python Play focuses on building the core functionalities of a multiplayer game using Python libraries. Learners will progress through various stages, potentially crafting games like choose-your-own-adventure stories, collaborative escape rooms, or even simpler games with multiple players navigating a virtual world. By successfully completing the project, participants will not only gain valuable Python programming skills but also experience the thrill of creating and playing games with others. This project offers a unique blend of learning and entertainment, making it an ideal resource for anyone interested in exploring the world of game development and connecting with fellow gamers through the power of Python.

**Keywords:** Multiplayer, Team play, Online RPG, Groups, Play Across Devices, Find players, Talk in Game, Player Battles, Gaming Party, Pro Gaming

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# **Python Purse – Streamlined Budgeting Solution**

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## Abstract:

Streamlined budgeting solutions offer efficient and simplified methods for managing personal finances. These solutions involve leveraging technology, such as budgeting apps or software, to automate processes like expense tracking, categorization, and goal setting. By integrating financial accounts and providing real-time insights, streamlined budgeting solutions empower individuals to make informed decisions and optimize their spending habits. With user-friendly interfaces and customizable features, these tools enhance accessibility and facilitate regular budget monitoring and adjustments. Ultimately, streamlined budgeting solutions enable individuals to achieve greater financial control, improve savings habits, and work towards their financial goals with ease. Budgeting is essentially the process of creating a plan for how you'll spend your money. It involves estimating your income and expenses over a certain period, typically monthly or yearly, and then allocating funds accordingly. Budgeting is a fundamental financial management practice that involves creating a plan to allocate available funds effectively. It encompasses assessing income, categorizing expenses, setting financial goals, and prioritizing spending.

**Keywords:** Budjeting apps, expense tracking, goal setting, categorization

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**Python Wings: Secure Your Seat in The Skies** 

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#### Abstract:

The proposed Airline Seat Reservation System is a python-based application developed using Sets and Dictionaries. The system allows customers to search and book available seats on flights, view seat availability, and cancel or modify reservations. The system also enables airline staff to manage flight schedules, seat assignments, and passenger information. The project utilizes a user-friendly interface, ensuring easy navigation and interaction. The system's backend is built using Python, with a system to store and retrieve data efficiently. This project aims to streamline airline operations, enhance customer experience, and reduce manual errors.

**Keywords:** User-friendly interface, seat availability, flight schedules, Database management system.

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## **Rock Paper Scissors Game Using Python and GUI**

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#### **Abstract:**

This project focuses on implementing the classic game of Rock Paper Scissors using Python programming language with a graphical user interface (GUI). The aim is to provide an interactive and visually appealing experience for users while engaging them in the timeless strategy game. The project leverages the Tkinter library in Python to create the GUI elements, allowing users to select their choice of rock, paper, or scissors through intuitive clicks. The program then generates a random selection for the computer opponent, simulating the traditional gameplay. The outcome is determined based on the rules of the game, and the result is displayed on the GUI interface, providing immediate feedback to the user. Through this project, users can explore the fundamentals of programming in Python, including user input handling, random number generation, conditional statements, and GUI development, while enjoying the nostalgic fun of Rock Paper Scissors in a modern digital format.

**Keywords:** Strategy game, Traditional gameplay, online, offline, Nostalgic fun, Immediate feedback, Modern digital format.

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Sports Trivia Challenge: Know Your Knowledge

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## **Abstract:**

The goal of the Sports Trivia Challenge initiative is to provide sports fans with an entertaining and educational platform. The main goal is to create an interactive trivia game that assesses players' knowledge of several sports, such as baseball, basketball, tennis, football, and soccer. To improve player engagement and competitiveness, the game will include multiple-choice, true/false, and timed challenges, among other question forms. A large question bank, dynamic difficulty levels, multiplayer mode, leaderboards and achievements, educational insights, and cross-platform accessibility are just a few of the project's important features. The goal of the Sports Trivia Challenge is to provide players an engaging and entertaining gaming experience while fostering a deeper understanding and respect of sports. Through the creation of a lively sports enthusiast community, the project

**Keywords:** Sports Trivia, Interactive trivia game, sports enthusiasts, cross-platform, accessibility.

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## **States and District Finder**

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### **Abstract:**

The "District and State Finder" is a Python-based application designed to streamline the identification of U.S. states and their corresponding districts. This tool employs a dictionary data structure to map state names to their respective districts, enabling efficient and rapid lookups. The application offers two primary functionalities: one for retrieving a list of districts for a given state and another for identifying the state corresponding to a given district. To achieve this, the program defines a dictionary where each key is a state name, and the associated value is a list of districts within that state. The 'find districts\_by\_state' function takes a state name as input and returns the list of districts associated with that state, or an empty list if the state is not found. Conversely,

the function accepts a district name and iterates through the dictionary to find and return the state that contains the given district, or 'None' if the district is not found. This abstract implementation provides a clear and concise method for managing and querying geographical data, making it particularly useful for applications that require quick access to regional divisions within the United States. While this example uses a static dictionary for simplicity, it can be expanded or adapted to integrate with more complex data sources, such as databases or external APIs, to handle larger datasets and provide more dynamic functionality. In summary, the "District and State Finder" serves as a foundational tool for geographic data management, offering essential functionalities for both state-to-district and district-to-state lookups.

**Keywords:** District Finder, State Finder, Python Application, Dictionary Data Structure, Geographic Data Management, U.S. States, District Lookup, Regional Divisions, Data Mapping, Prototype Application.

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## **Personal Weather Forecast**

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## **Abstract:**

Weather forecasting plays a crucial role in our daily lives, influencing our decisions ranging from what to wear to planning outdoor activities. In this project, we propose the development of a Weather Forecasting Application that provides users with real-time temperature data for any city of interest. Users can input the name of a city, and the application retrieves and displays the current temperature for that city. The application utilizes a reliable weather API to ensure accuracy and reliability of the temperature data. With a user-friendly interface and error handling mechanisms in place, the application aims to provide a seamless experience for users seeking weather information. This Weather Forecasting Application serves as a handy tool for individuals to stay informed about the current temperature conditions in any city they choose.

**Keywords:** Weather Forecasting Application, City Input, Temperature Output, Real-Time Data ,User Interface, Error Handling, Refresh Option, Multi-City Support, Weather API

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Arduino Based Automatic Seed Sowing and Spraying Agriculture Robot

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## **Abstract:**

This paper presents the design, development, and implementation of an Arduino-based automatic seed sowing and spraying agriculture robot, aimed at enhancing efficiency and precision in farming practices. Traditional agricultural methods often suffer from inefficiencies and inconsistencies, leading to suboptimal yields and resource wastage. In response, the proposed robot integrates advanced technologies to automate crucial farming tasks. The system comprises several components, including a robust mechanical frame equipped with motors and actuators for mobility and task execution. An Arduino microcontroller serves as the central processing unit, coordinating sensor inputs and controlling the actions of the robot. To ensure precise operation, various sensors such as GPS, moisture sensors, and proximity sensors are incorporated to gather real-time data about the environment and crop conditions. The seed sowing mechanism utilizes a dispenser system controlled by the Arduino, which accurately disperses seeds at predefined intervals and depths, optimizing planting density and uniformity. Additionally, the spraying module employs a similar mechanism for targeted pesticide or fertilizer application, reducing chemical usage and minimizing environmental impact. The proposed robot offers several advantages over conventional farming methods. By automating seed sowing and spraying processes, it minimizes labour requirements and enables farmers to focus on higher-value tasks.

Keywords: Arduino Board, robot, moisture sensors

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## **Automatic Plant Watering System**

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## **Abstract:**

Watering is the most arduous and time-consuming ritual associated with gardening in daily life. Physically watering the plants only adds to the difficulty and is time consuming process already in place. So that we can lead a more intelligent existence, mankind has developed "Automatic plant watering system," which aids us in watering the plants naturally and conserves water. This automated plant watering system will ensure that the soil remains moist without the need for any human interaction. The AtMega328 microcontroller is used in this system. In addition to reducing labor requirements, this technique also allows us to store water, reducing the likelihood of overwatering. This technique was created with the hopes of replacing manual labor and making gardener's work easier. All plants exceed their capabilities when this design is enumerated in gardens. This Automated plant watering system eliminates the need for a human workforce and saves valuable time. To conserve energy, we can install solar panels on large administration buildings.

Keywords: Watering System, Arduino, Motor Driver, Ultrasonic Sensor, Moisture Sensor

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JGE AURONOMOUS

## **IOT Powered Ploughing with Tractors**

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### Abstract:

Watering is the most arduous and time-consuming ritual associated with gardening in daily life. Physically watering the plants only adds to the difficulty and is time consuming process already in place. So that we can lead a more intelligent existence, mankind has developed "Automatic plant watering system," which aids us in watering the plants naturally and conserves water. This automated plant watering system will ensure that the soil remains moist without the need for any human interaction. The AtMega328 microcontroller is used in this system. In addition to reducing labor requirements, this technique also allows us to store water, reducing the likelihood of overwatering. This technique was created with the hopes of replacing manual labor and making gardener's work easier. All plants exceed their capabilities when this design is enumerated in gardens. This Automated plant watering system eliminates the need for a human workforce and saves valuable time. To conserve energy, we can install solar panels on large administration buildings.

**Keywords:** Agriculture, Internet of Things (IoT), Tractor automation, Ploughing, Precision farming, Real-time monitoring, Data analysis, Decision-making, Resource optimization, Sustainability.

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## **Lidar Micro Drone with Proximity Sensing**

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#### Abstract:

This paper introduces a novel micro drone system empowered by Lidar technology and proximity sensing for precise indoor navigation and obstacle avoidance. The compact design and lightweight construction of the drone make it well-suited for maneuvering in confined indoor spaces, where traditional drones may struggle to operate effectively. The integration of Lidar technology enables the drone to generate detailed maps of its surroundings in real-time, facilitating accurate navigation and obstacle detection. By employing advanced algorithms, the drone can autonomously navigate through complex environments while avoiding collisions with obstacles such as walls, furniture, and other objects. The addition of proximity sensing further enhances the drone's ability to detect and react to nearby objects, improving safety and reliability in dynamic indoor environments. This capability enables the drone to adjust its flight path in real-time to avoid collisions, ensuring smooth and efficient operation even in crowded or cluttered spaces. Applications of this Lidar micro drone with proximity sensing extend to various fields, including indoor surveillance, search and rescue missions, and infrastructure inspection. Its ability to navigate accurately and safely in indoor environments opens up new possibilities for tasks that require precise spatial awareness and maneuverability. Overall, this innovative drone system represents a significant advancement in indoor drone technology, with potential applications across a wide range of industries.

Keywords: LIDAR, Drone, Proximity sensor, Arduino.

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## **Study Of Automatic Night Lamp**

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## Abstract:

This project presents the design and implementation of an automatic night lamp system that utilizes ambient light sensing and motion detection technology. The system is aimed at enhancing user convenience and energy efficiency by intelligently adjusting the lamp's illumination based on the surrounding lighting conditions and detecting human presence. The proposed system incorporates a light sensor to monitor ambient light levels and a passive infrared (PIR) sensor to detect motion within its vicinity. Upon detecting low ambient light levels and human movement, the system activates the night lamp, providing a suitable level of illumination to assist users in navigating in dimly lit environments. The system's automated operation ensures that the night lamp remains functional only when needed, minimizing unnecessary energy consumption. The design principles, hardware components, and software algorithms are detailed, along with experimental results showcasing the system's effectiveness in real-world scenarios. The automatic night lamp system demonstrates a practical application of sensor-based automation in improving daily living experiences while promoting energy-conscious practices.

Keywords: Resistors, Transistors, Diodes.

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## Nano Technology Based Bio-Sensors

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### **Abstract:**

The nanotechnology-based biosensor or Nano Biosensor technology is revolutionizing the health care industry such as the Nano Biosensor technology is used in the measurement of metabolites, monitoring of diabetes etc., forensic medicine, homeland security. In food and drink industry these are used for remote sensing of water quality, determination of drug residue in food etc. For environment protection these are used in the detection of pesticides and river water contaminants like heavy metal ions, and genome analysis of organisms and communications. The use of nanomaterials for the construction of biosensors has improved the sensitivity and performance of them, and has allowed the introduction of many new signal transduction technologies in biosensors. The development of tools and processes used to fabricate, measure and image nanoscale objects, has led to the development of sensors that interact with extremely small molecules that need to be analysed. Several Nano Biosensor architecture based mechanical devices, optical resonators, functionalised nanoparticles, nanowires, nanotubes and nanofibers have been in use. In particular, nanomaterials such as gold nanoparticles, carbon nanotubes, magnetic nanoparticles and quantum dots have being actively investigated for their application in biosensors, which have become a new interdisciplinary frontier between biological detection and material science. With the advent of nanotechnology and its impact on developing ultrasensitive devices, it can be stated that it is probably one of the most promising way to solve some of the problems concerning the increasing need to develop highly sensitive, fast and economic method of analysis in medical diagnostics, food and drink industry, environment protection etc.

Keywords: Nanotechnology, Biosensors, Nanomaterials, Nanoparticles

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## **Gas Leakage Detector**

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## Abstract:

Gas leaks pose serious risks to safety and property, making their detection and prevention crucial. This project presents the design and development of a gas leakage detector that identifies hazardous gas leaks in real-time. The system incorporates a highly sensitive gas sensor capable of detecting various types of combustible gases such as methane, propane. When a gas leak is detected, the system immediately triggers an alert through audio-visual signals and sends notifications to designated mobile devices or connected smart home systems. The gas leakage detector is designed to be user-friendly and highly reliable. It features a compact and portable design for easy installation in various locations, including residential and commercial settings. The system's real-time monitoring capabilities enable prompt responses to potential gas hazards, minimizing risks to human health and safety. In addition to detecting leaks, the project explores potential extensions such as automatic shut-off mechanisms for gas supplies and integration with smart home systems for a comprehensive safety solution. The gas leakage detector serves as an essential tool for safeguarding lives and properties from the dangers of gas leaks.

**Keywords:** Gas leak detection, combustible gases, safety alert system, sensor technology.

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Study of Digital Library -Arduino Based Water Tap System Using Ultra Sonic Sensor

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### **Abstract:**

Water conservation is becoming increasingly critical in the face of global water scarcity. In this context, the Arduino project introduces a smart water tap system that utilizes ultrasonic sensor technology to promote efficient water usage. The system is designed to accurately detect the presence of hands or objects beneath the tap and activate the water flow accordingly. The key innovation of the Arduino system lies in its integration of ultrasonic sensors, which offer precise and reliable detection, eliminating the need for physical contact with the tap. This not only enhances user experience by providing a hands-free operation but also significantly reduces water wastage by ensuring water is only dispensed when required. The Arduino system is designed to be user-friendly, cost-effective, and easy to install, making it suitable for both residential and commercial applications. By promoting sustainable water usage, the Ardunio project aims to contribute to the global efforts towards water conservation and environmental sustainability. This abstract provides an overview of the Ardunio project, highlighting its significance in addressing water conservation challenges and its potential impact on promoting environmentally friendly practices.

**Keywords:** Ardunio, Water tap system, Ultrasonic sensor, Smart technology, Water conservation Sustainable water usage, Hands-free operation, Environmental sustainability.

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**Automatic Room Light Controller: An Intelligent Solution for Energy Efficiency** 

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## Abstract:

The Automatic Room Light Controller (ARLC) is a sophisticated system designed to enhance energy efficiency and user convenience in indoor environments. This paper presents a comprehensive overview of the ARLC system, highlighting its core functionalities, design architecture, and benefits. The ARLC utilizes a combination of sensors, microcontrollers, and actuators to intelligently adjust room lighting based on ambient conditions and occupancy status. Through the integration of passive infrared (PIR) motion sensors, light sensors, and microcontroller units (MCUs), the ARLC effectively detects human presence and ambient light levels to determine the appropriate lighting intensity. Upon detection of human presence in a room, the ARLC activates or adjusts the lighting to ensure optimal illumination, thereby reducing energy wastage during periods of inactivity. Additionally, the system incorporates user-defined preferences and scheduling capabilities to further tailor the lighting control according to specific requirements. The ARLC offers significant advantages including energy savings, improved comfort, and reduced carbon footprint, making it an indispensable solution for modern indoor environments. This abstract provides a glimpse into the innovative features and potential applications of the Automatic Room Light Controller, contributing to sustainable energy practices and enhanced user experiences.

**Keywords:** Automatic Room Light Controller, Energy Efficiency, Sensors, Microcontrollers, Occupancy Status, Ambient Conditions.

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## **Live Telecasting Drone**

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#### Abstract:

A drone is a kind of aircraft. A drone is also known as an unmanned aerial vehicle (UAV). A drone is "unmanned" because it does not need a pilot on board to fly it. A person on the ground flies a drone. Some drones are guided by a remote control. Others are guided by computers. Some are flown by people thousands of miles away. Drones are available in different sizes and shapes. Many have cameras that take pictures or record video. "Unmanned aerial vehicle (UAVs) better known as drones are one of technological marvel of our age .They Can document the aftermath disaster without putting additional people at risk but UAVs having short flying Time like fixed wing type, multi rotor and other types of UAVs due to it's materials weight, going to Become a impractical for typical consumer. To find feasible and required materials for them, bending and Torsional properties of different composite materials are studied and presented in this paper. Mainly Structural analysis of balsa wood and carbon fibre sandwich composite is tested with finite element's Software(ANSYS). The finite element method was employed to determine total deformation, equivalent Strain ,shear strain ,equivalent stress, shear stress, directional stress of sandwich composite beam and wing Of fixed wing type drone for different layers of carbon fibre.

Keywords: unmanned aerial vehicle(UAV), multi rotor, ANSYS

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## **Dc Motor Speed Controlling System**

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#### **Abstract:**

In Industry DC motor is widely uses for speed control and load characteristics, it's easy controllability provide effective and precise output. So, the application of DC motor is large for commercial purpose. Speed control of DC motor is very crucial in application where required speed is precision and correcting signal representing and to operate motor at constant speed, so we used PWM method which are fulfil all requirements to speed control of DC motor. PWM based speed control system consists of electronic components (integrated circuit, Potentiometer etc). In this Project 555 timer (NE55P) is being operated in a stable mode, which produce a continuous HIGH and LOW pulses. The 555 Timer is capable of generating PWM signal when set up in an astable mode. In this mode, the 555 IC can be used as a pulse width modulator with a few small adjustments to the circuit. The frequency of operation of the circuit is provided by the passive parameters of resistances and capacitors attached to it. The speed control of DC motor is important in applications where precision and protection are of essence. The variable speed drives, till a couple of decades back, had various limitations, such as poor efficiencies, larger space, lower speeds, etc., However, the advent power electronic devices such as power MOSFETs, IGBTs etc., and today we have variable speed drive systems which are not only in the smaller in size but also very efficient, highly reliable and meeting all the stringent demands of various industries of modern era.

**Keywords:** DC Motor, Power Adaptor, Pulse Width Module, Fan.

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## **Prostheses Arm Working Through Mind Linking**

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#### Abstract:

Losing a limb can be a devastating setback that science and technology struggle to fully offset, even after thousands of years of effort. Prosthetic devices in use today offer limited functionality or can be too cumbersome for amputees to use effectively. While advanced robotic hands exist, amputees don't have ways to intuitively control them. That lack of naturalistic control contributes, in many cases, to some abandoning their prostheses because they find life easier without them. The new approach centers on the Regenerative Peripheral Nerve Interface (RPNI)—a small graft of muscle tissue surgically attached to the end of a severed nerve in an amputee's arm. While other neural interfaces are harmful to nerves, the RPNI promotes healthy nerve growth and acts as a bioamplifier, converting faint neural signals sent from the brain into large, recordable, muscle signals that remain stable for years. Combined with machine learning algorithms, these signals enable intuitive, real-time mind control of advanced robotic prosthetic hands. The RPNI grafts also impede the growth of painful neuromas at the severed ends of nerves, reducing: the need for chronic pain medication, repeated surgical procedures, and an inability to use prosthetics due to pain levels.

Keywords: Prostheses Arm, RPNI, Bioamplofier, Robotic Prosthetic Arm, Neuromas.

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## **Study of Audio Power Amplifier**

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## Abstract:

The aim of this project was to design and develop a audio power amplifier. The Amplifier is mainly for the CD, DVD players which are most common audio player Today. In this Project, we study the audio amplifier circuits. Moreover, study the flow of the Whole system from a music player to the loudspeakers. Each functions of the Components in the amplifier Then the whole single ended audio power amplifier is built. After finish the whole. Have some different test and measurement to define the performance of the Amplifier.

**Keywords:** power of amplification, audio player, performance of amplifier, audio amplifier circuits.

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## **LED Blinking Using Arduino**

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#### Abstract:

This project presents the implementation of a basic LED blinking system utilizing Arduino microcontroller technology. The Arduino platform, renowned for its versatility and ease of use, provides an excellent framework for beginners and experts alike to explore the fundamentals of electronics and programming. It outlines the key components and processes involved in creating a simple LED blinking circuit with Arduino. It begins by introducing the concept of Arduino microcontrollers and their role in embedded systems. The project's primary objective is to demonstrate how to control an LED's stateusing Arduino's digital output pins. The abstract delves into the hardware requirements, which typically include an Arduino board, an LED (Light Emitting Diode), a current-limiting resistor, and connecting wires. These components are assembled on a breadboard according to a specified circuit diagram. It also discusses the software aspect of the project, emphasizing the utilization of the Arduino Integrated Development Environment (IDE) forprogramming. It highlights the importance of writing code to define the behavior of the LED, including instructions for turning it on and off at specific intervals. This encapsulates the essence of the project: a hands-on exploration of LED blinking using Arduino, catering to both novices and enthusiasts interested in learning about electronics and embedded systems.

Keywords: Arduino, microcontroller, embedded system.

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**Study of Traffic Light System Using Arduino** 

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**Abstract:** 

This project describes about the "TRAFFIC LIGHT SENSORSUSING ARDINO BOARD". It will control the traffic while peoples crossing the road. It may cause some accidents nowadays sensor will detect the vehicle and we will give the vehicle number as a input using image processing. If the vehicle will reach the zebra crossing line it will glow the border light and the alarm will glow.

Every vehicle should be having a one warning if they reached their warning they will pay fine for this. By using this idea we have to control the accidents in roads sides and in foreign countriesthey can follow this implementations but in India there is no .so it will reduce the accidents.

Traffic signals are the most efficient way of controlling traffic in a busy junction. But we can see that these signals fail to control the traffic effectively when a particular lane has got more traffic than the other lanes. The idea behind this project is to implement a system which would easily control the traffic and helps for the emergency vehicles to reach at their destination easily and quickly.

The optimal setting of the time of change of traffic light based on the length of the queue and also the input of other traffic lights adjacent information. This smart light traffic control system uses Arduino Mega 2560 microcontroller to process embedded programs and control the sensors and LED lights.

Keywords: Arduino, microcontroller, Arduino Mega 2560 microcontroller.

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## **Solar Mobile Charger**

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#### Abstract:

The increasing reliance on portable electronic devices in daily life has spurred a demand for innovative and eco-friendly charging solutions. This abstract explores the concept and functionality of a solar mobile charger, a device designed to harness solar energy for powering mobile phones and other portable gadgets. The solar mobile charger consists of photovoltaic cells that convert sunlight into electrical energy, coupled with an integrated charging system and rechargeable batteries. These photovoltaic cells, often composed of crystalline silicon or thin-film materials, efficiently capture solar radiation and convert it into direct current (DC) electricity. A charge controller regulates the charging process, preventing overcharging and ensuring a consistent and safe power supply to connected devices. The stored electrical energy is maintained in high-capacity lithium-ion or lithiumpolymer batteries, allowing users to charge their devices even in the absence of direct sunlight. The charger's compact and portable design makes it a practical solution for outdoor activities, travel, and emergency situations where access to conventional power sources maybe limited. Moreover, the solar mobile charger contributes to environmental sustainability by reducing dependence on conventional electricity grids and minimizing the carbon footprint associated with energy production. Its integration of renewable energy aligns with the global shift towards greener technologies, providing users with a convenient and responsible means of powering their devices. In conclusion, the solar mobile charger represents a sustainable and efficient solution for the evergrowing need to charge portable electronics.

**Keywords:** footprints, portable, greener Technology, energy production, website.

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## **Voice Controlled Robotic Vehicle**

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#### **Abstract:**

This project Voice Controlled Robotic Vehicle helps to control robot through voice commands received via android application. The integration of control unit with Bluetooth device is done to capture and read the voice commands. The robotic vehicle then operates as per the command received via android application. For this 8051 microcontroller is integrated in the system which makes it possible to operate the vehicle via android application. The controlling device may be any android based smartphone/tab etc. having an android OS. The android controlling system provides a good interactive GUI that makes it easy for the user to control the vehicle. The transmitter uses an android application required for transmitting the data. The receivers end reads these commands and interprets them into controlling the robotic vehicle. The android device sends commands to move the vehicle in forward backwardright and left directions. After receiving the commands, the microcontroller then operates the motors 1 order to move the vehicle in four directions. The communication between android device and receiver is sent as serial communication data. The microcontroller program is designed to move the motor through a motor drive IC as per the commands sent by android device.

**Keywords:** 8051 microcontroller, Android application, GUI, Transmitter, Communication

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GC AURONOMOUS

## Fire Alarm

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### Abstract:

Fire alarm systems are essential in alerting people before fire engulfs their homes. However, fire alarm systems, today, require a lot of wiring and labour to be installed. This discourages users from installing them in their homes. Therefore, we are proposing an IOT based wireless fire alarm system that is easy to install. The proposed system is an ad-hoc network that consists of several nodes distributed over the house. Each of these nodes consists of a microcontroller connected to smoke, temperature, humidity, flame, methane and carbon monoxide (co) sensors that continuously sense the surrounding environment to detect the presence of fire. The nodes create their own wi-fi network. These nodes communicate with a centralized node implemented with a Raspberry pi microcontroller integrated with a 4G module. Once fire is detected by a node, it sends a signal to a centralized node that id triggered to send an SMS to the fir department and the user, call the user and alert the house by producing a local alarm. The user can also get information about the status of his home via sending an SMS to the system. The sensing nodes create a mesh network and they are linked to the central node via a bridge node. Communication between the bridge node and the sensing node is through Message Queuing Telementry Transport (MQTT) protocol.

**Keywords:** Market research ,Security, ,Internet of Things, Ad hoc networks, Temperature Sensor, Central Node

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## **Driver Anti Sleep Device**

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### **Abstract:**

In modern-times, owing to hectic schedules it becomes very difficult to remain active all the time. Imagine a situation where a person is driving home from work, dead tired after facing all the challenges of the day.

His hands are on the wheel and foot on the pedal but suddenly he starts feeling drowsy, his eyes start shutting and his vision blurs and before heknows it, he's asleep. Falling asleep on the wheel can lead to serious consequences, there may be accidents and people may even lose their lives. This situation is much more common then we notice and hence, it is very important to counter this problem. So to address this issue, we have come up with a Driver Anti-sleep Device. This system alerts the user if he/she falls asleep at the wheel thereby, avoiding accidents and saving lives. This system is useful especially for people who travel longdistances and people who are driving late at night. The circuit is built around Schmitt trigger, timer IC, transistor, a relay and a logic gate.

Around half an hour after the reset of timer IC, transistors rive the buzzer to sound an intermediate beep. If timer IC is not reset at that time, around one minute later the output of gate conducts. Due to this the clock stops counting further and relay energizes to deactivate the load.

This state changes only reset switch is pressed. As a result of pressingthe reset switch a next timer is set which will trigger the same events after half an hour.

**Keywords:** *Drowsiness detection, driver safety, real-time monitoring, road safety, driver drowsiness, user-friendly, cost-effective, driver monitoring system, Body Posture, eye blinkin* 

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# Head Movement and Voice Enabled Robotic A.Abhilash Reddy<sup>1</sup> M.Sahith Reddy<sup>2</sup> K.Jashwanth<sup>3</sup> N.Karthikeya<sup>4</sup>

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#### **Abstract:**

Many disabled people usually depend on others in their daily life especially in moving from one place to another. For the wheelchair users, they need continuously someone to help them in getting the wheelchair moving. By having a wheelchair control system they become more independent. The aim of this research project is to design and fabricate a voice controlled wheelchair for physically disabled people. The wheelchair control system which employs 2 methods voice recognition system and Head movement for triggering and controlling all its movements. It integrates a microcontroller, microphone, MEMS sensor, motor control interface board to move the wheelchair. By using the system, the users are able to operate the wheelchair by simply speaking to the wheelchair microphone. The basic movement functions includes forward and reverse direction, left and right turns and stop. The spoken words are linked to the voice recognition processor via a microphone attached closed to the user's mouth. The MEMS sensor senses the change in direction of head and likewise the signal is given to microcontroller. Depending on the direction of the Acceleration, microcontroller controls the wheel chair directions like LEFT, RIGHT, FRONT, and BACK with the aid of DC motors. It utilizes a ARDUINO controller manufactured by Microchip Technology to control the system operations. It communicates with the voice recognition processor to detect word spoken and then determines the corresponding output command to drive the left and right motors. To accomplish this task, an assembly language program is written and stored in the controller's memory. The voice controlled wheelchair runs successfully.

**Keywords:** wheelchair microphone, ARDUINO, MEMS sensor.

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# A Study of evolution and growth of Indian Pharmaceutical Sector Shikha Dua<sup>1</sup> and Dr. Shankuntala Meena<sup>2</sup>

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#### Abstract:

The Indian pharmaceutical Industry has experienced significant changes and fluctuations during the past three to four decades. The sector in India is very efficient and plays a crucial role in providing employment opportunities and healthcare services to the population. India has the 14th largest pharmaceutical industry in the world by value and the 3rd largest by size (IBEF, 2023). At present, the pharmaceutical sector of India adds approximately 1.72% to the GDP (Gross Domestic Product) of the country. The overall goal of the Department of Pharmaceuticals' "Pharma Vision 2020" is to promote India as a notable base for comprehensive drug discovery. The medical device market has been projected to grow to \$25 billion by 2025, while the Indian pharma sector is projected to surge upto \$100 billion. As per a report published in Invest India, from Financial Year 2018 to Financial Year 2022, the Indian pharmaceutical sector recorded a growth rate of 9.47% on an average, predominantly driven by an escalation in exports and an upsurge in the local market too. It seems that the pharmaceutical sector is prospective to be a 65-dollar-billion industry by 2024 and a 120-dollar-billion industry by 2030. The government is doing a lot to encourage research and revolutionary concepts in order to keep up with the sector's growth. This paper is an attempt to showcase the evolution and growth of the pharmaceutical industry in terms of turnover and foreign direct investment over a period of time. It also highlights the government initiatives taken to boost the pharmaceutical sector.

**Keywords:** — Evolution, Pharma Sector, Growth, Foreign Direct Investment, Government Initiatives

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#### Promoting Mental Well-Being at Work: Techniques and Effective Approaches

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#### **Abstract:**

Emotional wellness in the work environment is a basic issue that influences representative prosperity, efficiency, and in general hierarchical achievement. This paper discusses the significance of mental health support in working environment and offers strategies for promoting a mentally healthy workplace that are supported by evidence. It investigates the advantages of strong workplaces, distinguishes normal difficulties, and proposes useful and actionable suggestions for managers and policymakers.

**Keywords:** — Worker Help Projects, Emotional wellness Arrangements, Mental Prosperity, Authoritative Achievement, Efficiency, Work environment

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# Factor influencing Environmentally Sustainable consumers behaviour: A study on Tourists and hospitality

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<sup>4</sup>Assistant professor, Department of Management studies, Rukmini Devi Institute of Advanced studies, New Delhi

#### **Abstract:**

This paper focuses on a detailed analysis of current situation characteristics and most important of all the decision-making process of sustainable consumption Behavior of the tourists in India. Data were gathered from survey 15 Hotels Located in Delhi and Delhi NCR region Total of 600 Questionnaires randomly distributed. Descriptive analysis revealed the current situation of the tourist's sustainable consumption behavior and affecting factors including behavior intention, environmental values, environmental knowledge, environmental responsibility, Environmental sensitivity, subjective norms, perceived behavior control, Perception of consequences, and also the responsive Efficacy. This paper also uses power answers to clarify the decision-making process of Sustainable Consumption behavior. The research shows that behavior intention plays the most important role in explaining the behavior while the explanatory power of psychological variables is low in the explanation of overall sustainable Consumption behavior and its sub-categories. Further implications for the hotel policies and the direction of future research are discussed below.

**Keywords:** — Sustainable consumption behavior, Environment responsibility, Perceived behavior control

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## Examining the Role of Social Media in Improving English Writing Skills among College Students in Hyderabad: An Online Survey

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#### Abstract:

This study investigates the role of social media in enhancing English writing skills among college students in Hyderabad. With the proliferation of social media platforms like Facebook, WhatsApp, and Instagram, this research aims to understand their impact on students' writing proficiency. A quantitative descriptive design was employed, utilizing an online survey to collect data from 300 students across various colleges in Hyderabad. The survey assessed the frequency of social media use, types of platforms used, and perceived improvements in grammar, vocabulary, coherence, and overall writing skills. Descriptive statistics indicated moderate social media usage and its perceived positive impact on writing skills. Correlation analysis revealed weak relationships between the frequency of social media use and improvements in specific writing aspects, suggesting that other factors might significantly influence writing proficiency. However, higher social media usage was associated with greater perceived improvements in writing skills, indicating a positive correlation between usage intensity and skill enhancement. Regression analysis highlighted that the frequency of social media use and perceived impacts on specific writing aspects were not statistically significant predictors of overall writing improvement. This suggests that factors such as the quality of interactions, content relevance, and individual learning differences might play more critical roles. The findings align with previous studies and emphasize the potential of social media as a supplementary tool for writing practice and improvement. Educators are encouraged to integrate social media into the curriculum, promote digital literacy, and support collaborative learning to maximize its educational benefits.

**Keywords:** — Social media, English writing skills, college students, Hyderabad, language proficiency, digital literacy.

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Construction and characterization of a carbon based nanocomposite electrochemical sensor for determination of Gallic acid in food and soft drinks

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#### Abstract:

Gallic acid (GL) stands as a significant organic compound present in various natural plants and food beverages. Within this study, a chemical sensor has been devised for monitoring GL levels across a spectrum of beverages such as wine, green tea, and fruit juices. The electrochemical oxidation behavior of GL was noted to follow an irreversible oxidation pattern, for which a proposed electrochemical oxidation mechanism was delineated. Investigation into the impact of supporting electrolyte pH on the electrochemical oxidation behavior was conducted, leading to the selection of pH 6.0 as the optimal condition. Scan rate analysis revealed a linear correlation between the square root of scan rate and peak currents of GL, affirming the diffusion-controlled nature of GL oxidation. Kinetic parameters including diffusion coefficient, heterogeneous rate constant, and charge transfer coefficient were subsequently determined. Employing concentration effects, the limit of detection (LOD) and limit of quantification (LOQ) were computed as 5.39 × 10-7 M and 1.23 × 10-6 M, respectively. Assessment of repeatability, reproducibility, and stability of the developed electrode demonstrated its superior performance. Lastly, practical application of the sensor was assessed for the quantitative assessment of GL levels in wine, green tea, and fruit juices..

**Keywords:** — Gallic acid, multi walled carbon nanotubes, wines, green tea, fruit juice.

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### Timeless Themes in 'Contemporary Clothing': Narrative Strategies in The Handmaid's Tale and The Bell Jar

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#### Abstract:

This paper explores the consistent representation of timeless themes in Margaret Atwood's The Handmaid's Tale (1985) and Sylvia Plath's The Bell Jar (1963). Just as clothing can conceal and reveal aspects of one's identity, these novels utilize consistent narrative strategies to explore themes of gender, identity, and oppression. The Handmaid's Tale's iconic red robes and white bonnets serve as a powerful symbol of oppression, while The Bell Jar's protagonist Esther Greenwood's 'clothing' choices reflect her struggles with identity and societal expectations. A close reading of both texts, reveals how Atwood and Plath employ consistent structures to critique patriarchal societies, highlighting the enduring relevance of gender issues and concerns. By examining the consistent representation of timeless themes in these novels, this paper sheds light on the significance of literary essence in conveying universal human experiences. 'Clothing' is used as a metaphor to represent the themes and ideas explored in the novels. The abstract highlights how 'clothing' in each novel serves as a symbol of the characters' identities and struggles, and how the representation of these themes serves as a powerful tool for social commentary.

**Keywords:** — timeless, themes, clothing, gender, identity, oppression, patriarchal societies.

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#### Masculinity in Transition: A Gender Analysis of Laapataa Ladies Reshmi K S

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#### Abstract:

Gender Studies is an interdisciplinary field that examines the roles, experiences, and contributions of different genders in society. It encompasses various aspects of human life, including cultural norms, social structures, identity formation, and power dynamics. By analyzing how gender influences and shapes human experiences, Gender Studies seeks to understand and challenge the inequalities and stereotypes that exist within society. Masculinity Studies is a subfield within Gender Studies that focuses specifically on the construction and representation of masculinity. It explores how societal norms and expectations shape the behaviors, identities, and experiences of men. The study of masculinity studies critically investigates the idea of masculinity, acknowledging that it is a dynamic and varied construct shaped by social, cultural, and historical variables rather than a single, static identity.

**Keywords:** — timeless, themes, clothing, gender, identity, oppression, patriarchal societies.

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#### **Iot Enabled Hemoglobin Analyzer**

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#### Abstract:

The Internet of Things (IoT) represents a transformative paradigm in the realm of connectivity, integrating concepts like machine-to-machine (M2M) communication, big data, and artificial intelligence. It envisions a future where cyber space and physical systems seamlessly intertwine, ushering in the era of ubiquitous cyber-physical systems. The IoT ecosystem encompasses billions of interconnected devices and smart products that communicate and collaborate, often autonomously, to achieve intelligent objectives. This remarkable concept has captivated extensive research interest due to the multitude of challenges it introduces, including issues related to heterogeneity, scalability, security, big data handling, and energy efficiency.

This paper offers a succinct overview of IoT concepts and its diverse applications, elucidating its essential components and key features. Furthermore, it sheds light on the unresolved challenges and obstacles that demand attention and innovation from the research community. In this context, potential solutions and avenues for addressing these challenges are also explored. This concise review aims to provide a comprehensive understanding of IoT's vast landscape while highlighting the critical areas requiring further investigation and development.

**Keywords:** — Internet of Things (IoT), wireless sensor networks (WSNs), challenges, opportunities..

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## The industrial and various sources of horticultural wastes are getting importance for its valuable compositions

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#### Abstract:

Horticulture farming also aims to enhance the quality of life, as well as the beauty, sustainability, and recovery of our ecosystem and the human condition. These days, a crucial concerning issue is arising globally to ensure nutrition security for huge population that leads to focus on production increase, quality improvement, food safety assurance, and processing strategies. Consequently, a large amount of waste generates in the processing industries, household kitchen, and supply chain of horticultural commodities that has led to a significant nutrition and economic loss, consequently creating environment pollution with extensive burden of landfills. However, these wastes showed magnificent potentiality of re-utilization in several industries owing to as rich source of different bioactive compounds and phytochemicals. Therefore, sustainable extraction methods and utilization strategies deserve the extensive investigations.

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**Keywords:** — Horticulture, Nutrition, Bio mass, Phytochemicals

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## Especially waste animal fats are receiving increased attention as an alternative to vegetable oils for biodiesel production

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#### **Abstract:**

Especially waste animal fats are receiving increased attention as an alternative to vegetable oils for biodiesel production. Biodiesel is produced from vegetable oils, yellow grease, used cooking oils, or animal fats. Global warming and fossil fuel depletion have boosted the search of alternative and renewable fuels with low environmental impact. The fuel is produced by transesterification—a process that converts fats and oils into biodiesel and glycerine (a coproduct). Biodiesel exhibits many advantages over conventional diesel including the possibility of being produced from renewable sources such as waste oils and fats. The fats had been proven to a viable feedstock when compared to vegetable oil and waste cooking oil in terms of productivity and economy.

**Keywords:** — Biodiesel, waste animal fats, Chicken fat, animal slaughter houses

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#### **Quiz Game Using Python Program**

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#### **Abstract:**

"Quiz game" is an engaging and challenging quiz game designed to test players' knowledge across various categories, including history, science, literature, pop culture, and more. The game features an intuitive interface and captivating visuals, making it suitable for players of all ages. With a diverse range of questions and multiple levels of difficulty, "MindQuest" offers an immersive experience that encourages continuous learning and exploration. Whether playing solo or competing with friends, players will embark on a thrilling trivia adventure that stimulates their minds and fosters a spirit of friendly competition. Join the quest for knowledge and become a "MindQuest" champion today!

**Keywords:** Quiz game, Trivia game, Knowledge game, Solo play, Multiplayer, Friendly competition

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#### Calculator- Analyze It's Working and Convey Changes M.Mallikarjun, M.Sreekanth Reddy, K.Kalyan Ram, CH.Koushik

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#### **ABSTRACT:**

A scientific calculator is a type of electronic calculator, usually but not always handheld, designed to calculate problems in science, engineering, and mathematics. They have completely replaced slide rules in traditional applications, and are widely used in both education and professional. The python calculator was implemented using tkinter to make the calculation of mathematical functions easier. The application consists of scientific and standard functions. The standard is used to solve scientific notation type math functions like sin, cos, tan, log etc.

Keywords: Standard calculator, Scientific calculator, application

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#### **Movie Ticket - Using Python**

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#### **Abstract:**

The 'Movie Ticket Purchase System' is a web-based application. In this application, people can purchase movie tickets from all movie theatres. Before purchasing a ticket, people have to do registration or login. This website builds by PHP and JavaScript for back-end; HTML, CSS for frontend. All steps of the software development life cycle are addressed properly to develop and implement the software. This website has three panels: one for the Admin, one for the Theatre Assistant and another for the Customer/User. Admin can insert the theatres, and Theatre Assistant handled maximum manual works on the website like movie add, delete, stop running, screen adds, etc.

**Keywords:** *Ticket, customer, theatre.* 

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#### **Cricket Team Using Python**

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#### **Abstract:**

Player selection is an essential task for any sport and similarly for the game of cricket as well. The players' performance varies on various factors. The team management and the captain selects eleven players for each match from the entire squad. By scoring runs each batsman contributes and each bowler contributes by taking wickets and awarding minimum runs. Selection of playing 11 of team is based on skills and experience. There will be balanced team with Batsman, bowlers and all-rounders. The role of Batsman is to score runs and bowlers role is to take wicket and the role of wicket keeper is crucial in cricket his role is to do keeping behind the stumps. There should be balanced and Strong team to give good performance against opposite team.

Keywords: batting, bowling, stumps, boundaries

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#### **ATM Machine Using Python**

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#### **Abstract:**

This Python program simulates the basic functionalities of an Automated Teller Machine (ATM). The program allows users to perform three main operations: check balance, deposit funds, and withdraw funds. The ATM class encapsulates the ATM functionalities such as checking balance, depositing, and withdrawing funds. The main function serves as the user interface, presenting a menu-driven system for users to interact with the ATM. While this simulation provides a foundational understanding of ATM operations, it lacks advanced features such as PIN verification, error handling, transaction logging, and user account management. Enhancements can be made to extend the functionality and realism of the simulation, making it more closely resemble a real-world ATM system.

**Keywords:** ATM, pin, logging

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#### **Instagram Automation Tool**

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#### **Abstract:**

Now a days instagram is one of the leading social media apps. Every one of us is using instagram these days. But often we are tired of liking, following, commenting on some person or some post every day. So why not automate the process using python selenium automation techniques. Instagram automation is the process of using third-party software and apps to manage your Instagram account. Using selenium web driver we perform various actions like clicking, scrolling, typing to achieve goals like following, liking, and commenting.

Keywords: Instagram, software, clicking

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## Singing Audition Program Shailesh, D. Sathwik, Snehith, Sri Harsha

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**Abstract:** 

The singing audition program in PYTHON is a software application designed to help music organizations manage their audition process. The program allows users to create and manage auditions, register participants, and track their progress through out the audition process. The program also includes tools for generating reports and managing communication with participants, such as sending out invitations and reminders. Additionally, the program includes features formanaging the audition schedule, including scheduling audition times and managing any conflicts or escheduling requests. Overall, the singing audition program in PYTHON is a powerful tool formanaging and streamlining the audition process, saving time a d effort for both music organizations and participants

Keywords: python, audition, singing

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#### **Cricket Scorecard Using Python**

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#### **Abstract:**

The provided code is an abstract implementation of a cricket scorekeeper using the Tkinter library in Python. It presents a graphical user interface (GUI) where the user can input the number of overs for a cricket match. Once the number of overs is entered and the "Enter Overs" button is clicked, the code simulates the match by generating random scores for each ball and prompting the user to enter the actual score. The simulation keeps track of the total runs, wickets, and the progress of the match. It displays the predicted and actual scores for each ball, and at the end of each over, it shows the score and wicket count. The match summary is displayed at the end, showing the total score and the number of wickets. The GUI features a background image and uses various Tkinter widgets such as labels, entries, and buttons to create the interface.

Keywords: Teams, Players, Scores, Wickets, Overs, Scorecard.

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#### **Number Guessing Game**

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#### **Abstract:**

In a number guessing game, the user guesses a randomly generated secret number within a given number of attempts. After each guess, the user gets hints on whether their guess is too high, too low, or correct. The aim of our number guess game is to guess the number that the program has come up with. The main flow of the program is shown in the following diagram: The program randomly selects a number between 1 and 10. It will then ask the player to enter their guess.

**Keywords:** guess, number

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## Word Guessing Game In Python - Analyse It Involves Strategies Based On Letter Frequency And Word Complexity

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#### Abstract:

We examine the strategies and statistical methods applicable to word guessing games like Hangman. We focus on the effectiveness of different guessing strategies, which leverage letter frequency and word structure to optimize guesses and minimize the number of moves needed for success. The study incorporates analysis of common and complex words to assess the impact of word selection on game difficulty. Additionally, we explore psychological factors that can influence word choice, providing a comprehensive overview of both player strategy and game design elements. we explore the dynamics of word guessing games such as Hangman, analyzing the optimal strategies for players and implications for game design. Our research investigates how strategies based on the statistical frequency of letters and structural complexity of words can significantly enhance player success. We delve into the mechanics of letter selection, considering both the commonality of letters in the English language and the tactical employment of less common letters to solve for rarer, more complex words. Additionally, we assess the psychological elements that influence both the choice of words by the game setter and the guessing patterns of players, suggesting that an understanding of these factors can drastically affect the game's outcome. This comprehensive analysis not only aids players in refining their approaches but also assists developers in creating more balanced and engaging word guessing games. In this study, we conduct an in-depth examination of word guessing games, focusing on the strategic approaches players employ and their impact on game dynamics. By analyzing the statistical properties of word structures and letter frequencies, we uncover optimal strategies for both players and game designers.

**Keywords**: word guessing games, Hangman, strategies, statistical analysis, letter frequency

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# Medical Store Management System T. Jayasri, Vaishnavi, Raichel

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#### Abstract:

The code is a simple GUI (Graphical User Interface) application built using the tkinter library in Python. The application serves as an online pharmacy system that allows users to manage tablet stocks and perform billing operations. The code defines a Tablet class to represent tablet items with attributes like name, quantity, and price. It also creates a list to store the tablet items. The application's main window has entry. fields for input, buttons to perform different actions, and utilizes message box todisplay information or error messages.

Keywords: GUI, tablet

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Google Image Downloader - Analyse It's Streamlines Bulk Image Downloads But Requires Legal Caution.

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#### **Abstract:**

The Google Image Downloader is a software tool designed to automate the process of downloading images from Google Images. This tool leverages web scraping techniques and Google's search APIs to fetch and store images based on user-specified queries. It aims to simplify the tedious task of manually saving multiple images by enabling batch downloads, filtering by size, type, color, and usage rights. Additionally, it includes features for managing downloaded images, such as renaming, organizing into folders, and ensuring metadata is preserved. The tool prioritizes ease of use, with a user-friendly interface that caters to both casual users and professionals needing large datasets of images for projects in fields like research, marketing, and content creation. The application features a sophisticated query processor that interprets user inputs to generate and refine search parameters, allowing customization such as image size, type, color, and usage rights, thereby aligning the results closely with user needs. The tool supports filtering options that help in excluding irrelevant images and enhancing the quality of downloads. To accommodate the management of large datasets, the Google Image Downloader includes functionalities such as automatic renaming based on predefined conventions, organization of images into folders by category, and preservation of image metadata, which is crucial for maintaining attribution and source information. Moreover, the downloader integrates error handling capabilities to manage common issues such as broken links, access denials, and API limits, ensuring a smooth user experienceIn summary, the Google Image Downloader is engineered to provide a seamless, efficient, and customizable experience for downloading images from Google Images, making it an invaluable tool for professionals and enthusiasts who require high-quality image data en masse for their various projects and endeavors.

**Keywords:** *image downloading, web scraping, automation, image filtering, scalability.* 

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# Emergency Management System Using Python Programming G. Manogna Reddy, M. Preethi Reddy, Ch. Akshaya Reddy, A. Harshitha Reddy

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#### Abstract:

The program titled 'Emergency management system' is designed for comprehensive guide to report incidents, list all incidents and resolve accidents. This program covers aspects of listing and updating all the accidents, emergency injuries including sudden natural health issues. This program is implemented in python. It provides the choices for adding and updating the emergencies. With this program, we will solve the emergency case by adding it into emergency list and providing service of ambulance.

**Keywords:** digital library, bar-code, online, offline, identification number, website.

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#### Random Pin Generator B. Akshitha, G. Lavanya, J. Harini, G. Keerthana

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#### **Abstract:**

A random pin generator is a tool that generate a unique and random set of numbers of security purposes like creating passwords or verifying identities. Its handy tool to ensure your information stays safe. It is a super cool tool whenever you need a random pin this generator has got your back. It is a combination of numbers, alphabets, special characters. It enhance security and protect sensitive information. The basic information about random pin generator is it is a software or hardware device that takes input from a random or pseudo-random number generator and automatically generates a password.

Keywords: pin, password,

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# Calendar- Analyze It's Working And Convey Changes K. Moshe, K. Rishi, K. Prasanth, Saketh

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#### **Abstract:**

This project is a simple calendar application written in C. It allows users to input tasks for specific days, view and manage tasks, and perform basic operations such as adding, modifying, and deleting tasks. The program provides a monthly view with the corresponding days of the week and supports saving and loading tasks from files. The project showcases fundamental programming concepts and provides a practical tool for organizing and tracking tasks on a monthly basis.

Keywords: adding, modifying, tasks

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#### Password Strength Checker S. Rinku, L. Vamshika, Chengari Pranavi Mela, D.Srinitha

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#### **Abstract:**

Password has been a predominating approach for user authentication to gain access to restricted resources. The main issue with password is its quality or strength, i.e. how easy (or how hard) it can be "guessed" by a third person who wants to access the resource that you have access to by pretending being you. In this paper, we review various metrics of password quality, including one we proposed, and compare their strengths and weaknesses as well as the relationships between these metrics. We also conducted experiments to crack a set of passwords with different levels of quality. The experiments indicate a close positive correlation between the difficulty of guessing and the quality of the passwords. A clustering analysis was performed on the set of passwords with their quality measures as variables to show the password quality groups.

**Key Words:** Password quality, Entropy, Levenstein, distance, Hashing, Password cracking.

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Tic Tac Toe Game Using Python Programming
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**Abstract:** 

This paper presents the development and implementation of a simple yet classic Tic Tac Toe game, designed as an educational tool for understanding basic concepts in game development, artificial intelligence, and user interface design. The game allows two players to compete on a 3x3 grid, aiming to align three of their symbols (either 'X' or 'O') horizontally, vertically, or diagonally. Implemented using a programming language (such as Python or JavaScript), the game features a graphical user interface (GUI) for intuitive play. Additionally, an AI component has been incorporated, enabling a single player to challenge the computer. The AI uses a minimax algorithm to ensure optimal play, providing a robust opponent that can be adjusted in difficulty. This project not only serves as an engaging application but also as a practical demonstration of algorithmic thinking, user experience design, and software development principles. The game's simplicity makes it an ideal introductory project for students and hobbyists interested in exploring the fundamentals of computer science and artificial intelligence.

Key Words:-Game development, Artificial inteference, User interface design

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#### Birthday Remainder Bot Using Python Programming Pagadoju Sadhvik, Therudelly Shiva Dixit, Vemulapalli Rajkumar, Siripurapu Navadeep

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#### **Abstract:**

This Python project creates a birthday reminder bot that helps you keep track of important dates. The bot allows you to store birthdays, search for specific individuals' birthdays, and even identify upcoming birthdays within the current year. You can easily add new birthdays or remove them from the list as needed. This user-friendly tool is perfect for anyone who wants to stay organized and remember the birthdays of friends and family. By using the Birthday Reminder Bot, you can eliminate the stress of forgetting important occasions.

**Keywords:** birthday remainder bot, manage, remainder, search, add, remove, organized.

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# Phone Book Using Python Programming M. Bhargava Kumar Reddy, K. Deepak, V. Sai Vignesh Reddy, Ch. Dhanush.

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#### **Abstract:**

The Phone Book project implemented in Python aims to create a digital phone book application that efficiently stores, manages, and retrieves contact information. The project leverages the capabilities of Python's data handling libraries to provide a simple yet powerful interface for users to interact with their contact data. Key functionalities of the application include adding new contacts, searching for contacts, updating existing contact information, and deleting contacts. Additionally, the project ensures data persistence by utilizing CSV files for storage, allowing easy data export.

**Keywords:** digital phone book, csv files, bar-code, online, offline, identification number, website.

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# Student Attendance Management System K. Vaishali, N. Madhuri Reddy, J. Sindhu, P. Anusha

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#### **Abstract:**

The Project titled "Attendance Management System" deal with the maintenance of attendance details. It is for maintaining daily basis of Attendance, the staff will be provided with the separate username and password to make student attendance. The Staff handling the particular subject to responsible to make the attendance of all Students. Only if the student present in the particular date, the attendance will be calculated. The student attendance report based on monthly and consolidate will be generated. Here, there is an option to apply for leave and send the feedback. This article describes the problem of managing the number of attendances or absences in the academic environment, as well as proposing a system of record and control of these data. The article supports the idea of an automated system over the day-to-day handwritten attendance registries, in order to facilitates the process. The system comprises a timekeeping system that will register every student or teacher in a database. The database itself will be managed by the University, so that reports, either individual or collective, can be issued whenever they are needed on both physical and electronic format. Also, these reports would be used to create statistics and further help the growth of the academic process correlated with students' interest or attendance rate on certain. classes. The timekeeping machines offer quick alternative of counting the attendances and the process to do so is very much simplified.

**Keywords:** Attendance, registry, electronic, online

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**Productive Day Planner For Generation-Z (Genz)** 

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**Abstract:** 

People who are born between mid 1990s and 2000s are considered as Generation-Z, also known as GenZ, having a lower attention span, greater multi-tasking capability, belief in individuality, and ones thoughts and opinions. This generation has always been unique and tougher to study. However, this tech-immersive generation has lacks in multitude of ways one of them include Productivity. GenZ usually prefer working alone than in collaboration due to which their tasks get completed on the last minute. They are easy to distract and with lower productivity they often Procrastinate. This behaviour can also cause due to GenZ's changing mood swings and external relationship management. The existing applications for productivity are too professional for GenZ that they don't drive motivation to them. Our Project is a solution for Genzers which contains GenZ oriented features that enable them to organise their day-to-day tasks efficiently and work on them without any procrastination. Our application also contains a feature where Genzers can connect with a psychologist one on one online. The unique alarming system offers Genzers to stay on an app without any background interruptions.

Keywords: Productivity, Gen-Z, application, Procrastination, one on one consulting, alarming

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system.

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#### **Mobile App For Task Management**

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#### **Abstract:**

A mobile app for task management helps users organize, prioritize, and track their tasks efficiently on the go. It typically includes features like task creation, categorization, setting deadlines, reminders, collaboration tools, and progress tracking. The app aims to streamline workflow and boost productivity by providing a centralized platform for managing tasks anytime, anywhere.

Keywords: Task management, To-do list, Reminders, Productivity

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#### **Stop Watch Using Python Programming**

### Adulapuram Srikar, Gollapalli Sathwik, Gundaboina Gunavardhan, Kolipyaka Mahendhar.

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#### Abstract:

The purpose of this project is to develop a functional stopwatch application using the Python programming language. This application allows users to measure time intervals with precision, providing features such as start, stop, and reset functionalities. The project leverages Python's built-in libraries, particularly 'tkinter' for the graphical user interface (GUI) and 'time' for handling time-related operations. The user interface is designed to be intuitive and user-friendly, making it accessible for users with minimal technical knowledge. The core of the application involves capturing the current time at the moment the stopwatch is started, continuously updating the display to reflect the elapsed time, and stopping the timer to record the final duration. The application also includes the capability to reset the timer, allowing for repeated measurements without restarting the program. This project highlights the effectiveness of Python in developing simple yet functional applications, demonstrating the language's utility in real-time applications. It also showcases the ease with which Python's libraries can be utilized to create interactive and responsive user interfaces. The development process includes planning the application architecture, designing the GUI, implementing the core functionalities, and testing to ensure accuracy and reliability.

**Keywords:** Stopwatch, Python, Graphical User Interface (GUI) ,Time measurement ,Start ,Stop ,Reset ,time library

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# Bus Reservation System Using Python A. Saiteja, P. Praveen Reddy, M. Harikrishna, N. Abhiram

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#### Abstract:

The Bus Reservation System is a Python-based application aimed at streamlining the process of booking and managing bus tickets. It features user registration and authentication, allowing secure access to the system. Users can check real-time seat availability, book tickets, and manage reservations with ease. Administrators can efficiently manage bus schedules, routes, and capacities.Built using Python and the Django/Flask web frameworks, the system ensures robust backend support. SQLite/MySQL databases manage user data, schedules, and reservations effectively. The interface, created with HTML, CSS, and JavaScript, provides a responsive and intuitive user experience. Integration with various payment gateways allows for secure and seamless transactions. This system automates routine tasks, reduces manual errors, and enhances operational efficiency. By providing real-time data and detailed analytics, it helps bus operators improve service quality and customer satisfaction. Suitable for both small and large bus operators, this scalable solution modernizes the ticketing process and optimizes overall productivity.

**Key Words:** Productivity, Ticketing Operator, efficiency

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# Dino Game Using Python Programming Jogu Jashwanth Sagar, Pulaboina Praneeth, Kallali Santosh Rebbavarapu Pavan

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#### Abstract:

The Dino Game, inspired by the popular "Chrome Dino Game," is an endless runner game developed using Python and the Pygame library. The project aims to replicate the original game's experience, where players control a dinosaur that must avoid obstacles by jumping and ducking. The game features smooth controls, dynamic obstacle generation, and collision detection to end the game when the dinosaur hits an obstacle. The user interface displays the current score and high score, enhancing the gaming experience. The project demonstrates essential game development concepts, including animation, input handling, and performance optimization, providing a fun and engaging way to explore Python programming and game design.

Key Words: Dino Game, Chrome Dino Game, Python, User interface

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# Weather Program Using Python Programming Jammi Chandrika, Challa Navyashree, Kategar Kusuma.

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## Abstract:

The Weather Program is a Python-based application designed to provide comprehensive and accurate weather information. It offers real-time updates, weather forecasts, and historical data for any specified location. Users can access current weather conditions, including temperature, humidity, and wind speed, as well as short-term and long-term forecasts to aid in planning. The program retrieves data from reliable weather APIs, ensuring up-to-date and precise information. Visual representations through charts and graphs enhance the user experience, making data easier to understand and analyze. By providing a comprehensive suite of weather-related information, the Weather Program helps users make informed decisions based on current conditions and forecasts, leveraging Python's powerful libraries and API integrations for efficient weather monitoring.

**Keywords:** monitor, forecast, leveraging, library, weather, temperature, humidity, framework.

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# **Password Manger Using Python Programming**

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#### **Abstract:**

Password Manager is a small-scale project used for storing your login information for all the websites you use and generating random passwords for users. The user will have the data whenever access to add, update and remove his details and he can fetch his needed. It's an GUI based application simple and easy to use. It has a lot of feature which makes user experience better. In this application Passwords can be stored for various applications and details required for maintaining the Passwords area application or website name, username, password and email id. You would not get any problem while using it because simple and user-friendly UI will make your work easy, faster and gives you a better result.

**Keywords:** password manager, username, GUI based, email, website

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# Google Image Downloader Using Python Programming

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#### **Abstract:**

In the era of big data and artificial intelligence, the need for large datasets for training and analysis is paramount. Images are a crucial component of many datasets, and obtaining them efficiently can significantly enhance research and development. This project presents a Python-based Google Image Downloader, a tool designed to automate the process of fetching images from Google Search. By leveraging libraries such as 'BeautifulSoup', 'requests', and 'selenium', the downloader can perform automated searches and retrieve images based on user-defined keywords. The core functionality involves simulating a web browser to navigate Google Images, extracting the URLs of the images, and downloading them to a local directory. To ensure robustness, the downloader incorporates error handling mechanisms to manage issues such as connection errors, CAPTCHA challenges, and duplicate downloads. Furthermore, the tool offers customization options, allowing users to specify parameters such as the number of images to download, the resolution, and file format preferences.

**Keywords:** Image downloader, Python programming, Google Images, Web scraping

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# **Snake Game Using Python**

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## **Abstract:**

The Snake game project, implemented in Python using the Pygame library, serves as an excellent introduction to fundamental programming concepts. In this game, the player maneuvers a snake to consume food items that appear randomly on the screen, causing the snake to grow longer with each item consumed. The primary challenge is to avoid collisions with the snake's own body and the boundaries of the screen, which ends the game. This project not only highlights the use of loops, conditionals, and functions but also demonstrates the application of object-oriented programming principles in a fun and interactive way.

Key Words: snake, game, python loops

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# **Bubble Sort Using Python Programming**

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## Abstract:

Bubble Sort is a simple sorting algorithm that repeatedly steps through the list to be sorted, compares each pair of adjacent items, and swaps them if they are in the wrong order. This process is repeated until the list is sorted. Bubble Sort has a worst-case and average time complexity of  $O(n^2)$ , where n is the number of items being sorted. Despite its simplicity and ease of implementation, Bubble Sort is not suitable for large datasets due to its inefficiency. It is best used for educational purposes to illustrate the concept of sorting algorithms. Below is an example of a Bubble Sort implementation in Python:

In this implementation, the algorithm iterates over the list, making adjacent comparisons and swaps, and uses a flag to detect if any swaps were made during a pass to optimize performance slightly by terminating early if the list is already sorted.

**Keywords:** Bubble Sort, Python, Sorting Algorithm, Comparison-based Sorting\*

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### The 2048 Game

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## **Abstract:**

The 2048 game is a popular single-player sliding tile puzzle designed by Gabriele Cirulli. Released in March 2014, it involves combining numbered tiles on a 4x4 grid to achieve the highest possible number, typically the eponymous 2048 tile. Players slide tiles in one of four directions (up, down, left, or right), causing all tiles to move as far as possible in the chosen direction. When two tiles with the same number collide, they merge into a tile with the sum of their values. The game ends when no more moves are possible, challenging players to strategize and optimize their moves for maximum score. Its simple yet addictive gameplay, combined with a minimalistic design, has garnered widespread acclaim and spawned numerous variations and adaptations.

**Keywords:** Productivity, Ticketing, Operators, Efficiency

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# Flight Booking System Using Python

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#### **Abstract:**

This project involves developing a Flight Booking System using Python, aimed at simplifying and automating the process of booking flights. The system allows users to search for flights, book tickets, and manage reservations. The core functionalities include searching for flights based on user-specified criteria such as origin, destination, and date, displaying available flights, booking selected flights, and generating electronic tickets. Additionally, the system provides administrative functionalities such as managing flight schedules, updating flight details, and viewing booking statistics.

Keywords: Flight Booking, Airline Reservation, Python, Web Development

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# Phonepe Replica (Balance, Statement And Previous Transaction With A Payment Console Included)

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#### **Abstract:**

The usage of phonepe has increased a lot in nowadays for day-to-day transactions. Using these online transactions has made everyone getting more and more used to it made it an everyday requirement to fulfill our needs in online way. Previously online transactions were managed manually using net banking system which made the work comparatively easy for the transaction to take place. Due to which, online payment apps have come into the picture. Digital transactions are operating digitally i.e., everything is managed digitally including crediting, debiting, balance checking, etc. So practically in an online payment platform you can make a transaction from anywhere using a website or an app, which means a transaction receipt of the payment would be there with the payee at the same time and a recipient as well ,which gives the payee his safety even after the payment. While paying for purchase online, one must be signed to the online payment platform and the person will able to make a payment within seconds. If the time limit exceeds and transaction failed, the person will be automatically refunded for the amount he paid including all taxes. In the same manner, we have to create a unique payment application to amke a payment, which also gives us the balance, the previous transaction, and a statement of the transaction we did in a single application.

**Key Words:** digital transactions, online payment platforms, transaction receipt, website, crediting, debiting.

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# Design Of Banking Application Using Oop Concept Mukesh Kumar, S. Mrudul Preetham, P. Akshay Kumar, M. Rohith

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## Abstract:

The existing banking systems often face problems like scalability, maintainability and adaptability challenges because they are built using a monolithic and procedural design. These problems make it hard for the bank to process transaction in real-time, manage customer accounts effectively and update the system as required thus increasing operation costs and reducing customer satisfaction. This paper proproses an application for banking developed based on the Object-Oriented Programming (OOP) methodology. The proposed system is designed to create a modular application which can be updated easily when there are new features to be added and is easily maintained and include all functionalities essential for operating a bank such as account management, transactions processing, customer service, etc. By using OOP principles including encapsulation, inheritance, abstraction and polymorphism, its developers aim at ensuring stronger code that functions effectively. Encapsulation guarantees that data is protected by not giving direct access to object data while inheritance facilitates code reuse through allowing new classes to be made from existing ones. Polymorphism enables different classes to be handled via one known interface hence providing flexibility within the system. Abstraction uses the abstract method to hide the details of the class. To achieve this feat, classes of major banking entities like Customer, Account, Transaction among others have been organized into a system in which each embodies relevant attributes plus behaviors.

**Key Words:** Banking application, object oriented programming, maintainability, Encapsulation, Polymorphism, Inheritance, Abstraction.

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# Tax calculator for product prices using anonymous function

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## Abstract:

In this changing world of finance, it's important to calculate taxes accurately and efficiently. This project introduces a new Python-based tax calculator that uses anonymous functions (functions without names) to make tax calculations easier. By using these functions, the program simplifies the process of calculating taxes on product prices, making the code clearer and more flexible for different scenarios. The program's main job is to manage product prices and their taxes. It starts by storing product prices in a list for easy organization. Then, it uses anonymous functions created with the lambda keyword to define a function called (calculate tax). This function takes a product & #39;s price and an optional tax rate (defaulting to 7%) to calculate the tax amount efficiently. By using this function in a list comprehension, the program calculates the tax for each product price in a single line, showing the power of concise code. Additionally, the program calculates the total cost of the products. It first adds up all the product prices to find the total price before tax. Then, it sums up the individual tax amounts for each product to find the total tax. Finally, it combines the total price before tax and the total tax to get the final price, giving a complete picture of the costs. This project shows how anonymous functions can create an easy to use and efficient tax calculator for product prices. The program keeps the code clear, simplifies tax calculations with different rates, and provides accurate results, making it a useful tool for anyone dealing with product costs and taxes.

**Keywords:** Python, anonymous function, tax calculator, product prices

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# **Design Of Form Validation Application Using Regular Expression**

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#### Abstract:

Form validation is crucial in ensuring the accuracy of user-submitted data in any application. It prevents incorrect or incomplete information from being processed, which is important for maintaining a reliable system. The Car Rental Services application facilitates car bookings but falls short in the registration process due to miss of data validation. This shortcoming results in various issues, such as the acceptance of invalid email addresses, improperly formatted phone numbers, and weak passwords, which compromise both the system's reliability and security. The absence of validation mechanisms leads to inconsistent user data. To address these issues, we propose an enhanced registration system that leverages regular expressions (regex) for comprehensive data validation. By integrating Python's're' module, we aim to ensure the accuracy and security of user inputs across multiple fields. Specifically, the proposed system will validate email addresses to conform to standard formats, verify phone numbers to support various international formats, and enforce strong password requirements that include a mix of uppercase and lowercase letters, numbers, and special characters. Additionally, regex patterns will be applied to validate URLs and dates, ensuring to expected formats. This enhanced approach will mitigate the risks associated with inaccurate data entry and security vulnerabilities, leading to improved data consistency and user experience. Implementing these changes will ensure that only correctly formatted and secure data is accepted, These improvements will be implemented using Python's're' module for regular expression handling.

**Key Words:** Regular Expression, re module, regex, Data validation, Pattern manching, URLs, Email address.

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# Study Of Digital Hotel Booking Management - Analyze It's Working And Convey Changes

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#### **Abstract:**

In recent times, the utilization of hotel booking management applications has surged significantly, whether accessed online or offline. In the past, hotel bookings were predominantly managed through manual processes, involving cumbersome paperwork and phone calls, which posed challenges for hotel administrators. Consequently, the emergence of digital hotel booking management applications has revolutionized the hospitality industry. These digital platforms operate entirely online, streamlining processes such as room reservations, check-ins, check-outs, and service requests. Essentially, users can access hotel options from anywhere via a dedicated website or mobile app. Moreover, these platforms often offer additional features such as online payment, room customization, and real-time availability updates. When booking a hotel room online, users are typically required to create an account on the platform. They can then select their desired dates, room preferences, and any additional services, with the option to modify or cancel reservations as needed. Each hotel room is assigned a unique identifier or room number within the system,. Furthermore, users can track their reservation details and receive confirmation notifications via email or SMS. In the event of reservation modifications or cancellations, users may be subject to certain terms and conditions, including potential charges or penalties. Overall, the advent of digital hotel booking management applications has simplified the process of securing accommodations, offering users unparalleled convenience and flexibility in their travel arrangements.

**Key Words:** digital booking, room number, online, offline, modification, website.

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# A Decentralized And Privacy-Focused Chat Application Using Networking And Socketing

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## Abstract:

Existing messaging and chat applications often rely on centralized servers, raising concerns about privacy, data security, and potential censorship. While some applications claim to offer end-to-end encryption, the centralized nature of their architecture still exposes users' metadata, leaving them vulnerable to surveillance and potential data breaches. The disadvantages of centralized chat systems include the inherent trust required in the service provider, the risk of data misuse or disclosure, and the potential for censorship or service disruption by external entities. Moreover, these systems are susceptible to single points of failure, hindering their reliability and resilience. This project proposes the development of " SecureChat, " a decentralized, peer-to-peer (P2P) chat application built using Python. SecureChat aims to address the limitations of centralized messaging systems by leveraging the principles of decentralization and end-to-end encryption. By eliminating the need for a central server, SecureChat ensures that no third party can access or monitor users' conversations, providing a truly private and secure communication channel. The proposed system will utilize advanced cryptographic techniques, such as elliptic curve cryptography and perfect forward secrecy, to ensure that messages are encrypted in transit and at rest, protecting them from unauthorized access. Additionally, SecureChat will implement a distributed hash table (DHT) or other P2P networking protocol to enable direct communication between peers, eliminating the need for a central server and ensuring resilience against censorship or service disruption.

**Key Words:** *Decentralized, peer-to-peer (P2P), chat application, Python, privacy, data security, end-to-end encryption* 

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Employee Management System Using Inheritance And Upload To Github N. Vedhika, J. Srujana, N. Shivani, K. Naveen.

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#### **Abstract:**

An Employee Management System is crucial for efficiently tracking and storing employee information within any organization. It securely manages personal details that are vital to employees, enabling employers to oversee employee data and administer bonuses. Today, both government and private sectors utilize such systems to maintain staff records. Smaller industries, constrained by costs, often resort to manual methods like pen and paper for record-keeping. This system comprises three distinct classes: one each for Managers, Engineers, and Interns. Inheritance is employed to inherit properties from the Employee class to these child classes (Manager, Engineer, Intern), facilitating streamlined management of employee types with varied roles and responsibilities.

Key functionalities include adding, deleting, displaying, clearing, and counting employee records. Employees gain access by logging in with their username and ID, ensuring secure entry into the system. This project aims to save significant time for employers, allowing them to concentrate on enhancing company development and growth in a straightforward and accessible manner.

**Keywords:** Employee management system, employee data, secure data storage, inheritance, employee classes, time-saving.

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# design of basic inventory applications for a store- using functions A. Jahnavi, R. Dhanush, Yash Kanbargi, P. Goutham

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#### Abstract:

Inventory management software is a software system which is used in the manufacturing industry to create a work order, bill of materials and other production- related documents. Companies use inventory management software to avoid product overstock and to reduce their carrying costs. Previously this data is managed manually using notebook and pen which made the work tedious for the manager. Due to which, this software came into the picture. This helps to manage the flow of goods, activities, information and resources across a business. This abstract presents a Python implementation using functions (including fundamental data structures). The system aims to show what are the things that have been adopted by us through the software into two categories: existing and proposal. The existing system provides several notable things that has brought significant changes to our daily lives. Before the introduction of fundamental data structures like list, dictionary, tuple, set, there is no structured way to present information. This enables to get information in a concise and condensed manner. The proposed system introduces a new concept of basic inventory system applications using functions. By, implementing this system, it is really efficient to solve the problems facing by business people while managing or creating the necessary data. It allows users to find out the meaning and purpose of the information. This facilitates efficient retrieval and update operations by accessing- directly through their unique identifiers. Functions syntax, provides collection of data about the list of items. This characteristic made functions suitable for situations where the arrangement of items should remain unchanged and the choice to be selected. Lastly, it provides the ordered collection of specific items. It can be used widely to store and perform operations based on the unique characteristics of each item, such as removing, adding, deleting duplicate data entries related to the particular store.

**Keywords**: Data structures, Inventory management software, functions, list, tuple, dictionary, duplicate data.

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# **Design Of Recursivde File Searcher**

# Gopu Sankeerthana, Gattu Vaishnavi, Barda Karthik Reddy Gampa Hruthik

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#### **Abstract:**

Nowadays, everyone prefers storing information in files. It helps you in organizing your workspace. But sometimes your files get misplaced or can be saved in another order. At that time searching for files becomes difficult. In the existing system, it only examines the files within a single directory or folder. And it is mostly efficient only when the user knows that the target file is in specific directory and do not need to explore subdirectories. In the proposed system, the recursive file searcher goes beyond immediate directories and explores all subdirectories and nested folders. It helps the user even when the exact location of the target file is unknown. It can manage a larger set of files too. This method can be useful when large volume of data is present. The search begins at a specified root directory. Then it searches on the criteria required like file types, dates, file names etc. Then it checks if file matches the search criteria in different folders or subdirectories. The searcher repeats the process: reading contents, processing each entry, making recursive calls for nested folders. This continues until all folders and sub folders have been explored, overall, recursive file searchers enhance efficiency.

**Keywords:** files in subfolders-large volume-efficiency-explore folders

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# **Design Of Transportation Application Using Tkinter**

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#### **Abstract:**

In college, one big problem we have is not knowing where the bus is, which often leads to students missing it and causing stress and disruption to their schedules. For bus drivers, its tough to ensure timely rides without a good way to communicate or track the bus. So, I decided to create the Transportation Application to fix these issues. Its a simple tool for both students and drivers to share their locations and communicate easily. The goal is to make college transportation smoother and more reliable. With this app, we can track buses, make sure students get where they need to be on time, and reduce stress for everyone involved. Its all about using technology to make our college lives easier. The Transportation Application stores student and driver details separately and provides separate accounts for them. Drivers can easily share their location, and students can view it using Python;sTkinter library along with network and socket functionalities. Moreover, to ensure efficient data management, Excel is utilized as the database,making it convenient for users to access and update information as needed.

Key Words: Tkinter, Excel, Database, Transportation, Track, Network and Socket

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# Simple 1d And 2d Figures Picturization Using Turtle Graphics K. Sai Tanishka, K. Sai Nandini, B. Nikhita, G. Ankitha

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#### **Abstract:**

Drawing 2d and 3d figures is done through graphics. This takes a graphical interface is called turtle graphics. Turtle graphics can be done in different computer languages such as java,python,c++. The existing system is done through python language. Here we choose python language as a main source because on comparing with other languages like java it requires more no. of code lines whereas python requires only a sufficient no. of code lines. Python has different libraries to include various parameters and functions. Java has standard library to work with it. Significantly in python the turtle is visible physically while drawing. The python turtle graphics is more efficient when compared to java, the time complexity is less for python. So it would be more useful to produce as it of meagre of cost when compared to java. Python is a beginner friendly programming language. Python as a high level language provides more abstracted and simplified commands compared to java. The turtle module in python encapsulates complex drawing operations into simple ,easy to understand and functions like forward(), backward(), left(), and right().

**Key Words:** *Meagre, forward(), backward(), left(), right()* 

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# Design Of Ticket Booking Application Using Threads Multithreading And Multiprocessing

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#### **Abstract:**

The ticket booking application serves as a digital platform designed to simplify the process of purchasing and reserving tickets, here we took Thirumala Thirupathi Devasthanam (TTD) Darshan as an example. This has reduced physical strain for human beings to wait in long queues for hours. This application is developed in Python now but previously developed in C programming language having advantages within but also containing some disadvantages as well. C is a compiler which is having low-levelled nature and requires less system interaction so it can perform better than interpreter but code in C can be more challengeable than in Python as it does not contain any libraries and can also cause errors more frequently. Developing large-scale applications like ticket booking in C and maintaining them properly can be a complex task, becoming prone to bugs which leads to difficulties in debugging and requires more time to solve. We proposed this system in Python language. Having standard libraries, easy readable syntax, different modules like threads, OOPs concepts, numpy functions and many more, managing the memory automatically and also having dynamic typing makes python a user-friendly language. This is suitable for developing small to medium sized ticket booking application and many more applications well. This language has clear and clean syntax making it seldom prone to errors in its syntax. It has well defined libraries, many tools and frameworks as well making the code understandable to user and more interactive. This application provides user a convenient interface to select, book tickets using thread module.

**Keywords:** ticket booking, TTD, C language, Python, user-friendly, modules, libraries, thread module, reserving tickets, understandable code

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# Design Of Restaurant Management System Using Different Modules Thadisina Rishitha, Osa Tejeswar, Gaddam Poonam Asa Pradeep

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#### **Abstract:**

Nowadays, restaurants are more occupied. The work for restaurants management has become very hectic. In existing system, the manual, check-in and check-out processes are slow as more rush in the restaurants and it leads to delay. Manual system may lead to miscommunication and leads to delay in approaching the guest requests or issues. Communication between different departments will be less. There will be high chances of making mistakes in process of reservations by humans. In proposed system, there will be super handy for customers like its supports online and takeaway orders, syncing with third party delivery services. By this we can manage employee schedules, shifts and amount of time they are working. For personalize service data can be collected and analyse. Gathers feedback to improve customer satisfaction. Optimizes table assignments and reservations. Reduces waiting time for customers. We can assist in making data driven decisions for menu changing, pricing and in marketing strategies. Integrates with other systems such as accounting software, payment processors and making platforms. By this restaurants cam improve efficiency in operating things, enhance customer satisfaction and profits will be ultimately boosted up.

**Keywords:** numpy, math, accounting software, logging, pip

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Implementation of Bank Account Management System using Exception Handling Functions

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Abstract:

A bank account is maintained by the bank for their customers. A bank account is used to make track of their customers basic banking operations. As it is hard to keep the information of all the customers offline, online Bank Account Management System is used. In this project a bank account management system is developed using python. This Bank Account Management System is a python-based application which is developed to perform fundamental banking operations while managing the errors effectively using exception handling functions. This system is used to perform basic and fundamental banking operations like depositing funds, withdrawing funds, checking account balances etc. As exception handling functions are used, this system handles common banking errors such as insufficient funds, invalid transaction amounts etc. A class is used which demonstrates the use of object-oriented programming principles. This project is used for the implementation of the basic banking operations and shows practical uses of exception handling functions in python.

**Key Words**: Bank account, basic banking operations, managing the errors, exception handling functions, object-oriented programming.

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Design Of Store-Super Market Application Using Set Tuple Dictionary List

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#### Abstract:

The current system for managing store operations employs data structures such as lists and dictionaries, leading to several inefficiencies. Firstly, lists are used to store items within categories, resulting in performance issues due to their linear nature, especially as the number of items grows. Secondly, dictionaries fail to ensure the uniqueness of items within categories, which can lead to duplicate entries. Additionally, managing quantities and prices separately using tuples within lists and dictionaries increases the complexity of the system. To these problems, the proposed system introduces sets and tuples to improve efficiency and data integrity in store operations. Sets, by their nature, ensure the uniqueness of items within categories, eliminating the possibility of duplicate entries. This characteristic is particularly beneficial for inventory management, where uniqueness is crucial. Moreover, using tuples for immutable items like products ensures that once an item is added, its details remain unchanged, thereby maintaining consistency. The use of sets and tuples simplifies the data structure, reducing the overhead associated with checking for duplicates and managing item details. By ensuring that each item is unique and its attributes are immutable, the proposed system enhances data integrity and reduces the complexity of handling quantities and prices. Store operations become more streamlined and efficient, as the system can quickly access leading to more efficient store management.

Key Words: List, Set, Tuple, Dictionary, Mutable, Data, Prodcts, Efficient

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# A Methodology To Implement Recursion In Python And Comparing With C Language

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## **Abstract:**

Now a days the trending and hot topic is ARTIFICIAL INTALIGENCE. Here a function which is called by itself until it reaches the basic condition. Here many AI applications if they couldn't gave any particular answer it will understand by user input or prompt. Recursion: A function which is called by it self to solve a complex problems by breaking them into simple sub programs. We are doing a project related to recursion which is used to solve complex problems. It is especially useful for tasks like searching, sorting and tree/graph traversal. We give enough examples for each topic in recursion. Now we are doing here only theory project in feature we can implement our thoughts and these features in real time application. In C, the programmer must manage the memory allocation and deallocation of the function call stack manually. However, C provides more control over the system and can be faster than Python for certain tasks. In Python, the programmer does not need to manage memory allocation and deallocation, as it is handled automatically by the interpreter. However, Python has a lower recursion limit than C, which can lead to a Recursion Error if the limit is exceeded.

**Key Words**: *Def*, *print*, *function tools*, *recursive function*.

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# Implementation Of Closures and Decorators Using Python Programming K Harshavardhan, A Manikanta, M Prakash Rao, G Akhil Nandan

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#### **Abstract:**

Now-a-Days the Closures and Decorators are both features present in Python but they don't have direct counterparts in the C language. A Closures is a function object thathas access to variables in its enclosing lexical scope, even when the function is outside the scope. Closures are used to implement data hiding, encapsulation and maintaining state across function calls. In compare to C language the Closures can achieve a similar effect by using the function pointers along with structures or pointers to structures. Decorators are functions that wrap other functions or methods to modify their behaviour or add functionality. Decorators are commonly used for logging, authentication, memorization and enforcing access control. In compare to the C language there is no direct equivalent to python decorators because C lacks the language features like decorators. Similar functionality by using Function Pointers and High-order functions. Closures are also used to implement decorators in python. Decorators are functions that modify the behaviour of other functions. The secure data class has an \_\_init\_\_method that initializes two instance variables data and password.

**Key Words:** Def, Enclosing Function, Free Variable, @decorator, Wrapper Function, Higer Order Function.

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# Implementation of Concept of Memory Management In Python Programming K. Harshitha, M. Rajesh, L. Vamshikrishna, Shaik Azeer Uddin

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#### Abstract:

Nowadays, Understanding Memory allocation is important to any Programmer as writing good code means writing a memory-efficient code. In C language memory needs to be dynamically allocated. C requires manual memory allocation and deallocation. Whereas Python has a simpler syntax and automatic memory management unlike c programming. Python is a dynamically typed programming language But therun time will handle this for them. By this it is easy to manage the memory for efficient use. Memory allocation can be defined as allocating a block of space in the computer memory toprogram. Python uses a portion of memory for internal use and non-object memory. Anotherpart of memory is used for python objects such as int, dict, list, etc. Themanagement of the private heap is ensured internally by the python memory manager. And there are also many advantages using PythonMemory Management like Garbage collection, Reference Counting, Memory Pooling, Efficient Memory Usage, Memory Optimizations, Platform Independence, Ease of Use, Dynamic Typing, etc which makes the memory easy and efficient to use. But all these advantages are not present in C language, so it is easier to use Python for better.

**Keywords:** Automatic memory management, dynamically typed language, garbage collection, private heap, interpreter, allocation and deallocation, reference counting.

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# **Implementation of Tkinter Applications**

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#### **Abstract:**

Now a days, Tkinter plays a crucial role in modern software applications. Tkinter is the standard Graphical User Interface (GUI) framework for python, providing spontaneous interactions between user and programs. Tkinter is a standard GUI toolkit in python, offers to create Desktop applications. A wide variety of graphical user interface including windows, labels, custom widget, geometry management and other GUI components to build interactive applications. we develop the process of designing interactive through the code examples and best practices. Additionally, we examine advanced features and techniques for enhancing the user experience, including styling with ttk, integrating multimedia elements and implementing responsive layouts. Python and c can both be used to develop the GUI applications with tkinter. The choice between the python and c for tkinter applications depends on factors such as syntax, development time, performance requirements. C is low-level language that is compiled, while c may be chosen for performance critical applications or projects. On the other hand, Python is a high-level language that is interpreted, Python is often preferred its simplicity and rapid development capabilities.

**Key Words:** tkinter widget, geometry management, event handling.

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# **Implementation Of Network And Socket Programming In Python**

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#### **Abstract:**

Python is one of the most preferred languages for implementing programming and automation at scale. network teams can use it to write simple scripts that automate tasks like network detection, and webservers, mail servers, and other servers have created. Present python ranks as one of the most popular programming languages, and has gained widespread use in the machine learning community .C is a structured language, which means that program is organised into functions and blocks of the code. python is a object oriented language, it is organised into classes and objects that have attributes and methods. In python, sockets allow you to establish network connections over various network protocols such as TCP or UDP to send and receive data. A network is a set of devices that are connected with a physical media link. In a network, two or more nodes are connected by a physical link or two or more networks are connected by one or more nodes. A network is a collection of devices connected to each other to allow the sharing of data, network topology specifies the layout of computer network. It shows how devices and cables are connected to each other. Different types of networks are LAN, VAN, PAN....etc. A socket is an end-point of communication between 2 devices. socket programming is a way of connecting two nodes on a network to communicate with each other, one socket listens on a particular port at an IP, while other socket reaches out to other to form a connection. Server forms the listener socket while client reaches out to the server.

**Keywords:** *protocols*, *ports*, *socket*, *client*, *server*, *widespread*.

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# Mode of real-time questions and programs for Datastructures, Networks and Threads.

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## Abstract:

Python has implemented a lot in nowadays. This abstract presence a python implementation using mode of real-time questioning and programming around the core concepts of data structures, networks and threads. Data structures play a crucial role in programming, allowing us to efficiently organize and manipulate data. Python offers a set of built-in data structures, including lists, tuples, dictionaries, and sets. While, In C language data structures are typically implemented using arrays and structs. It require more explicit coding and memory management. Networking is a fundamental aspect of modern software development, and both python and C offer tools and libraries for building network applications. Python provides a high-level socket module that simplifies network programming, while C, known for its speed and efficiency, offers low-level control over network operation. Python multithreading is a powerful technique used to execute multiple threads concurrently, enabling parallel processing and improving performance within a single process. In C language, multithreading can be implemented using libraries like pthreads (POSIX threads) or Windows threads. Both Python and C support thread synchronization mechanisms like locks, condition variables, and semaphores.

Key Words: Data structures, Netwoks, Multithreading, semaphores.

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# Mode of Real Time Questions and Programs for OOP Regular Expressions

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#### **Abstract:**

Now a days, the most popular and important programming language is Python. Most of the MNC" S (multinational companies) depend upon the Python language. The present tech industry uses the Python language because of its simple programming and very versatile and widespread uses in various domains. The important concepts of Python language are data structures, algorithms, object-oriented programming and Python-specific features like list comprehensions, generators, decorators, and context managers. When we compare Python programming language with the C programming language, we can clearly understand that Python language has more features than C language. So, at present, most of the MNCS are taking interviews on Python programming language.

**Key Words:** Network and socket programming, String and arrays, File handling functions, Object-oriented programming, Error handling functions, Function and anonymous function

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# Strings and Arrays in Python – Functions Related To Strings and Arrays

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#### **Abstract:**

Presently Python and C handle strings and arrays differently. Strings and arrays are fundamental data structures in programming, extensively used for data manipulation and storage.. In Python it treats strings as immutable sequences of characters, offering high-level abstractions and built-in functions for string manipulation. Pythons string handling is more user- friendly ,whereas in C, strings are represented as arrays of characters terminated by a null character String manipulation in C often involves manual memory management, making it errors string handling is complex comapared to python. Both Python and C support arrays, but their implementations differ significantly. Python arrays, represented as lists, are dynamic, resizable collections. Python array operations are more convenient and expressive whereas in C, arrays are fixed-size collections of homogeneous elements, array operations in C are low-level, requiring manual memory allocation and pointer arithmetic. Pythons extensive standard library provides rich functionalities for string and array manipulation, including built-in functions, methods and modules. This abstract provides a straightforward info strings and arrays in Python and C, focusing on their key characteristics and differences.

**Key Words:** strings, arrays, immutable, memory management, dynamic and fixed size collection, built-in-functions

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# Implementation Of File Handling Functions Using Python Programming

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#### **Abstract:**

This abstract discusses the implementation of file handling functions using Python programming language. Python supports file handling and allows users to handle files i.e., to read and write files, along with many other file handling options, to operate on files. The concept of file handling has stretched over various other languages, but the implementation is either complicated or lengthy, like other concepts of Python, this concept here is also easy and short. Python treats files differently as text or binary and this is important. File handling operations in Python can be slower than other programming languages, especially when dealing with large files or performing complex operations. File handling in Python is a powerful and versatile tool that can be used to perform a wide range of operations. However, it is important to carefully consider the advantages and disadvantages of file handling when writing Python programs, to ensure that the code is secure, reliable, and performs well.

**Keywords**: open(), read(), readline(), write(), close(), with, seek(), tell()

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# **Implementation Of Object Oriented Programming Using Python**

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## **Abstract:**

Nowadays, Python and C have distinct approaches to object-oriented programming (OOP). Classes, inheritance, and encapsulation are all built-in in Python, making object- oriented programming simple. With C, use struct and function pointers to create OOP takes more work and results in more complicated code, automated memory management and dynamic typing simplify coding, making it ideal for speedy development and web projects. Meanwhile, C is a manual memory control language with high efficiency, making it ideal for activities that require precise memory management, such as system programming. This abstract provides a straightforward comparison of oops in Python vs C, assisting developers in selecting the appropriate language depending on project requirements. Abstarction refers to ability to hide the implementation details of an object from the Implementation user, while still providing a simple and easy to interface. Oop python programs it makes code reusable and easier to work with larger programs.

Key Words: Class and Object, inheritance, polymorphism, data abstract, encapsulation.

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# Implementation Of Function And Anonymous Function Using Python Programing

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#### Abstract:

Python is an interpreted language, which means that the source code is executed line by line by an interpreter at run time. C is a statically typed language, which means that the type of each variable and function must be declared explicitly and checked at compile time. Python is one of the easiest yet most useful programming languages which is widely used. Nowadays python is one of preferred languages for programming. In python, a function is a set of code that performs any given The idea is to put some commonly or repeatedly done tasks together and make a function so that instead of writing the same code again and again for different inputs, we can do the function calling to reuse code contained in it over and over again. In python you can create a function by using def keyword We can send information to a function by passing values which are known as arguments or parameters. They are mentioned after the function name inside brackets and can add as many arguments. Anonymous functions, also known as lambda functions in Python, Lambda functions are similar to user-defined functions but without a name. They're commonly referred to as anonymous functions. Lambda functions are efficient whenever you want to create a function that will only contain simple expressions that is, expressions that are usually a single line of a statement. They're also useful when you want to use the function once.

Keywords: parameters, arguments, Lambda functions, user defined, expression

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# A Methodology to Implement Error Handling Functions using Python Programming

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## **Abstract:**

Now a days the most popular and important programming language is Python. Presently C does not have built-in support for exception handling like some other languages such as Python or Java. Error handling and exception handling are fundamental concepts in software development, allowing programs to manage unexpected situations gracefully. Error handling refers to the concept of managing errors or exceptional situations in a program, which can include not only exceptions but also other types of errors such as syntax errors, logic errors, or runtime errors. Exception handling is mechanism provided by programming languages like Python to deal with exceptional situations that occur during the execution of a program. Exception handling allows programmers to anticipate and handle errors gracefully, ensuring the program continues running even when unexpected situations occur. This project dives into the differences between error handling in C and exception handling in Python, showing how Python's approach simplifies the process and makes code more readable. This project explores error handling and exception handling in Python, highlighting Python's try-except blocks, raising and catching exceptions, and best practices.

**Key Words:** error handling, exception handling, testing, debugging.

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# **Basic Calculator Using Python**

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#### Abstract

The simple calculator is a system software which allows us to perform simple mathematical operations such as addition, subtraction, multiplication, division etc. To develop this system we have used the concept of class and object first we defined the class calculator and defined the various function inside this class for various mathematical operations and each function is different from each other. After that we prompted user to provide the input for two numbers. And at the end of the program we have created the object of calculator class and called all the function defined inside the class one after one for different tasks as per their respective operations.

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# Contact Book In Python B. Sai Kumar, B. Bharat, Ch. Vardhan, Ch. Manikanta

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#### **Abstract:**

This project details the development of a simple Contact Book application using Python. The primary goal of the application is to manage and organize contact information efficiently. The program allows users to input, store, and search for contact details such as names and phone numbers through a command-line interface. The Contact Book application includes the following functionalities:- Adding Contacts: Users can add new contacts by entering names and phone numbers. These details are stored in two separate lists for names and phone numbers.- Viewing Contacts: The application displays all stored contacts in a tabulated format, providing a clear overview of the names and corresponding phone numbers.- Searching Contacts: Users can search for a specific contact by name. The program checks if the name exists in the contact list and displays the associated phone number if found, otherwise, it indicates that the name was not found. The contact data is stored in-memory using Python lists, making it a straightforward and easily understandable implementation for basic contact management. While the current version handles a fixed number of contacts and utilizes a simple linear search for querying, it lays the groundwork for potential future enhancements such as:- Expanding storage capacity and utilizing more sophisticated data structures for improved performance.- Incorporating additional fields. - Implementing data persistence mechanisms to retain contact information across sessions.

**Keywords:** Contact Book Python Data Management Command-Line Interface Contact Information In-Memory Storage Lists Name Search Phone Number Personal Information Management Data Input and Retrieva

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## Voting System Using Python D. Vijay Kumar, Meghan Reddy, Dhruv Sen, D. Dhatri

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#### Abstract:

This project presents a voting system developed using Python to facilitate secure and efficient electronic elections. Key features include voter registration, authentication, ballot creation, vote casting, and result tabulation. The system ensures voter eligibility through secure authentication and maintains vote confidentiality with encryption. It supports various voting formats and employs robust techniques to ensure the integrity and accuracy of the voting process. Designed for scalability and reliability, this Python-based system aims to enhance democratic participation and trust in the electoral process.

**Keywords:** - Voting system - Python - Electronic elections

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#### Alarm Clock

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#### **Abstract**

This project presents a Python-based alarm clock application designed to offer a user-friendly solution for time management. Leveraging Python's simplicity and versatility, the application provides a graphical interface for intuitive interaction. Users can set multiple alarms with customizable tones and snooze options. The application utilizes Python's datetime and time modules for accurate time management and event-driven programming for alarm triggering. Additionally, audio libraries like pygame or playsound ensure seamless alarm tone playback. The project emphasizes modularity, readability, and error handling for robust implementation. Future enhancements may include calendar integration for scheduling alarms on specific dates and integration with external APIs for dynamic alarm triggers. Overall, this project aims to deliver a comprehensive alarm clock solution in Python, catering to users' needs for reliability, customization, and efficient time management.

#### **Keywords:**

- Graphical interface
- Customizable tones
- Snooze options
- Modularity
- Reusability

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#### **Efficient Attendance Tracker**

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#### **Abstract**

This project (An attendance tracker) is a tool designed to monitor the presence and absence of individuals within a specific context, such as workplaces, schools, or events. It records attendance data, including arrival and departure times, allowing administrators to efficiently manage attendance records. The tracker can be implemented through various methods, including manual sign-in sheets, barcode scanners, RFID technology, or mobile applications. By automating attendance tracking processes, organizations can streamline administrative tasks, improve accuracy, and enhance accountability. Additionally, attendance trackers often offer features such as generating reports, analyzing attendance patterns, and sending notifications for late or absent individuals. This enables organizations to identify trends, address attendance issues promptly, and make informed decisions to optimize resource allocation and productivity. Ultimately, attendance trackers serve as valuable tools for promoting accountability, ensuring compliance, and fostering a culture of punctuality within diverse settings.

**Keywords:** Attendance tracker, RFID technology, Arrival, Departure, Accountability.

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#### **Expenses Tracker**

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#### **Abstract:**

The system allows users to input their expenses conveniently, either manually or by importing transactions from bank statements or CSV files. Through intuitive user interfaces, users can categorize expenses, set budgets, and view their financial data in real-time. Leveraging Python libraries such as pandas and matplotlib, the system provides comprehensive data analysis and visualization capabilities, empowering users to gain insights into their spending habits and identify areas for improvement.

#### **Keywords**:

- User-friendly interfaces for inputting and managing expenses.
- Automated categorization of transactions based on predefined rules or user-defined categories.
- Budget tracking and alerts to help users stay within their financial goals.
- Dynamic visualization of spending patterns through interactive charts and graphs.
- Export functionality to generate detailed reports for further analysis or tax purposes.

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#### File Organiser

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#### **Abstract**

The Python file organizer is a powerful tool designed to streamline the process of managing and organizing your files. With its intuitive interface and robust functionality, it offers a range of features to help you keep your files in order. One of the key features of the file organizer is its ability to automatically sort files based on their type. Whether it's images, documents, videos, or other file formats, the organizer can intelligently categorize them into specific folders. This saves you time and effort by eliminating the need to manually move files around. In addition to sorting, the file organizer also enables you to rename files in bulk. You can create custom naming conventions or use predefined templates to quickly and efficiently rename multiple files at once. This feature is especially useful when dealing with large numbers of files or when you want to maintain a consistent naming structure.

**Keywords:** 1. File management 2. File organization 3. Sorting 4. Folder organization

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#### Voice recorder using python

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#### **Abstract**

This project aims to develop a voice recorder application using language. The system will utilize libraries such as PyAudio and Python programming Wave to capture audio input from the microphone, save the recorded audio as a WAV file, and provide functionalities for playback and deletion of recordings. The user interface will be implemented using Tkinter to create a simple and intuitive experience for users. The project will focus on demonstrating how Python can be used to create a practical audio recording tool with basic features for personal use or small-scale applications.

**Keywords:** Voice Recorder, Python Audio input, Microphone, WAV file, Playback, Tkinter and Audio recording

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#### **Online Shopping**

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#### **Abstract**

Online shopping has revolutionized the retail industry by enabling customers to purchase goods and services from the convenience of their homes. This transformation has led to the development of complex software systems designed to handle online transactions, inventory management, and customer service efficiently. Python, known for its versatility and powerful capabilities, has become a favored language for creating these e-commerce solutions due to its extensive libraries, frameworks, and user-friendly nature. This paper delves into the implementation of an online shopping system using Python, with a focus on essential components such as web development frameworks, database management, user authentication, payment processing, and front-end design. It provides a comprehensive overview of the development process, emphasizing the use of Python's Django framework for back-end development, SQLite for database management, and the integration of third-party payment gateways like Stripe or PayPal. Additionally, the paper addresses challenges encountered during development, including security concerns, scalability issues, and the need for a seamless user experience.

**Keywords:** Online shopping, Retail industry, E-commerce solutions, Python programming, Software development, Web development frameworks, Database management, User authentication, Payment processing, Front-end design, Django framework, SQLite, Third-party payment gateways, Stripe, PayPal, Security concerns, Scalability issues, User experience, Theoretical insights, Practical examples

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#### Chocolate factory management system Akshaya, Siddu, Mmd Fahad zehen, Arvind

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#### **Abstract**

The chocolate Factory Management system is an efficient software Application designed to Streamline and optimize chocolate production This system provides a user friendly interface For managing and Monitoring inventory, production, and distribution of chocolate products. With the chocolate factory management system, user can easily manage Raw materials track Production processes, and monitor sales activities in Real time. Overall the chocolate Management system is a comprehensive Solution that helps chocolate manufacturers increase Efficiency and Profitability while reducing operational costs.

**Keywords:**- management; chocolate industry; Swot analysis; Operation; policies

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## Zoo Management System Mesa Navindra, Sai Revanth Reddy, Jadhav Gopal, Nisa Afreen

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#### **Abstract**

This project, zoo management system's goal is to create a tool for zoo administrators to store information about their zoo on a computerized database system. Talking about the features of this System, a user can add animal records by providing the name of the animal, cage number, feed number, and breed. Then the user can also edit the records. For certain purpose, he/she can also search for the records which displays the animal details. He/she can also view all the animal's record list. This simple zoo management system provides the simplest management of zoo animals. The information of the zoo can only be edited or deleted by the admin.

Keywords: zoo management system, zoo administrators, admin

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### Online Food Ordering System

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#### **Abstract**

The advent of technology has revolutionized various aspects of daily life, including how we order food. This paper presents a comprehensive overview of an online food ordering system, designed to streamline the process of ordering meals from restaurants via the internet. The system integrates multiple components such as user interfaces for customers, restaurant management dashboards, and backend servers to handle transactions and data management. The primary objective of this system is to enhance convenience for customers, enabling them to browse menus, place orders, and make payments without physical interaction. For restaurants, it provides a platform to manage orders efficiently, track sales, and analyze customer preferences to improve service delivery. The system also includes features like real-time order tracking, customer feedback mechanisms, and promotional offers, enhancing user experience and engagement. The implementation of this online food ordering system involves the use of modern web development technologies, secure payment gateways, and robust database management systems. User authentication and data security are prioritized to protect sensitive information. This system addresses the growing demand for quick and easy food ordering solutions, driven by changing consumer lifestyles and the increasing penetration of smartphones and internet connectivity.

**Keywords:** Online food ordering, digital transformation, user interface, restaurant management, realtime order tracking, secure payment gateways, customer engagement, data security, web development technologies, consumer convenience.

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#### Simple AI

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#### **Abstract**

As the field of artificial intelligence continues to evolve, there is a growing interest in exploring the capabilities and applications of simple AI systems. This abstract presents an overview of simple artificial intelligence, focusing on its definition, characteristics, and potential impact. Simple AI refers to systems designed to perform specific tasks or functions with minimal complexity, often leveraging rule-based algorithms or basic machine learning techniques. Despite their simplicity, these AI systems have demonstrated remarkable efficacy in various domains, including pattern recognition, decision making, and automation. By prioritizing simplicity and efficiency, simple AI solutions offer cost-effective and accessible alternatives to more complex counterparts, making them particularly appealing for small-scale applications and resource-constrained environments. However, the simplicity of these systems also poses challenges, such as limited adaptability and scalability. This abstract concludes by highlighting the importance of striking a balance between simplicity and sophistication in AI design, emphasizing the need for ongoing research and innovation to unlock the full potential of simple artificial intelligence in addressing real-world problems.

**Keywords:** SimpleArtificialIntelligence, Characteristics, Applications, Rule-based algorithms, Basic machine learning.

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#### **Tourist Spot Finder**

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#### **Abstract**

Tourism is a major industry, and travelers often struggle to find interesting attractions and activities at their destinations. Existing travel guide books and websites provide some information, but tend to be broad and not tailored to individual interests and preferences. This paper presents a novel mobile application called Spot finder that uses personalization algorithms to recommend tourist spots based on the user's location, travel dates, budgets, interests and previous ratings of attractions. Spot finder combines data from crowd sourced review sites, official tourism databases, and location-based social media to build a comprehensive database of points of interest (POIs) spanning museums, parks, restaurants, events and more. Users can filter by category, cost, distance and other criteria. The app applies collaborative filtering techniques to suggest POIs that similar users have enjoyed. A content-based recommender analyzes attraction descriptions to further personalize suggestions.

Keywords: spot finder, travel

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#### **Speed Typing Technology**

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#### **Abstract:**

This paper presents a novel approach to speed typing technology, leveraging advanced algorithms and user interface design to enhance typing efficiency and accuracy. The proposed system incorporates predictive text, gesture recognition, and adaptive learning mechanisms to dynamically adjust to users' typing patterns, resulting in significantly improved typing speed and reduced error rates. Experimental results demonstrate the effectiveness of the proposed approach in enhancing user productivity and user satisfaction.

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#### **Currency Conversion in Python: A Practical Approach**

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#### **Abstract:**

Currency conversion is a common task in various financial and business applications. This abstract presents a practical approach to implementing currency conversion using Python programming language. The process involves accessing real-time exchange rates from external APIs, parsing the data, and performing the conversion calculations. Python offers several libraries such as 'forex python' and 'currency converter' that simplify this task. The implementation includes handling currency symbols, error handling for invalid inputs, and providing flexibility for future enhancements. This abstract outlines the methodology, challenges, and considerations for building a robust currency conversion system in Python, catering to diverse use cases and ensuring accuracy and efficiency.

#### **Keywords:**

Currency conversion

Exchange rates

APIs (Application Programming Interfaces)

Real-time data

Parsing

Calculation

Error handling

Currency symbols

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## Implementation Of Threads, Multithreading Andmultiprocessing Using Python Programming.

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#### **Abstract:**

In this competitive world the implementation of Threads, Multithreading and Multiprocessing using python programming are very useful to save time and to execute tasks concurrently. Both C and python are capable of handling this concepts but they approach them differently due to their nature and design. Threads are a sequence of such instructions within a program that can be executed independently of other codes. Multithreading improves the performance of applications by running tasks simultaneously. In python multiprocessing is used to perform the parallel execution of multiple process. This abstract discusses the advantages and challenges associated with threads, multithreading and multiprocessing in python.it also explores real world applications where these concurrency techniques are beneficial, such as web scraping, data processing or simulations. By understanding and utilizing threads, multithreading and multiprocessing, developers can enhance the performance of python applications.

**Keywords:** web scraping, data processing, simulations and parallel processing join(), start().

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#### **Different Modules And It's Implementation In Python**

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#### **Abstract:**

Now-a-days the scenery of module usage in Python has developed outstandingly over time. In previous days, developers depend heavily on core Python modules like os, sys, and math for basic system operations, file handling, and mathematical computations, respectively. Third-party libraries were less common, and their usage was often limited to specialized domains. However, in modern times, the Python system has observed a multiplication of third-party modules serve a wide range of tasks, from data analysis (scipy, numpy) to web development (Flask, pyramid) and machine learning (scikit-learn, TensorFlow). This move can be credited to the growing popularity of Python across various industries of open-source libraries. As a result, developers now have access to a huge array of modules that efficient development, code reusability, and accelerate project delivery. Furthermore, the apperance of package managers like pip has simplified the process of installing and managing dependencies, further charging the adoption of third-party modules. Consequently, while core Python modules remain crucial, the present-day Python system grow on the extensive utilization of third-party libraries, considering the growth of software development practices and the ever-expanding capabilities of the Python language.

Key Words: Scipy, Numpy, Pandas, Matplotlib, PyTorch, etc...

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# A methodology to implement regular expressions in terms of python programming B.MANASA, P.AKSHAYA GRACE,

#### Y.SIDHARDHA REDDY, K.HARSHAVARDHAN REDDY

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#### Abstract

Nowadays, while many new technologies and methods continue to emerge, regular expressions are incredibly useful for Programmers across various domains. If we consider C libraries, they provides better performance and efficiency for certain cases but in the case of regular expressions, they are more complex and are likely to make errors. Regular Expressions itself is a very difficult topic to deal with , it is important to choose the right Programming language to implement them. In this aspect, Python can be taken into consideration. Like other Programming languages, Python also adopted regular expressions as a feature to provide powerful string manipulation capability. Python has a built-in module "re", a powerful and versatile tool, through which it is more convenient to work with regular expressions directly in Python code. The code written in one language may not be always easily portable to another language. While Python's 're' module provides an interface across platforms and Python versions, ensuring better portability of regex code. It is more efficient and convenient. So it happens to be a popular choice for many developers. Therefore, we can say, Regular expressions in Python provides a powerful way to search, match, and manipulate text patterns.

**Keywords:** Python RegEx, Regular Expressions, REs, regexes, regex patterns, "re" ,validation, processing, string manipulations, backslash problem.

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#### **Efficient Searching: Implementing Binary Search In Python**

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#### **Abstract:**

Efficient searching is crucial in computer science, particularly when dealing with large datasets. Binary search is a widely-used algorithm that significantly reduces search time compared to linear search methods. This paper explores the implementation of binary search in Python, detailing its principles, advantages, and practical applications. By leveraging Python's simplicity and readability, we illustrate how to effectively implement binary search for both iterative and recursive approaches. Additionally, we analyze the algorithm's time complexity, demonstrating its efficiency in various scenarios. The discussion includes practical examples and performance comparisons, providing a comprehensive guide for developers and researchers interested in optimizing search operations in their Python applications.

**Keywords:** Binary Search, Python, Algorithm, Efficient Searching, Iterative Approach, Recursive Approach, Time Complexity, Search Optimization, Computer Science, Large Datasets, Performance Comparison

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#### **Automate Click Tasks With Python: A Practical Guide**

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#### **Abstract:**

Automating repetitive tasks can significantly enhance productivity and efficiency, especially in environments where time-consuming manual interactions are required. This paper presents a practical guide to automating click tasks using Python, providing a step-by-step approach for developers and enthusiasts. We explore various libraries and tools, such as PyAutoGUI and Selenium, which facilitate the automation of mouse movements and clicks. The guide includes detailed instructions on setting up the environment, scripting automated tasks, and handling common challenges. By illustrating real-world examples, we demonstrate how automated click tasks can streamline workflows and reduce the potential for human error. This comprehensive resource aims to empower users with the knowledge and skills needed to implement effective automation solutions in their Python projects.

**Keywords:** Automation, Python, Click Tasks, Productivity, PyAutoGUI, Selenium, Mouse Movements, Scripting, Workflow Optimization, Human Error Reduction, Practical Guide, Task Automation, Environment Setup, Real-World Examples

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Crafting Visual Artistry: Exploring Photo Manipulation In Python

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#### **Abstract:**

Crafting Visual Artistry: Exploring Photo Manipulation in Python delves into the creative realm of digital imagery through Python programming. This abstract outlines an exploration of various techniques and methodologies for manipulating photos using Python libraries such as OpenCV, Pillow, and NumPy. The journey begins with an overview of foundational concepts in image processing, progressing to advanced techniques like filtering, blending, morphing, and transformation. Through Python's versatility and robust libraries, practitioners can navigate the intricate landscape of visual artistry, from enhancing simple snapshots to crafting complex compositions. The abstract encapsulates the essence of leveraging Python's computational power to dissect, transform, and reimagine digital images, fostering a deeper understanding of the intersection between technology and artistic expression. Whether a novice or seasoned coder, this exploration promises to inspire and empower individuals to embark on their own creative journey in the captivating realm of photo manipulation.

**Keywords:** Python, Photo Manipulation, OpenCV, NumPy

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#### **Creating Interactive Map With Python**

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#### **Abstract:**

This paper presents a comprehensive guide to creating interactive maps using Python, focusing on techniques, libraries, and tools available for developers and data scientists. Interactive maps offer dynamic visualization capabilities, enabling users to explore spatial data in an engaging and intuitive manner. The paper begins by discussing the importance of interactive maps in various domains such as urban planning, environmental analysis, and data visualization. It then provides an overview of popular Python libraries such as Folium, Plotly, and Bokeh, which facilitate the creation of interactive maps with different levels of complexity and customization. The guide covers fundamental concepts including data manipulation, geospatial data visualization, and integration with web frameworks for building interactive applications. Additionally, advanced topics such as incorporating real-time data, interactive overlays, and geospatial analysis are explored. Through code examples and step-by-step tutorials, readers will gain practical insights into harnessing the power of Python to create compelling interactive maps for diverse purposes. Finally, the paper discusses challenges, best practices, and future directions in the field of interactive map development with Python.

**Keywords:** Python, Libraries, Interactive Maps

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#### **Python Powered File Sharing App**

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Puli sri vishnu

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#### **Abstract:**

"PyShare" is a Python-based file sharing application designed to simplify the process of sharing files securely and efficiently. With its intuitive user interface and robust backend functionality, PyShare offers users a seamless experience for exchanging files of any size or format. The application leverages Python's versatility and extensive libraries to ensure cross-platform compatibility and optimal performance. Users can easily upload files from their local storage or provide a link to files hosted elsewhere. PyShare employs advanced encryption techniques to safeguard the privacy and integrity of shared data, ensuring that only authorized recipients can access the files. PySha key features include real-time notifications, allowing users to track the status of their file transfers and receive alerts upon completion. Additionally, the application offers customizable sharing options, enabling users to set access permissions and expiration dates for shared files. One of PyShare's standout features is its support for large file transfers, thanks to its efficient file chunking and parallel processing capabilities. This ensures fast and reliable transfer speeds even for files of considerable size. Furthermore, PyShare prioritizes user experience by providing a clean and intuitive interface that simplifies the file sharing process. Whether for personal or professional use, PyShare offers a convenient solution for individuals and teams seeking a secure and efficient file sharing platform. In summary, PyShare combines the power of Python programming with usercentric design principles to deliver a versatile, secure, and user-friendly file sharing experience.

**Keywords:** Pyshare, Python, Sharing, Storage

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Advancements And Innovations In Applied Python Programming: Techniques, Tools, And Applications

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**Abstract:** 

The field of applied Python programming continues to evolve, offering innovative solutions and advancements across various domains. This conference aims to bring together researchers, developers, and practitioners to discuss the latest techniques, tools, and applications in Python programming. Topics will span from data science and machine learning to web development, automation, and beyond. Attendees will gain insights into cutting-edge methodologies, best practices, and real-world implementations that demonstrate Python's versatility and power. Through a series of keynote speeches, technical sessions, and hands-on workshops, participants will have the opportunity to explore new horizons in Python programming, network with industry experts, and collaborate on future projects. This conference promises to be a valuable platform for sharing knowledge and fostering innovation in the ever-growing Python community.

**Keywords:** Python Programming, Applied Python, Data Science, Machine Learning, Web Development, Automation, Innovative Solutions

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#### **Bank Employee Management System**

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#### Abstract:

The purpose of this Python code is to provide a system for managing bank employee details. It allows users to input information such as employee names, ages, job titles, salaries, and departments. The code then stores this information in an organized manner and provides functionally to view and manage and employee details. This system aims to streamline the management of bank employee information and improve efficiency in maintaining accurate records. The system will be designed to provide a user friendly interface for administrators to easily add, edit, and delete employee records. It will also include functionalities for monitoring employee attendance through automated time tracking and generating comprehensive reports for analysis. Performance evolution modules will facilitate the assessment of employee productivity and effectiveness, aiding in decision making processes related to promotions, rewards, and training opportunities.

**Key Words:** managing employee data, attendance tracking, payroll management, streamlining operations, engaging employees

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#### **Artificial Intelligence For Education And Teaching**

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#### Abstract:

Password has been a predominating approach for user authentication to gain access to restricted resources. The main issue with password is its quality or strength, i.e. how easy (or how hard) it can be "guessed" by a third person who wants to access the resource that you have access to by pretending being you. In this paper, we review various metrics of password quality, including one we proposed, and compare their strengths and weaknesses as well as the relationships between these metrics. We also conducted experiments to crack a set of passwords with different levels of quality. The experiments indicate a close positive correlation between the difficulty of guessing and the quality of the passwords. A clustering analysis was performed on the set of passwords with their quality measures as variables to show the password quality groups.

**keywords:** Artificial intelligence, Education, Fingerprint recognition, Intelligent classrooms, Robotics

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## Machine Learning For Global Food Security - Analyze It's Working And Convey Changes

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#### Abstract:

Food insecurity has become one of the major global issues in present times. To overcome this, national and international communities have taken various strategies to ensure continuous food production, food supply, and food safety. However, achieving sustainable food security globally is an intricate task, as it depends on several factors, such as rising population, falling water tables, increasing soil erosion, lack of fertile cultivation land, climate change, flattening yields, unethical practices in agriculture, war-threatened supply chain, and short space of time available for preparation. Over the years, several research and development initiatives have been carried out to investigate these issues and mitigate them for moving toward a strong viable food security system. This paper provides a concise overview of the recent advancements in fighting against food insecurity using machine learning (ML) technologies from the perspectives of climate change, sufficient food production, food safety, and nutrient food supply. At last, this paper ends by highlighting the shortcomings of the current approaches and providing future direction in adopting ML for global food security. ML techniques are widely adopted in the food security field for their in-credible ability of fast learning. They have shown revolutionary improvements in several food security data analytics. The aim of this paper is to motivate researchers to investigate, analyze and carry out experiments to solve the issues related to agriculture and food security.

Keywords:: Machine Learning, Deep Learning, Data Analytics, Food Security, Heterogeneous data

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#### Paper Evaluation By Using Python

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#### Abstract:

One of the biggest challenges of online teaching is student evaluation. With the students not being physically present, assessing their level of knowledge on a subject presents different challenges than those traditionally encountered in face-to-face teaching. In this paper we present an overview of different evaluation systems and reflect about its advantages and disadvantages when applying them in online environments. The most common evaluation systems: multiple-choice, open question exams, essays, projects and oral exams, are ranked depending on several criteria. Criteria include items that any professor should take into consideration such as easiness of design and preparation or difficulty of student cheating. The advantages and downsides of each evaluation system are presented and several mechanisms to mitigate the disadvantages of each method are proposed. This paper is helpful to professors and teachers, particularly in the current situation where the covid-19 pandemic has moved high-education teaching online.

**Keywords:** Online; evaluation systems; exams; cheating; individual assessment

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#### **Artificial Intelligence: The Future**

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#### Abstract:

Artificial intelligence is the intelligence of machines or software, as opposed to the intelligence of humans or animals. It is also the field of study in computer science that develops and studies intelligent machines. "AI" may also refer to the machines themselves. AI is not a new for the scientist, it was introduce in 1943 with artificial neurons model and get popular in 1950 due to "Turting test" the test was done to get answer that machine can think?, purposed by Alan Turing. Basically AI is categorized into three types, Artificial Narrow Intelligence, Artificial General Intelligence and Artificial Super Intelligence. DL as a subset of ML, which is also another subset of AI. Therefore, AI is the all-encompassing concept that initially erupted. Application of AI fields are Healthcare, Business, Education, Agriculture, Finance, Law, Entertainment and media, Software coding and IT processes, Security, Manufacturing, Banking and Transportation. In reference to Job creation or distraction, Artificial Intelligence is not job killer but a job category killer". In the latest report (May 2023) on The Future of Jobs, the World Economic Forum (WEF) predicts the creation of 69 million jobs by 2027 thanks to AI, but also the destruction of 89 million jobs. India is emerging market in global and it has around 12 % of work could be automated by AI. In India more than 2000 startup are related to AI and 90000 plus AI Professional work in India. The economic impact of AI, for select G20 countries and estimates AI to boost India's annual growth rate by 1.3 percentage points by 2035. AI has potential to add 1 trillion to India's economy in 2035. We are going to enter into new technological world, it's may be our fortune misfortune .**Keywords**: batting, bowling, stumps, boundaries

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#### Machine Learning Based Evaluations of Stress, Depression And Anxiety

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#### Kanthayapalem Advaith

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#### Abstract:

In this paper, prediction of the occurrence of psychological problems such as anxiety, depression and stress has been made by applying machine learning algorithms to data taken from the online DASS42 tool. Five different severity levels of anxiety, depression and stress have been predicted using eight algorithms. Depression and anxiety are common problems and require attention as the yarise daily. Both conditions have close to similar symptoms and are highly likely to affect someone at the sametime. They are both treatable but require high commitment from the patient to recoverfully. Different scholars and health institutions have studied the two conditions to find out more about why and how they occur hence finding a lasting solution. Stress is the natural reaction your body has when changes or challenges occur. It can result in many different physical, emotional and behavioural responses. Everyone experiences stress from time to time. You can't avoid it. But stress management techniques can help you deal with it. The prediction accuracy found by using the hybrid algorithm was greater than by using single algorithms, but the highest accuracy was found by use of the radial basis function network, which comes under the category of neural network.

Keywords: machine learning algorithm, DASS42, tool, stress, depression and anxiety

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Eye Sight Prediction By Using Ai- Analyze It's Working And Convey Changes

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#### Abstract:

Ophthalmology field was among the first to adopt artificial intelligence (AI) in medicine. The availability of digitized ocular images and substantial data have made deep learning (DL) a popular topic. At the moment, AI in ophthalmology is mostly used to improve disease diagnosis and assist decision-making aiming at ophthalmic diseases like diabetic retinopathy (DR), glaucoma, age-related macular degeneration (AMD), cataract and other anterior segment diseases. However, most of the AI systems developed to date are still in the experimental stages, with only a few having achieved clinical applications. There are a number of reasons for this phenomenon, including security, privacy, poor pervasiveness, trust and explain ability concerns. This review summarizes AI applications in ophthalmology, highlighting significant clinical considerations for adopting AI techniques and discussing the potential challenges and future directions.

**Keywords**: Artificial intelligence, Ophthalmology, Diabetic retinopathy, Glaucoma, Age-related macular degeneration

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## Analysing The Implementation Of Machine Learning In Healthcare Md. Ubaidur Rahman, Narendla Nihal, Nagula Sathwik, Mothe Pranitha

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#### Abstract

The implementation of machine learning (ML) in clinical settings reflects the promising opportunities for improving the delivery of healthcare. Private healthcare businesses are considering and utilizing the development of ML in the process of decision making, adopting and supporting medical fields. This strong subcategory of AI appears familiar in several cases like the use of speech recognition by voice assistants, and the creation of personalized medical experiences. This report aims to critically analyse the implementation of ML in the healthcare industry by understanding how ML is revolutionizing the industry and what its full potential is for the industry.

**Keywords:** Industries, Business, Biomedical imaging, Machine learning, Diseases

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### Analysis Skin Health Patterns In Highlands Area With Apriori And Bayes Contributions

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#### **Abstract**

The skin is a sensitive part of the human body and is most often noticed by humans, especially women. The condition of the skin itself varies for each person. This is due to the age, profession, for both those who spend a lot of time in the field or who spend a lot of time in the AC room, as well as the climate of the area where they live. This study is devoted to analyze the skin health patterns of people living in highland areas, where highland areas are basically in hot weather conditions but cold and humid air and strong winds. This dramatically affects the state of the skin of the humans. Researchers are trying to educate the people of the highland area that with the environmental conditions in the highlands, the community of the people over there must be more active in taking care of their skin. The analysis was carried out using by a priori and Bayes algorithms. Where a priori will form a pattern of rules from the results of the data obtained, and Bayes will calculate the value of confidence or the value of trust from the regulations that are formed. After the analysis was carried out, one of the rules was that people with an adult age of 20 to 60 years who lived in Tiga Arrow Village with a profession as a farmer and had a moisturizer level on their skin <30%, then the skin condition tended to be very dry with a group of confidence, namely the confidence value. By 80.6% with the support of 68.3% of the total data.

Keywords: skin, health

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#### Study Of Diabetes – Diabetes Prediction Using Machine Learning

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#### Abstract:

Globally, diabetes affects 537 million people, making it the deadliest and the most common noncommunicable disease. Many factors can cause a person to get affected by diabetes, like excessive body weight, abnormal cholesterol level, family history, physical inactivity, bad food habit etc. Increased urination is one of the most common symptoms of this disease. People with diabetes for a long time can get several complications like heart disorder, kidney disease, nerve damage, diabetic retinopathy etc. But its risk can be reduced if it is predicted early. In this paper, an automatic diabetes prediction system has been developed using a private dataset of female patients in Bangladesh and various machine learning techniques. The authors used the Pima Indian diabetes dataset and collected additional samples from 203 individuals from a local textile factory in Bangladesh. Feature selection algorithm mutual information has been applied in this work. A semi-supervised model with extreme gradient boosting has been utilized to predict the insulin features of the private dataset. SMOTE and ADASYN approaches have been employed to manage the class imbalance problem. The authors used machine learning classification methods, that is, decision tree, SVM, Random Forest, Logistic Regression, KNN, and various ensemble techniques, to determine which algorithm produces the best prediction results. After training on and testing all the classification models, the proposed system provided the best result in the XGBoost classifier with the ADASYN approach with 81% accuracy, 0.81 F1 coefficient and AUC of 0.84. Furthermore, the domain adaptation method has been implemented to demonstrate the versatility of the proposed system.

**Keywords:** AdaBoost, android Application, decision tree, diabetes, K-nearest neighbour, random forest, support vector machine.

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## Labour Market Prediction By Using Machine Learning P. Anudeepreddy, P. Harshitha, P. Adithya, P. Prashanth

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#### **Abstract:**

Skill shortages are a drain on society. They hamper economic opportunities for individuals, slow growth for firms, and impede labor productivity in aggregate. Therefore, the ability to understand and predict skill shortages in advance is critical for policy-makers and educators to help alleviate their adverse effects. This research implements a high-performing Machine Learning approach to predict occupational skill shortages. In addition, we demonstrate methods to analyze the underlying skill demands of occupations in shortage and the most important features for predicting skill shortages. For this work, we compile a unique dataset of both Labor Demand and Labor Supply occupational data in Australia from 2012 to 2018. This includes data from 7.7 million job advertisements (ads) and 20 official labor force measures. We use these data as explanatory variables and leverage the XGBoost classifier to predict yearly skills shortage classifications for 132 standardized occupations. The models we construct achieve macro-F1 average performance scores of up to 83 per cent. Our results show that job ads data and employment statistics were the highest performing feature sets for predicting year-to-year skills shortage changes for occupations. We also find that features such as 'Hours Worked', years of 'Education', years of 'Experience', and median 'Salary' are highly important features for predicting occupational skill shortages. This research provides a robust datadriven approach for predicting and analyzing skill shortages, which can assist policy-makers, educators, and businesses to prepare for the future of work.

**Keywords**: Economics, Productivity, Force measurement, Force, Machine learning, Big Data.

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#### Traffic Prediction For Intelligent Transportation Systems Using Machine Learning

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#### Abstract

This paper aims to develop a tool for predicting accurate and timely traffic flow Information. Traffic Environment involves everything that can affect the traffic flowing on the road, whether it's traffic signals, accidents, rallies, even repairing of roads that can cause a jam. If we have prior information which is very near approximate about all the above and many more daily life situations which can affect traffic then, a driver or rider can make an informed decision. Also, it helps in the future of autonomous vehicles. In the current decades, traffic data have been generating exponentially, and we have moved towards the big data concepts for transportation. Available prediction methods for traffic flow use some traffic prediction models and are still unsatisfactory to handle real-world applications. This fact inspired us to work on the traffic flow forecast problem build on the traffic data and models. It is cumbersome to forecast the traffic flow accurately because the data available for the transportation system is insanely huge. In this work, we planned to use machine learning, genetic, soft computing, and deep learning algorithms to analyse the big-data for the transportation system with much-reduced complexity. Also, Image Processing algorithms are involved in traffic sign recognition, which eventually helps for the right training of autonomous vehicles.

Key Words: Machine learning algorithms, Machine learning, Prediction algorithms, Roads

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## Study Of Covid-19 – Covid-19 Detection Using Machine Learning T. Voishnavi, T. Spiio, Voshwanth Boddy

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#### Abstract:

At the end of the year 2019, the world was hit by a drastic pandemic known as COVID-19. The lack of treatment has prompted research in all sectors to address it. Contributions in Computer Science mainly include the development of methods for the diagnostic testing, recognition, and assessment of COVID-19 cases. The most widely used techniques in this fields are data science and machine learning(ML). This provides a new framework for computer Aided Diagnosis System for COVID-19(CADS-COVID-19) using the collected blood test data from patients. CADS Consists of two main stages, which are: (1) the features selection and extraction stage and (2) Disease Detection Stage. In the first stage, two statistical first-order features were extracted and added to the patient's blood test data to improve the classification accuracy then grey wolf Optimizer(GWO) was applied to select the most meaningful features. Then the selected features are classified as normal or COVID-19 by applying a machine learning classification algorithm, in the step the performance of K-Nearest Neighbor (KNN) and support vector machine (SVM) algorithms were compared. Therefore, KNN and SVM are the most used classifiers in the medical field, SVM got the highest accuracy percentage with more than %95.

**Keywords:** Artifical intelligence, COVID-19, Feature selection, GWO, Higher education, KNN, Meta-heuristic, Pandemic, Patient classification, SVM

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Ground Level Water Prediction Using Machine Learning
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#### **Abstract:**

TheDeveloping accurate soft computing methods for groundwater level (GWL) forecasting is essential for enhancing the planning and management of water resources. Over the past two decades, significant progress has been made in GWL prediction using machine learning (ML) models. Several review articles have been published, reporting the advances in this field up to 2018. However, the existing review articles do not cover several aspects of GWL simulations using ML, which are significant for scientists and practitioners working in hydrology and water resource management. The current review article aims to provide a clear understanding of the state-of-the-art ML models implemented for GWL modeling and the milestones achieved in this domain. The review includes all of the types of ML models employed for GWL modeling from 2008 to 2020 (138 articles) and summarizes the details of the reviewed papers, including the types of models, data span, time scale, input and output parameters, performance criteria used, and the best models identified. Furthermore, recommendations for possible future research directions to improve the accuracy of GWL prediction models and enhance the related knowledge are outlined.

**Keywords:** State-of-the art, Machine learning, Ground water level, Input parameters, Prediction performance, Catchment sustainability

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#### Random Pin Generator

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#### **Abstract:**

A random pin generator is a tool that generate a unique and random set of numbers of security purposes like creating passwords or verifying identities. Its handy tool to ensure your information stays safe. It is a super cool tool whenever you need a random pin this generator has got your back. It is a combination of numbers, alphabets, special characters. It enhance security and protect sensitive information. The basic information about random pin generator is it is a software or hardware device that takes input from a random or pseudo-random number generator and automatically generates a password.

Keywords: pin, password

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#### **Qr Code Generator**

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#### Abstract:

A QR code generator is a sophisticated tool or software application designed to create Quick Response (QR) codes, which are two-dimensional barcodes that can be read by smartphones and specialized QR code readers. These QR codes store data in a matrix format, which allows for quick and reliable scanning, even if the code is partially damaged. OR code generators have become essential in various fields due to their ability to encode different types of information, such as URLs, contact details, plain text, email addresses, phone numbers, and even Wi-Fi network credentials. This versatility makes them a powerful tool for businesses, marketers, and individuals seeking to share information efficiently and interactively. The technology behind QR codes involves the use of error correction algorithms, which ensure that the encoded information can be accurately retrieved even if the QR code is partially obscured or damaged. QR code generators often allow users to customize their codes, offering options to adjust the size, color, and design. This customization can help integrate QR codes seamlessly into branding and marketing materials. In marketing, QR codes are widely used to direct customers to websites, promotional content, or to facilitate easy contact information sharing. They are also used in ticketing systems for events, providing a quick and contactless way to verify entry. In the realm of authentication and security, QR codes can be employed for multi-factor authentication processes, enhancing security measures. The implementation of QR code generators can be achieved through various programming languages and platforms, including Python, JavaScript, and Java, among others. These generators can be standalone applications, web-based services, or integrated into mobile apps.

**Keywords:** QR, Application, Scanning

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#### **Grade Calculator**

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#### **Abstract:**

Grade calculator takes input from the user for marks obtained in assignments, projects and final exams. It then validates the input and calculates the weighted average of the marks, where assignments are worth 30%, projects are worth 30% and the final exams worth 40%. The program then outputs the final grade based on the weighted average. The program also checks for invalid inputs and provides an error message if necessary. The Python-based grade calculator is a computational tool designed to assist students and educators in efficiently calculating and projecting academic grades. The program allows users to input scores for various assessments, define their respective weightages, and calculate the overall grade for a course. By employing a user-friendly interface and robust calculation algorithms, the program can handle different grading scales and provide accurate GPA calculations. The flexibility of the Python programming language enables customization to suit diverse educational systems and grading policies. The grade calculator not only aids in tracking academic performance but also offers insights into potential future grades, helping users to strategize and improve their academic outcomes.

Keywords: Python, Grade, Calculator, GPA

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#### **Bank Management System**

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#### Abstract:

The Bank Management System in Python is a comprehensive software solution designed to streamline banking operations and enhance customer experience. It incorporates a range of functionalities such as account management, transaction processing, customer authentication, and data security measures. The system employs modular programming techniques to ensure maintainability and extensibility, allowing for easy integration of additional features and customization according to specific bank requirements. At its core, the system enables customers to perform various banking tasks including account creation, funds transfer, balance inquiries, and transaction history retrieval through a user-friendly interface. Additionally, it provides administrators with tools for managing customer accounts, monitoring transactions, generating reports, and enforcing security protocols to safeguard sensitive information. Key components of the system include user authentication mechanisms to ensure secure access, data encryption techniques to protect confidential information, and error handling mechanisms to handle exceptions gracefully and maintain system integrity. The system may utilize file-based storage or database management systems for efficient data storage and retrieval, depending on scalability and performance requirements. Overall, the Bank Management System in Python offers a robust, scalable, and customizable solution for banks and financial institutions to streamline their operations, improve customer service, and maintain data security in an increasingly digital banking environment.

Key Words: Bank Management System, Python, Banking Operations, Customer Experience, Account Management, Transaction Processing, Data Security, Modular Programming

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#### **Safety Alarm To Detect Drowsiness Of Driver**

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#### Abstract:

Driver drowsiness is a major contributing factor to road accidents worldwide, posing a significant threat to public safety. To address this issue, we propose a real-time drowsiness detection system designed to monitor driver alertness and mitigate the risk of accidents caused by drowsy driving. Our system utilizes a combination of computer vision techniques and machine learning algorithms to analyze driver behavior and physiological signals in real-time. The system's core component is a camera-based eye tracking module that captures and analyzes the driver's eye movements, such as blink rate, eye closure duration, and gaze direction. The model takes input from the eye tracking module and physiological sensors, leveraging their combined features to make accurate predictions in realtime. The proposed drowsiness detection system holds immense promise in the automotive industry, contributing to the development of advanced driver assistance systems and autonomous vehicles. By mitigating the dangers associated with drowsy driving, this technology can save lives, reduce injuries, and make our roads safer for everyone.

**Key Words:** Drowsiness detection ,Safety alarm ,Human eye ,Sleepiness detection , Sensor sound alarm.

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#### **Password Generator System**

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#### Abstract:

This project "PASSWORD GENERATOR SYSTEM" aims to help easily generate random, strong passwords. This is a simple based project which is very easy to understand and use. Taking about this project, it contain alphabet, numbers, and symbols. A password generates a random combination of numbers, letters, and symbols to be used as password. It is a tool that generators passwords based on the given guidelines that you set to create an unpredictable strong password for your accounts. The password generator tool creates a random and customized passwords for users that helps them to create a strong password which provides greater security. Having a week password is not good for a system that demands high confidentiality and security of users credentials. It turns out that people find difficult to make up a stong password that is strong enough to prevent unauthorized users from memorizing it. To prevent sophisticated hackers from getting into your accounts, you need to use a random password generator to keep your accounts safe.

**Key Words:** Unpredictable, Credentials, Sophisticated, Unauthorized, Guidelines, Customized, Demands, Confidentiality

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#### **Contact Management System**

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#### **Abstract:**

This project "CONTACT MANAGEMENT SYSTEM" aims to develop a Python-based contact management system with a user-friendly interface. This is a simple GUI based project which is very easy to understand and use. Talking about the system, it contains all the required functions which include adding, viewing, deleting and updating contact lists. While adding the contact of a person, he/she has to provide first name, last name, gender, address and contact details. The user can also update the contact list if he/she wants to. For this, the user has to double-click on a record that he/she wishes to edit. The system shows the contact details in a list view. And also the user easily delete any contact details. The GUI will be created using Tkinter, ensuring accessibility. SQLite will handle database management for scalability. Contacts can be searched by name, email, or tags. Custom tags enable flexible categorization. Data backup and synchronization features will be included for data integrity. Python's versatility will ensure robustness and extensibility. A contact management system is a software application that is designed to organize and manage your contact information. The system prioritizes scalability, maintainability, and user experience. The system table can also be updating the contact list if he/she double click the row of that particular data. It targets individuals and organizations seeking efficient contact organization.

Key Words: Management system, Interface, Tkinter, User-friendly, Viewing, Deleting

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#### **Employee Management System**

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#### **Abstract:**

This project "EMPLOYEE MANAGEMENT SYSTEM" aims to create a Database-driven Employee Management in python that will store the information in the MySQL Database. The idea is that we perform different changes in our employee Record by using different functions for example the Add\_Employee will insert a new row in our Employee, also, we will create a Remove Employee Function which will delete the record of any particular existing employee in our Employee table, we will also create a Promote Employee Function which will promote the any particular existing employee in our Employee table. This system works on the concepts of taking the information from the database making required changes in the fetched data and applying the changes in the record which we will see in our Promote Employee System. We can also have the information about all the existing by using the Display Employee function. The main advantage of connecting our program to the database is that the information becomes lossless even after closing our program a number of times.

**Key Words:** Check Employee Function ,Add Employee ,Remove Employee ,Promote Employee ,Display Employee

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#### **Bus Reservation System**

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#### Abstract:

The Bus Reservation system is an essential tool for managing and organising bus ticket reservation efficiently. This project to develop a comprehensive Bus Reservation System Using python programming Language. The system provides a user-friendly interface for passengers to book tickets. Check seat availability, and make payments securely. Additionally, it offers administrative functionalities for bus operators to manage routes, schedules, and monitor bookings. The system is designed to enhance the overall experiences for both passengers and administrators. Passengers can easily search for available buses based on their preferred routes and timings. They can select seats. view fare details, and complete the booking process seamlessly. Payment integration ensures secure transactions, adding convenience and trust to the system. For administrators, the system offers a centralized platform to manage various aspects of bus operations. They can add, edit or delete routes and schedules, adjust seat availability, and monitor bookings in real-time. Additionally, comprehensive reporting features enable administrators to analyse booking trends, revenue generation, and optimise bus operations for better efficiency. The Bus Reservation system developed in python offers a robust solution for streamlining bus ticket reservations. Enhancing user experience, and improving operational efficiency for bus operators. This project contributes to the advancement of transportation management systems by leveraging modern technologies and software development practices.

**Key Words:** Bus Reservation system , Ticket Booking , Seat Availability , Payment Integration , Route Management , Schedule Management , Administrative Functions , Passengers Experience.

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#### **Develoing A Dance Chaenge Game Using Python**

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#### Abstract:

This project aims to develop a dynamic and interactive dance challenge game utilising Python programming language. The game merges entertainment with technology, offering users an engaging platform to showcase their dance skills while enjoying a fun and competitive atmosphere. Leveraging Python's versatility and simplicity, the game will incorporate features such as real-time motion tracking, user-friendly interfaces, and customizable dance routines. Through integration with libraries like OpenCV and Pygame, players will interact with the game through gestures and movements captured by a webcam, enhancing user immersion and gameplay experience. Additionally, the game will include functionalities for multiplayer challenges, score tracking, and social sharing, fostering a sense of community and competition among players. By combining programming proficiency with creative expression, this project aims to provide an innovative and entertaining approach to dance gaming using Python.

**Key Words:** Dance challenge ,Python programming ,Motion tracking ,Gesture recognition ,Webcam integration ,Game development ,OpenCVPy ,gameMultiplayer ,Score tracking ,Social sharing ,Creative expression ,Interactive gameplay ,Entertainment ,Competition.

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# Fitness Tacking And Planning M. Chitra, K. Harini, M. Siddu, N. Bhagawath

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#### **Abstract:**

The Python Fitness Tracker project aims to revolutionize the way individuals approach their fitness goals by offering a comprehensive solution for tracking and planning. Leveraging the power of Python programming language, the project integrates various features including activity logging, goal setting, personalized workout routines, dietary monitoring, and progress visualization. The project's architecture encompasses a user-friendly interface built with frameworks like Tkinter or PyQt for seamless interaction. A robust backend powered by SQLite or MongoDB ensures efficient storage and management of user data. Advanced algorithms for data analysis will be implemented to provide users with insightful recommendations based on their progress and preferences. The Python Fitness Tracker project seeks to empower users to take control of their fitness journey by providing them with a flexible, intuitive, and customizable platform. With an emphasis on usability and personalization, the project aims to cater to the diverse needs and preferences of individuals striving for a healthier lifestyle. Through this project, we aim to contribute to the growing field of health technology, promoting wellness and enabling users to achieve their fitness goals with ease and efficiency.

**Key Words:** Python ,Fitness Tracker ,Tracking ,Planning ,Health Technology ,User Interface ,Data Management ,SQLite.

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#### Multiplayer Game

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#### **Abstract:**

In this multiplayer game, players immerse themselves in a dynamic virtual world where strategic prowess, teamwork, and quick thinking are paramount. Set against a backdrop of diverse landscapes and scenarios, participants engage in adrenaline-fueled battles, collaborative quests, and skill-based challenges. From sprawling fantasy realms to futuristic dystopias, the game offers a range of environments to explore, each teeming with hidden treasures, formidable adversaries, and unexpected twists. As players navigate this ever evolving universe, they forge alliances, form rivalries, and unleash their creativity through customizable avatars and personalized playstyles. Whether embarking on epic quests as a valiant hero, mastering arcane spells as a powerful mage, or outmaneuvering foes as a cunning rogue, every choice shapes the outcome of the game. With seamless integration of cutting-edge technology and intuitive gameplay mechanics, this multiplayer experience delivers unparalleled immersion, fostering a vibrant community of gamers united by their shared passion for adventure, competition, and camaraderie

**Key Words:** Collaboration ,Competition ,Teamwork ,Strategy ,Adventure ,Quests ,Battles, Customization

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#### **Movie Recommendation System Based On Emotions**

#### Rohit Kumar, Sp Madhav, Pandilla Rajesh, Rajinni Sandeep

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#### **Abstract:**

This project presents a simple emotion-based movie recommendation system using Python and Flask, focusing on Indian movies. The system allows users to input their current emotion, and it returns a list of recommended Indian movies that align with the provided emotion. The movie data is categorized based on common emotions such as sadness, anger, enjoyment, etc., and stored in a Python script. The Flask web application handles user input through a web form, processes the emotion to retrieve corresponding movie recommendations, and displays them on a webpage. This project demonstrates the integration of web development with basic data handling and provides a foundation for more advanced recommendation systems.

**Key Words:** Python, Movie-Recommendations-system, emotion-based-Recommendati -ns, Flask web application, Movie, Web Development, Data Handling, User input, HTML templates, Web Forms.

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#### **Python Contact Book**

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#### **Abstract:**

The Phonebook Mini Project in Python is designed to create a simple digital phonebook application that allows users to store, retrieve, update, and delete contact information. The project utilizes fundamental concepts of Python programming, including data structures like dictionaries or lists, file handling for persistence, and basic user input/output operations. The project aims to provide a user-friendly interface where users can add new contacts with details such as name, phone number, and email address. Additionally, users can search for contacts by name or phone number, update existing contacts, delete unwanted contacts, and view the entire phonebook.

**Key Words:** Add Contact: Insert a new contact into the phone book. Search Contact: Find a contact by name or phone number. Update Contact: Modify the details of an existing contact. Delete Contact: Remove a contact from the phone book. View All Contacts: Display all contacts stored in the phone book

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#### Weather App Api

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#### **Abstract:**

In the contemporary era of digitalization, access to real-time weather information is crucial for individuals and businesses alike. This abstract presents an overview of developing a Weather App API in Python, catering to the needs of developers seeking to integrate weather data into their applications. The Python Weather App API harnesses the power of various weather data providers like OpenWeatherMap, WeatherAPI, or Weatherstack to deliver accurate and up-to-date weather forecasts. Leveraging Python's versatility and rich ecosystem of libraries such as Requests and JSON, developers can seamlessly interact with these APIs to retrieve weather data. The core functionalities of the Weather App API include: 1. Data Retrieval: The API enables fetching weather data for a specific location, including current conditions, forecasts, and historical weather data. 2. Geocoding: Utilizing geocoding services, the API translates location names or coordinates into geographical data, facilitating precise weather queries etc.

**Key Words:** Python, Weather App, API, OpenWeatherMap, Weatherstack, JSON, Geocoding, Data Retrieval, Scalability, Error Handling.

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#### Mobile App For Task Mannagement

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#### **Abstract:**

A mobile app for task management helps users organize, prioritize, and track their tasks efficiently on the go. It typically includes features like task creation, categorization, setting deadlines, reminders, collaboration tools, and progress tracking. The app aims to streamline workflow and boost productivity by providing a centralized platform for managing tasks anytime, anywhere.

**Key Words:** Task management ,To-do list ,Productivity ,Time management ,Reminders ,Collaboration ,Deadline tracking ,Prioritization ,Progress tracking ,Synchronization

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# Random Password Generator Using Python Vishu Vardhan, Ashwanth Patel, Prachitha Reddy, Minihas

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#### **Abstract:**

In the digital age, safeguarding sensitive information is paramount, with password security serving as a frontline defense against unauthorized access. This abstract explores the development and efficacy of automatic password generators (APGs) in bolstering cybersecurity measures. By employing algorithms and cryptographic techniques, APGs produce complex and randomized passwords, mitigating the vulnerabilities associated with predictable and easily guessable passwords. This paper delves into the key functionalities and design principles of APGs, emphasizing their ability to generate unique and resilient passwords tailored to various security requirements. Additionally, it examines the impact of APGs on user behavior and usability, highlighting the balance between security and accessibility. Through a comprehensive analysis of existing research and implementation strategies, this abstract elucidates the role of APGs in fortifying digital defenses and fostering a culture of proactive cybersecurity practices. Keywords: Automatic Password Generator, Cybersecurity, Password Security, Cryptography, Algorithms, User Behavior, Usability.

**Key Words:** Automatic Password Generator ,Password Security ,Cybersecurity ,Cryptography ,Randomized Passwords ,Algorithms ,User Authentication ,Strong Passwords ,Authentication Mechanisms ,Entropy-Based Password Generation ,Password Strength ,Secure Access ,Password Policy Enforcement ,User Privacy ,Usability Constraints

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#### **Website Blocker Using Python**

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#### **Abstract:**

In today's digitally saturated world, maintaining focus and productivity can be challenging amidst the allure of endless online distractions. To address this issue, the development of a website blocker program using Python presents an innovative solution. This project aims to create a customizable and user-friendly tool that empowers individuals to regulate their internet usage effectively. By leveraging Python's versatility and accessibility, the program enables users to designate specific websites to be inaccessible during predetermined periods, allowing for uninterrupted concentration on tasks at hand. Through a streamlined user interface, users can effortlessly input their desired blocking parameters, including the target websites and the duration of the blocking intervals. Implementation involves employing techniques such as modifying the system's host file or utilizing browser extensions to enforce the blocking rules effectively. Moreover, the program facilitates seamless configuration and persistence across system reboots, ensuring consistent operation over time. Additionally, a notification system may be integrated to keep users informed about impending blocking periods, thereby aiding in better time management and task planning. Ultimately, this website blocker program serves as a valuable tool in promoting productivity, enhancing focus, and fostering healthier digital habits in an increasingly connected world.

Key Words: Host path, redirect ip, is working hours.

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#### **Online Voting System**

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#### **Abstract:**

We are developing an online voting system by taking advantage of the Centralized database with a web interference. The main concept of this project is to build a website, which should be able to allow people to cast their vote by online. A receipt of the vote will be sent to the user on their respective E-mail ID'S. The advantage of online voting is that the voters have the choice of voting at their own free time and there is reduced congestion. It also minimizes on errors of vote counting. Control of the process is entirely in the hands of computer and cannot be manipulated by any others. Integrity of the results is guaranteed; preventing the chance of false voting it is one of the greatest advantage for NRI'S and others who lives outside the county they can vote on online by our software.

Key Words: Online voting, Voters, OVS, Technology

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#### **Weather Forecasting Using With Python**

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#### **Abstarct:**

Weather forecasting is essential for various industries and daily activities, aiding in decision-making processes and risk mitigation. With the advancement of technology and the availability of vast amounts of data, Python has become a popular tool for weather forecasting due to its versatility and extensive libraries. This paper provides an overview of weather forecasting techniques and demonstrates how Python can be utilized for this purpose. It discusses data acquisition, preprocessing, model selection, and evaluation methods commonly used in weather forecasting. Furthermore, it presents case studies and practical examples of implementing weather forecasting models using Python, showcasing its effectiveness and applicability in real-world scenarios. Overall, this paper aims to highlight the significance of Python in weather forecasting and encourage further exploration and development in this field.

Weather forecasting plays a vital role in numerous sectors including agriculture, transportation, and disaster management. With the advancement of technology, computational methods, and availability of data, Python has emerged as a powerful tool for weather prediction and analysis. This paper explores the implementation of weather forecasting using Python, focusing on data acquisition, preprocessing, model development, and visualization techniques. Various Python libraries such as NumPy, Pandas, Matplotlib, and scikit-learn are utilized for data manipulation, analysis, and model training. Additionally, machine learning algorithms including linear regression, decision trees, and neural networks are employed for predictive modeling. The integration of Python with external APIs for real-time data retrieval further enhances the accuracy and reliability of weather forecasts..

**Keywords:**, Grade, Calculator, GPA

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## Grocery Store Management System - Enhance Operational Efficiency And Customer Satisfaction

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#### **Abstract:**

The demand for efficient grocery store operations has escalated in recent years, driven by the need to manage inventory, sales, and customer relationships more effectively. Traditional grocery store management relied heavily on manual processes, which were often time-consuming and prone to errors. The Grocery Store Management System (GSMS) addresses these challenges by digitizing and automating key store operations. GSMS offers real-time inventory monitoring, automated restocking, and point-of-sale (POS) integration to streamline transactions. Additionally, it includes customer relationship management features such as loyalty programs and personalized promotions, enhancing customer retention and satisfaction. By leveraging data analytics, GSMS provides valuable insights that assist store managers in making informed decisions, reducing operational costs, and boosting overall store performance. This paper explores the architecture, functionalities, and benefits of the GSMS, illustrating its transformative impact on grocery store management.

**Key Words:** grocery store management, inventory monitoring, point-of-sale, customer relationship management, automation, data analytics.

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#### Farmer Profit And Loss Data Management System

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#### **Abstract:**

In the agricultural sector, effective management of profits and losses is crucial for sustaining farm operations and ensuring the livelihood of farmers. This abstract presents a comprehensive overview of a Farmer Profit and Loss Management System (FPLMS) designed to address the varied challenges faced by farmers in optimizing their financial outcomes. The FPLMS encompasses a suite of integrated tools and methodologies aimed at enhancing the financial decision-making process throughout the agricultural value chain. Key components include financial record-keeping systems, crop yield forecasting models, cost analysis modules, market trend analysis, and risk management strategies. Through the utilization of modern technologies such as data analytics, machine learning, and remote sensing, the FPLMS provides farmers with real-time insights into their financial performance, enabling proactive decision-making and risk mitigation. By leveraging historical data and predictive analytics, farmers can anticipate market fluctuations, optimize resource allocation, and maximize profitability The implementation of the FPLMS is not only beneficial at the individual farm level but also contributes to the overall resilience and sustainability of the agricultural sector. By promoting financial literacy, improving resource efficiency, and reducing economic vulnerabilities, the FPLMS plays a crucial role in fostering economic development, food security, and poverty alleviation in rural communities.

**Keywords:** Farmer profit and Loss, Agricultural Financial Performance, Risk Management, Yield Forecasting

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#### ATM Transaction

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#### **Abstract:**

These days, Python be a popular picking' for making ATM transcactions simpler. This abstract checks out how Python can add changes' things like signing' in, handling' accounts, and processing' actions. We use simple instances to demonstrate how Python makes these tasks swift and secure. Python be stellar for ATM systems because it be easy to uphold, can grow along with' the system, and is perfect for testing' new notions. This abstract elaborates why Python be a good match for construction' safe, efficient ATM systems. By perusing' this, any critter keen on creating' modern ATM systems can learn how Python can assist them reaching' their objectives effectively.

**Keywords:** ATM transactions, User authentication, Account management, Transaction processing, Security, Ease of maintenance, Scalability, Prototyping, Modern ATM systems

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**Artificial intelligence: the future** 

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#### Abstract:

Artificial intelligence is the intelligence of machines or software, as opposed to the intelligence of humans or animals. It is also the field of study in computer science that develops and studies intelligent machines. "AI" may also refer to the machines themselves. AI is not a new for the scientist, it was introduce in 1943 with artificial neurons model and get popular in 1950 due to "Turting test" the test was done to get answer that machine can think?, purposed by Alan Turing. Basically AI is categorized into three types, Artificial Narrow Intelligence, Artificial General Intelligence and Artificial Super Intelligence. DL as a subset of ML, which is also another subset of AI. Therefore, AI is the all-encompassing concept that initially erupted. Application of AI fields are Healthcare, Business, Education, Agriculture, Finance, Law, Entertainment and media, Software coding and IT processes, Security, Manufacturing, Banking and Transportation. In reference to Job creation or distraction, Artificial Intelligence is not job killer but a job category killer". In the latest report (May 2023) on The Future of Jobs, the World Economic Forum (WEF) predicts the creation of 69 million jobs by 2027 thanks to AI, but also the destruction of 89 million jobs. India is emerging market in global and it has around 12 % of work could be automated by AI. In India more than 2000 startup are related to AI and 90000 plus AI Professional work in India. The economic impact of AI, for select G20 countries and estimates AI to boost India's annual growth rate by 1.3 percentage points by 2035. AI has potential to add 1 trillion to India's economy in 2035. We are going to enter into new technological world, it's may be our fortune or misfortune.

Key Words: - Artificial Intelligence, Machine learning, Job, India

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# Multiple Disease Prediction System Using Machine Learning R puneeth, R Charitha Reddy, Sashalat, P. Sathwika

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#### **Abstract:**

In recent years, the rapid advancement of machine learning(ML) techniques has enabled significant progress in the field of medical diagnostics. This paper presents the development and evaluation of a multiple disease prediction system utilizing ML algorithms. The system is designed to predict the likelihood of various diseases based on patient data, including demographics, clinical history, and laboratory results. By employing a combination of supervised learning methods, such as decision trees, support vector machines, and neural networks, the model achieves high accuracy in disease prediction. The integration of feature selection techniques ensures the most relevant data points contribute to the model, enhancing its predictive power. Additionally, this system offers a user-friendly interface for healthcare providers, facilitating early diagnosis and personalized treatment plans. The results demonstrate that the proposed system can effectively predict multiple diseases, outperforming

traditional diagnostic methods and providing a valuable to olfor improving patient outcomes.

**keywords:** Multi-Disease Diagnosis, Data Analytics ,Medical Data Mining ,Electronic Health Records

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#### Study Of Random Password Generation And Security S. Surya, S. Sajusha, T. Aravind, T. Goutham,

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#### **Abstract:**

A random password generator is an essential tool in cybersecurity, designed to create strong, unpredictable passwords that enhance the security of digital accounts and systems. Utilizing algorithms that produce sequences of characters—comprising letters, numbers, and special symbols—these generators ensure that passwords are resistant to common hacking techniques, such as brute force attacks and dictionary attacks. The strength of a randomly generated password lies in its complexity and lack of discernible patterns, making it significantly harder for unauthorized entities to guess or crack. Implementing random password generators is crucial for individuals and organizations alike, as it mitigates the risks associated with weak, easily guessable passwords, thereby safeguarding sensitive information and resources. In addition to improving security, random password generators offer convenience and efficiency. They eliminate the challenge of devising unique and robust passwords manually, which can be a daunting and error-prone task. Many password generators also integrate seamlessly with password management systems, enabling users to store and retrieve their passwords securely without the need to remember them. This integration not only enhances user experience but also promotes the adoption of better password practices across various platforms. Overall, random password generators play a pivotal role in reinforcing cybersecurity measures, balancing the need for strong security with user-friendly solutions that simplify password management.

**Keywords:** Cybersecurity, Password Strength, Unpredictable Passwords, Algorithms, Complexity, Password Management, Password Cracking, Secure Passwords

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#### House price prediction using Al

#### B. Yadav, B. Manish, B. Harshitha, B. Ashritha

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#### Abstract:

Machine Learning plays a virtual role from past years in normal speech command, product recommendation as well as in medical field also. Instead of this it provides better customer services and safer automobile system. This all of things shows that ML is trending technology in almost all fields so we are trying to coined up ML in our project. Nowadays the real estate market is a standout amongst the most focused regarding pricing and keep fluctuating. People are looking to buy a new home with their budgets and by analysing market strategies. But main disadvantage of current system is to calculate a price of house without necessary prediction about future market trends and result is price increase. So, the main aim of our project is to predict accurate price of house without any loss. There are many factors that have to be taken into consideration for predicting house price and try to predict efficient house pricing for customers with respect to their budget as well as also according to their priorities. So, we are creating a housing cost prediction model. By using Machine learning algorithms like Linear Regression, Decision Tree Regression, K-Means Regression and Random Forest Regression. This model will help people to put resources into a bequest without moving towards a broker. The result of this research provide that the Random Forest Regression gives maximum accuracy.

**Key words**: House Price Prediction, Machine Learning Model, Support Vector Regression.

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#### **Stock Market Prediction Using - AI**

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#### Abstract:

Stock market is place where people buy and sell shares of publicly listed companies. Every buyer and seller try to predict the stock market price movements to get maximum profits and minimum losses. Using cutting edge technology such as AI can improve prediction stock price. In the procedure of considering strategies and variables to be considered, we found ML algorithmic such as Random Forest, LSTM, SVM, ANN was not fully utilized. In this model we will introduce and review more a possible way to predict stock movements with high accuracy. The first thing we considered is data of previous year's share market prices, historical prices of currency and commodity market and the historical news headlines. The datasets were pre-processed and prepared for actual analysis. Therefore, our model will also focus on preprocessing of datasets. Second, after processing the datasets earlier, we will review the use of major AI technique for that data and productive results. In addition, the proposed system evaluates the application of the forecast system to the real-world scenario and the problems associated with the accuracy of the total values provided. The high accuracy and profitability were achieved when results of all algorithms are combined and considered all factors affecting the stock prices. Successful valuation prediction of share price can become a big asset for stock market firms and provide real life solutions to the difficulties faced by stock market individual investors have.

Key words: profitability, algorithmic, prediction, individual investors, analysis, market.

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#### **Diabetics Prediction**

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#### **Abstract:**

Diabetes mellitus poses a significant global health challenge, necessitating early detection and intervention to mitigate its impact. This study focuses on developing an online diabetes prediction system using advanced machine learning algorithms. The system leverages a diverse set of input features, including demographic, lifestyle, and clinical data, collected from users through a webbased interface. We evaluate multiple machine learning models, such as logistic regression, decision trees, random forests, and neural networks, to identify the most accurate predictor of diabetes onset. Feature selection methods are employed to enhance model efficiency and clarity by isolating the most influential variables. Our findings reveal that the random forest algorithm, augmented with optimized feature selection, delivers superior predictive performance compared to other techniques. The resulting online tool offers users real-time risk assessments and personalized recommendations for diabetes prevention. This approach underscores the efficacy of integrating machine learning with web technologies to provide accessible, scalable, and accurate health predictions. Further research is warranted to refine the system's algorithms and expand its applicability across diverse populations.

**Keywords:** diabetics, health prediction, online, offline, reports, website.

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Leveraging Machine Learning Algorithms for Breast Cancer Prediction Ana Grace Kathryn. T, A. Sanjana Reddy, T. Ashwin, B. Vamshireddy

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#### **Abstract:**

Breast cancer remains a significant global health concern, demanding accurate and efficient prediction methods to aid in early diagnosis and treatment planning. With the advent of machine learning (ML) techniques, there has been a surge in research exploring the potential of predictive models in breast cancer detection and prognosis. This abstract provides a comprehensive overview of recent advancements in utilizing ML algorithms for breast cancer prediction. The abstract begins byhighlighting the prevalence and significance of breast cancer as a global health concern. It then introduces machine learning as a transformative tool in predicting breast cancer, emphasizing the importance of ML algorithms in leveraging complex patterns within data for accurate predictions. Finally, it outlines future directions, including the integration of multi-omics data and the development of personalized medicine approaches, to further advance breast cancer prediction research. Inconclusion, this abstracts erves as a comprehensive guide to understanding the intersection of machine learning and breast cancer prediction, providing insights into current methodologies, challenges, and future directions in this critical area of research and healthcare.

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**Keywords:** *BreastCancer*, *MachineLearning*, *Prediction*, *Algorithms*.

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#### **AI Virtual Reality Using Python**

#### Ruthick Simha, Bharath, Niyathi, Shiva Prasad,

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#### **Abstract:**

This paper explores the integration of Artificial Intelligence (AI) and Virtual Reality (VR) using Python to create intelligent and immersive virtual environments. By leveraging Python's extensive libraries such as TensorFlow, Keras, and Vizard, the study develops a prototype that demonstrates AI-enhanced VR functionalities, including behavioral realism, personalization, and improved interactivity. The prototype, evaluated through a case study, reveals that AI significantly enhances the realism and engagement of VR experiences. This research underscores the potential of Python as a robust platform for developing advanced AI-driven VR applications, paving the way for innovations in gaming, education, healthcare, and beyond.

This paper investigates the fusion of Artificial Intelligence (AI) and Virtual Reality (VR) using Python to create advanced, interactive virtual environments. Utilizing Python libraries like TensorFlow, Keras, and Vizard, the study develops a prototype showcasing AI capabilities such as realistic behavior simulation, personalization, and enhanced interactivity within VR. Evaluation through user interactions indicates that AI significantly enriches the VR experience, offering more engaging and adaptive environments. The findings highlight Python's effectiveness in developing AI-driven VR applications, with potential applications across gaming, education, and healthcare.

**Keywords**: shopping mall, Customer Experience, Data Analytics, Perishable Goods Management, Stock Replenishment, Inventory Turnover, Cost Efficiency, website.

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#### Study of Numseeker - Analyze It's Working and Convey Changes

#### Mohammed Adil, Mohammed Afsar, Mohammed Khizar

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#### **Abstract:**

The project "NumSeeker" aims to develop a mobile application focused on enhancing numerical fluency and problem-solving skills. Through gamified experiences and interactive challenges, users will navigate a virtual environment to discover hidden numbers, tackle mathematical puzzles, and refine mental arithmetic abilities. The project will prioritize intuitive design and dynamic gameplay to create an engaging and educational platform suitable for users of diverse ages and skill levels. Through iterative development and user feedback, the NumSeeker team seeks to create a compelling tool for fostering mathematical proficiency and cognitive agility in a mobile-friendly format. Existing solutions for identifying numbers, such as those used for detecting spam calls, fraudulent activities, or other suspicious behaviors, often fall short in accuracy and efficiency. NumSeeker addresses these limitations by offering an advanced identification and classification platform specifically designed for numerical data analysis. Utilizing cutting-edge algorithms and a highly intuitive interface, NumSeeker excels in the detection and interpretation of various numerical patterns and anomalies. Its capabilities include real-time identification, detailed analytics, and comprehensive reporting, all aimed at enhancing the detection of unwanted or harmful numbers. This paper proposes NumSeeker as a robust solution that improves accuracy and efficiency in identifying and managing suspicious numbers, thereby providing a significant advantage in areas such as security, telecommunications, and financial services.

**Keywords:***Num seeker, comprehensive reporting, telecommunication, identification number, website.* 

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#### **Notification System For Monitoring Stock Prices**

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#### **Abstract:**

Today, Indian stock prices are booming at a high rate. Therefore, users need keen insight into investing in the markets to enhance investment decision-making. In the present growth of financial markets, monitoring stock prices plays a vital role in making the right decisions regarding investing in stocks and capitalizing on market opportunities. To achieve this, we have developed a novel notification system for monitoring stock prices. This application ensures that investors are empowered with timely updates on stock price movements and alerts regarding the risks involved in investing in stocks. By harnessing the power of today's technology, the monitoring of stock prices helps investors stay ahead of market movements. So, this application leverages the use of closures and decorators in Python. Closures and decorators are powerful tools to enhance the working of this application. By implementing closures and decorators, developers can easily monitor stock prices, deliver timely alerts to users, and troubleshoot logging errors. This approach enhances flexible investments in the stock market and improves investment decision-making.

**Keywords:**, Indian stock prices ,notification system, closures, decorators, alerts

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### Family Expenditure and Income Analysis using Machine Learning algorithms

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#### **Abstract:**

Expenditure analysis should be done by every household to manage all the expenses of the family. Income prediction gives an overview of the income earned by the household to manage all the family's financial needs. Based on the expenses and other required data from the user, the system will predict the user's annual income to meet the expenses. The predicted annual income can be used by the government for initiating policies for the poor people. This prediction task is performed using Decision Tree and Random Forest Regression algorithms, as the data used for this model is continuous. Our proposed Random Forest model predicts with an accuracy of 74.35%. Based on accuracy metrics, our model is compared with Decision Tree, accuracy of 48%. Clearly, the our proposed model is more suitable for classifying than the Decision Tree model. As decision trees are best suitable for predictions based on non-linear data, we cannot depend on a single decision tree for the prediction of income. Bagging technique-based Random forest Regression is made use for the prediction of the income.

**Keywords:**, Indian stock prices, notification system, closures, decorators, alerts

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# Machine Learning and Big Data Implementation on Health Care data Mankala Varenya, Medikonda Aravindh, MohammadAaman Mohammad Khaled

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#### Abstract:

Healthcare is the most prominent field suitable for the applications of machine learning and big data on health care data. The implementations of health care with big data and machine learning is increased with the client health requirements. The electronic health record applications are being increased in this current situation, which is needed to be focused on utilizing the data generated by those applications. There is a large volume of data in health care that is related to different health care domains especially neuro and cardiac. These data need a special focus and the architectures currently focusing on these domains has to implement the latest technologies to predict some patterns. In this article, the implementation of different health care architecture is focussed, which uses live data gathered from different sources over the globe. In this article, machine learning approaches and the big data framework are combined to design a prediction model and data handling techniques.

Key words: Big Data, Medical, Health care, Prediction, Data

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## Smart Cropping based on Prediction Solar Radiation by using IOT and Machine Learning

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#### **Abstract:**

Our world is developing very fast. This fast-paced development needs a lot of energy. Our conventional, non-renewable sources are not enough to satisfy this huge demand. Extensive use of non-renewable sources is primarily responsible for environmental degradation. So, we need to look for renewable resources like solar, wind etc. We should also explore applicability of renewable energy in different sectors like industrial, agricultural etc. Indian agricultural sector is gigantic. It comprises 26% of national GDP. So, developing smart technologies to enhance crop production is extremely necessary for national prosperity. Solar radiation is primary source of energy for the plants. Plants generate energy from solar radiation through photo synthesis. Hence solar radiation plays a vital role in crop production cycle. So, prediction of solar radiation data can be highly beneficial for farmers in optimizing crop production cycle. Predicting solar radiation data and assisting farmers in enhancing crop production with the help of analysed solar radiation data. This system is achieved using an IOT based approach followed by applying machine learning algorithm on the data obtained to predict the solar radiation and hence improve the crop production cycle. The proposed system will offer great help towards agro-economic progress of a country

**Key words:** Solar Energy, Cropping, Internet of Things, Machine Learning, Arduino

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# The Psychology of India's 'Girls': A Perspective Dr. Nirmala Devi M

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#### **Abstract:**

India has one of the fastest growing youth populations in the world. Girls below 19 years of age make up a quarter of India's rapidly growing population in the world. Despite India's reputation for respecting women, to the point of treating them like goddesses, as soon as a child is born, the first thing you think about is "boy or girl"? because the differences go beyond the simple fact that is biological. This paper examines the importance of various psychological structures and important psychosocial issues in the life of a "girl" baby born in our country.

Key words: girl, gender, psychology, population

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Electrochemical energy source devices- a review on Lithium-ion battery

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Abstract:

Electrochemical energy source devices, commonly known as batteries, convert chemical energy into electrical energy through electrochemical reactions. These devices are pivotal in powering a vast array of modern technologies, from small electronic gadgets to large-scale industrial machinery and renewable energy systems. Among various types of batteries, lithiumion (Li-ion) batteries have emerged as the dominant technology due to their superior performance characteristics.

This review focuses specifically on lithium-ion batteries, a technology that has revolutionized energy storage and enabled significant advancements across multiple fields. Since their commercialization in the early 1990s, Li-ion batteries have become the preferred choice for portable electronics, electric vehicles, and even large-scale energy storage solutions due to their high energy density, long cycle life, and low maintenance requirements.

Key words: Lithium-ion battery, energy density.

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## **Human Capital Impact For Sustainable Economic Growth In India**

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#### Abstract:

This study aims to explore the sustainable development of the regional economy from the perspective of human capital. This study first analyzes the interactive coupling mechanism between human capital and sustainable economic growth. Results reveal that Indians human capital and sustainable economic growth gradually increased; the coupling coordination degree of human capital and sustainable economic growth changed from a state of mild imbalance to slight coordination; sustainable economic growth lagged human capital development; education scale, innovation capacity, and medical health & cultural environmentlevel are the key factors affecting sustainable economic development. Through the above research, the study puts forward policy suggestions conducive to sustainable development in India.

**Key words:** Human Capital, Sustainable economic growth, education scale, innovation capacity, medical health and cultural environment.

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## **Learners' Friendly Pronunciation Patterns**

#### Mr. Laxmikanth Gaddam

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#### Abstract:

English is the only language that has become need of the hour in today's globalized context. The language has received the status of prime means of communication in all the nooks and corners of the world. No one is exempted to use English in either formal situations or informal situations. The articulation of words plays a vital role for the intelligibility of English usage. Pronunciation refers to the way of uttering/articulating speech sounds. As the main purpose of language is communication, it can be attained mainly through proper pronunciation, following appropriate word stress patterns and intonation. Hence, the aptness in use of pronunciation rules makes our language comprehensible to others. So, apart from grammar, spelling, one has to concentrate on pronunciation also. Particularly in English, where there is no one to one correspondence between word and sound, and which follows the time stress rhythmic pattern demands more attention on pronunciation. Unfortunately, it is the most ignored area in language classes. Linguists understood its importance and developed International Phonetic Alphabet (IPA) to standardize its pronunciation. The language learners now have to concentrate on the speech sounds (vowels and consonants) i.e. phonemes. This paper attempts to elaborate the essential approaches to enhance pronunciation patterns.

**Keywords:** Articulation, intelligibility, correspondence, IPA, speech sounds (phonemes)

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# Utilizing Electrochemical Techniques for Efficient Corrosion Rate determination P. Bharathi

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#### **Abstract:**

Corrosion, the degradation of metals due to their interaction with the environment, possess significant challenges in various industries. This study explores the application of electrochemical techniques for the determination of corrosion rates. This study focuses on electrochemical techniques that offer a faster and more efficient way to determine corrosion rates. A sample of the material is immersed in an electrolyte solution mimicking its real-world environment. This creates an electrochemical cell. The instrument measures the voltage between the sample and a reference electrode, indicating the material's natural tendency to corrode. Techniques like potentiodynamic polarization involve applying a small voltage range to the sample. This accelerates the corrosion process and allows for measurement of the resulting current. By analysing the current vs voltage data (often plotted as a Tafel plot), scientists can extract the corrosion current density. Using the Faraday's constant, material properties, and exposure time, the corrosion current density is converted into a corrosion rate, typically expressed as millimetre penetration per year (mpy) or micrometres per year ( $\mu$ m/y). This approach offers a relatively quick way to assess corrosion compared to traditional weight loss methods

**Key words:** corrosion, electro chemical techniques, electro chemical cell, current density.

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Eradicating Queer: The Violence of Heteronormativity in the Indian Academia

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#### Abstract:

This paper critically examines the oppression and institutional violence against individuals with nonnormative sexualities and non-confirming gender identities in the Indian academia. The violence of heteronormativity, according to Moya Lloyd, constructs and controls bodies based on the normative notions of sex, gender, and sexuality, facilitated by an ideological, institutional, and organizational framework, in the social, political, and cultural discourses. Despite being the centre of the dissemination of knowledge and its role as an enabling discourse, academia replicates the patterns of oppression in social discourses. Following Lloyd, I argue that the violence inflicted on individuals transcending the normative boundaries of gender and sexuality in Indian academia is 'heteronormative violence', which reinforces the institution of heterosexuality and gender dichotomy. The paper employs extracts from biographic and autobiographical narratives of violence against queer individuals in the academic space, policy documents of administration, the architecture of higher educational institutes, and newspaper reports on violence against queer people, to scrutinize the discursive strategies used by the Indian academia to fit them into the dominant discourse, to maintain heterosexual hegemony. Through an intersectional lens, the paper further analyzes heteronormative violence along multiple axes of identities like caste, class, religion, and disability.

**Keywords:** Heteronormative Violence, Heterosexual Hegemony, Non- Normative Sexualities, Intersectionality, Gender dichotomy

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## A Review Permeable Pavements and Groundwater Recharge

### Swapna Darna

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#### Abstract:

Permeable pavements represent a sustainable approach to urban infrastructure, offering significant benefits in storm water management and groundwater recharge. These pavements, which include porous asphalt, pervious concrete, interlocking pavers, grass pavers, and plastic grid systems, allow water to infiltrate through their surface and percolate into the underlying soil. This process reduces surface runoff, mitigates flooding, and enhances the replenishment of groundwater supplies.

Additionally, permeable pavements help filter pollutants, improving groundwater quality, and can mitigate urban heat island effects. Key considerations for their implementation include soil type, climate, maintenance requirements, load-bearing capacity, and cost. Environmental and regulatory factors also play crucial roles, with many regions promoting the use of permeable pavements through incentives and standards. Overall, permeable pavements are a crucial component of green infrastructure, contributing to more resilient and sustainable urban environments.

**Keywords:** Permeable pavements, groundwater recharge, stormwater management, urban flooding, porous asphalt, pervious concrete, permeable interlocking pavers, sustainability, urban water resources.

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## Optimizing Crop Performance: Foliar Strategies for Improved Resilience under Stressful Environments

#### R.M. Mastan Shareef

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#### Abstract:

This study investigates the impact of foliar application of nutrients and growth regulators on physiological traits under water stress conditions in finger millet (Eleusine coracana L. Gaertn). Conducted at the Agricultural College Farm, Bapatla, during the rabi season of 2022-23, the experiment employed a Randomized Block Design with eight treatments, including a control group subjected to no stress (irrigation as needed) and various foliar treatments applied during water stress at the flowering stage. Physiological parameters such as Crop Growth Rate (CGR), Leaf Area Index (LAI), Relative Water Content (RWC), and SPAD Chlorophyll Meter Readings (SCMR) were assessed at post-flowering. Results revealed significant variations in physiological traits among different foliar treatments. Notably, the treatment combining 19:19:19 NPK @ 2%, Brassinosteroid (Double 0.04% a.i.) (0.5 ppm), and Salicylic Acid (100 ppm) (Consortia - T8) exhibited the most promising outcomes, with values comparable to the irrigated control. This treatment demonstrated superior CGR, LAI, RWC, and SCMR, suggesting its effectiveness in mitigating the adverse effects of water stress on finger millet. The study concludes that foliar application of the specified nutrient and growth regulator combination holds potential for enhancing physiological aspects and, consequently, improving yield under water stress conditions in finger millet. The findings lay a foundation for further research into foliar strategies for crop resilience across diverse crops and stress environments.

**Keywords**: Foliar application, consortia, nutrients, growth regulators, finger millet, Eleusine coracana, water stress, physiological traits, Crop Growth Rate (CGR), Leaf Area Index (LAI)

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## Navigating the Post-COVID Landscape: Impacts on Indian Education and Teachers

#### Mrs. L. Rama Devi

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#### **Abstract:**

The COVID-19 pandemic has triggered a seismic shift in every aspect of society, with education being no exception. In India, where the education system was already grappling with various challenges, the pandemic exacerbated existing issues and brought forth new ones. Among those most affected are the educators, who have been forced to adapt rapidly to the changing landscape while facing unprecedented challenges. This article explores the multifaceted impacts of the post-COVID era on Indian education and the teaching community. One of the most significant changes brought about by the pandemic is the widespread adoption of online learning. With schools and colleges closed to curb the spread of the virus, educators had to quickly transition to virtual classrooms. This shift has posed numerous challenges, including access to technology, internet connectivity issues, and the need for digital literacy among both teachers and students. Additionally, the digital divide has widened, with students from marginalized communities bearing the brunt of inadequate access to online education.



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## An Overview On Classification Of Fiber Optic Sensors

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#### Abstract:

In this world of Automation, the usage of SENSORS is being widely found in day-to-day life. May it be the light sensors, pressure sensors, motion sensors, position sensors, and many more, their applications at every place are extensively found in this era of Modern Technology. As an extension to this, this paper presents the concept of "FIBER OPTIC SENSORS" which offers many advantages over the conventional Electronic Sensors in use. These Fiber Optic Sensors have light-weight, small size, high sensitivity, robustness, flexibility and many more features that makes them more advanced in their usage. Fiber Optic Sensors can be used for sensing various Physical parameters like strain, pressure, temperature, chemical composition, intensity, etc. This Sensing is accomplished by the usage of Optical Fibers through which Light travels, undergoes various changes in parameters like wavelength, phase, Intensity, polarization, etc. of the Light (usually Laser) travelling through the Fiber, in response to the external perturbations that are to be sensed. There are wide variety of Fiber Optic Sensors which can be classified into various types and in this paper, a small overview on Classification of Fiber Optic Sensors is being discussed in detail after a thorough reference of various research Papers being published in this regard.

#### **Key words:**

Fiber Optic Sensors; Classification; Optical Fiber; Core; Cladding; Total Internal Reflection; Critical Angle; Intrinsic; Extrinsic; Phase; Operating Principle; Intensity; Polarization; Physical Sensors; Magnetic Field sensors.

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## Study of Structural and Optical properties of Dip-Coated V<sub>2</sub>O<sub>5</sub> Thin Film on Glass Substrate

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#### **Abstract:**

Vanadium oxide (V<sub>2</sub>O<sub>5</sub>) thin films were prepared on glass substrates by simple dip-coating technique using vanadium pentaoxide as a starting material, then dip coated with V<sub>2</sub>O<sub>5</sub> solution at a withdrawal speed of 2 cm/min. The films were allowed to dry at room temperature. The prepared films were annealed for one hour at various temperatures—450, 550 C. Using X-ray diffraction (XRD), the crystallinity of the V<sub>2</sub>O<sub>5</sub> films was investigated. The orthorhombic structure of the V<sub>2</sub>O<sub>5</sub> thin films, with a preferred orientation along the (100) direction, was proven to be polycrystallin by the XRD pattern. The surface morphology of the films was studied with SEM, the optical and electrical properties of the V<sub>2</sub>O<sub>5</sub> thin films were investigated using with UV-visible spectrophotometry. The optical results indicate that when the annealing temperature increased, the optical bandgap was observed to decrease. For V<sub>2</sub>O<sub>5</sub> thin films, the optical bandgap, and crystallite size has been explained.

Key words: Vanadium oxide, thin film, dip coated, annealing temperature, surface morphology



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### **Human Resource Management and Talent Development**

#### M. Sahasi

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#### Abstract:

Human Resource Management (HRM) and Talent Development are integral components of organizational success, shaping the capabilities, motivation, and engagement of the workforce. This abstract explores the key principles, practices, and implications of HRM and Talent Development in modern organizations. It delves into the evolving landscape of HRM, encompassing strategic workforce planning, recruitment, performance management, and employee relations. Similarly, Talent Development initiatives are examined, including training, coaching, leadership development, and succession planning. The abstract highlights the importance of HRM and Talent Development in driving organizational performance, fostering innovation, and enhancing employee satisfaction and retention. Furthermore, it discusses emerging trends such as technology adoption, diversity and inclusion, and agile workforce strategies, which are reshaping the practice of HRM and Talent Development. Ultimately, this abstract emphasizes the critical role of HRM and Talent Development in building a skilled, motivated, and adaptable workforce capable of driving organizational excellence in a dynamic and competitive business environment.

**Key words**: *shaping the capabilities, motivation,* workforce strategies

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# Construction Of Variance – Sum Third Order Slope Rotatable Design Using Doubly Balanced In Complete Block Designs

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#### **Abstract:**

Designs which are used for the study of response surfaces are called response surface designs response surface methodology usually adopts sequential procedure our objective here is to rapidly and efficiently lead the experimenter to the general vicinity of optimum. Response Surface Methodology (RSM) is a collection of mathematical and Statistical techniques useful for analysing experiments where the yield is believed to be influenced by one or more controllable factors. Box and Hunter (1957) introduced rotatable designs in order to explore the response surfaces. The analogue of Box – Hunter Rotatability criterion is a requirement that the variance of  $\delta y^{\Lambda}(x)/\delta x$  ibe constant on circle (v=2), sphere (v=3) or hyper spheres (v=4) at the design origin. These estimates of the derivatives would then be equally reliable for all points  $(x_1, x_2, x_3, ..., x_v)$  equidistant from the design origin. This property is called as slope rotatability (Hader and park-1978). Anjanelyulu et al (1995 & 2000) introduced Third Order Slope Rotatable Designs. Anjaneyulu et al (2004) introduced and established that TOSRD(OAD) has the additional interesting property the sum of variance of estimates of slope in a in all axial directions at any point is function of the distance of the point from the design origin. In this paper we made an attempt to Construction of Variance- Sum Third Order Slope Rotatability Design Using Doubly Balanced In complete Block Designs.

**Keywords:** Response Surface Methodology, Third Order Slope Rotatable Design, TOSRD(OAD), Variance – Sum Third Order Slope Rotatable Design.

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Synthesis and Characterization of Cd substituted Co Nano ferrites by citrate-gel auto combustion method

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#### **Abstract:**

Nano-crystalline Cadmium substituted Cobalt ferrites with chemical formula Cd<sub>x</sub>Co<sub>1-x</sub>Fe<sub>2</sub>O<sub>4</sub> (where X=0.0, 0.1, 0.2, 0.3, 0.4, 0.5 and 0.6) were synthesized by the citrate-gel auto combustion method. Synthesized powders were sintered at 500°C for four hours in air and characterized by XRD, SEM, EDS, FTIR. X-ray diffraction (XRD) analysis showed cubic spinel structure of the ferrites and the values of lattice constant (a) and x-ray density (d<sub>x</sub>) increased with the increase of Cd content. The surface morphology of the samples was observed by scanning electron microscopy. An elemental composition of the sample has studied by energy dispersive spectroscopy, the Fourier transformation infra-red spectra shows the two significant absorption bands is around the wave numbers range of 400 and 600 cm<sup>-1</sup> arising due to the inter-atomic vibrations in the tetrahedral and octahedral coordination compounds. In the Dc conductivity measurements the decreases of resistivity with increases of temperature then the conductivity increases with increases of temperature.

**Keywords:** Co-Cd Nano ferrites; citrate-gel auto combustion Technique; XRD; SEM; FTIR; DC Resistivity.

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## Lead and Lead-Dioxide coatings on CRCA-Ni Substrates

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#### Abstract:

In this research work coatings of Lead and Lead-Dioxide on CRCA sheets plated with Nickel were observed using engineered coating solutions. Coating thickness was measured by varying time, Current input and bath concentrations. Formed Pb and PbO<sub>2</sub> coating thickness, strength and stability were studied using different methods. Active material shelf life test was also conducted for the substrate. Pb and PbO<sub>2</sub> substrates were used as anode and cathode respectively in reserve battery manufacturing. These substrates were finally blanked accordingly for construction of the desired reserve battery.

**Key Words:** Pb coating, PbO<sub>2</sub> coating, Stability, Shelf life, Battery



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Fiber Optic Comunication System : A Review

#### K Ramesh Babu

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#### Abstract:

Fiber optic communication system is the perfect choice of transmitting data from gigabits to terabits. It uses light wave technology to transmit information over the fiber by converting analog signal into light signal. The feature of fibre optic communication system is sending several wavelengths trough the 1300 nm to 1600 nm range of a fibre simultaneously. The paper explains various optical fiber based components including dense wavelength division multiplex(DWDM) system. It analyses main advancements of fiber optic communication system and trend towards next era.

Key words: Optical Fiber, band width, light wave technology, DWDM

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## A Study On Urea Phthalic Acid Single Crystals With Lasers

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#### **Abstract:**

The optically good quality Urea Phthalic acid single crystals have been grown at room temperature by Slow Evaporation method. The seed crystals were grown firstly, then they were recrystallized three times and highly transparent crystals were harvested. The grown crystals have been characterized by Kurtz – perry Powder technique using Nd: YAG Laser to find the efficiency of Second Harmonic Generation (SHG) which is one of the Nonlinear Optical properties and such crystals can be used in many Optoelectronics applications. The efficiency of SHG of Urea Phthalic was found to be 1.2 times that of KDP crystals. The grown crystals have also been characterized with Laser Damage Threshold studies. A Q-Switched Nd: YAG Laser beam of wavelength 1064 nm with the pulse width rate of 10 ns was used. The value of Laser Damage Threshold has been determined as 1.804 GW / cm². The large value of Laser Damage Threshold of Urea Phthalic crystal confirms that these crystals are the good candidature for high power frequency conversion applications and high diffusing photochemical applications.

Keywords: Laser, Second Harmonic Generation, Laser Damage Threshold, Optoelectronics.

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## "Novel Catalyst Formulation For Efficient Carbon Capture And Storage"

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#### Abstract:

The novel catalyst formulation presented herein offers a transformative solution to the challenges facing carbon capture and storage (CCS) technologies. Through meticulous design and integration of advanced materials and innovative strategies, the formulation significantly enhances CO2 capture efficiency, selectivity, and stability. Supported by tailored support structures and functional promoters, the catalyst exhibits improved resistance to deactivation, optimal mass transport kinetics, and enhanced catalytic activity for CO2 conversion. This breakthrough invention holds promise for revolutionizing the scalability, cost-effectiveness, and environmental sustainability of CCS initiatives, marking a pivotal advancement in the global effort to mitigate climate change and secure a more sustainable future.



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# Structural and Luminescence properties of Ho<sup>3+</sup>-Doped Zinc-Aluminium-Sodium-Phosphate Glasses

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#### Abstract:

Trivalent holmium doped Zinc-Aluminium-Sodium-Phosphate glasses were prepared by conventional melt-quenching technique and characterized for their structural and luminescence properties. The amorphous nature, elemental analysis and thermal stability of the glasses were studied by using X-ray diffraction, energy dispersive spectrum and differential scanning calorimetry analysis, respectively. Vibrational analysis of the structural groups in the glasses was carried out by Fourier transform infrared spectra. The absorption and fluorescence spectra have been recorded at room temperature. Based on the absorption spectra, the Judd-Ofelt parameters and radiative parameters such as spontaneous transition probabilities ( $A_R$ ), branching ratios ( $\beta_R$ ), radiative lifetimes ( $\tau_R$ ) were calculated and discussed. From the emission spectra emission peak posions ( $\lambda_P$ ), effective bandwidths ( $\Delta\lambda_{eff}$ ) and stimulated emission cross-sections ( $\sigma_P$ ) were calculated for the observed emission transitions,  ${}^5S_2$  ( ${}^5F_4 \rightarrow {}^5I_8$ ) and  ${}^5F_5 \rightarrow {}^5I_8$  in all the glass samples. The stimulated emission cross-section is higher for 1 mol% glass matrix and so it may be useful for laser excitation.

**Key words**: *Judd-Ofelt intensity parameters; thermal stability; amorphous nature; branching ratios; stimulated emission cross-section.* 

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## A Reflective Journaling Approach to Language Learning with Indian Cinema

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#### Abstract:

This research investigates the efficacy of Indian cinema, popularly known as Bollywood, as a tool to enhance language acquisition and track progress through reflective journaling. We explore how the rich tapestry of narratives, vibrant dialogues, and cultural intricacies woven into Indian films can foster vocabulary development, comprehension, and fluency in a dynamic and immersive way. The study proposes a framework that integrates film viewing with a structured journaling process. Following engagement with a selected film, learners will utilize their journals to capture key linguistic takeaways. This reflection might involve: Identifying and recording newly encountered vocabulary, Deconstructing sentence structures and grammatical elements employed in the film, Analyzing the emotional impact of specific dialogues or phrases, Contrasting and comparing the film's language use with their current understanding. By consistently journaling these observations, learners establish a personalized record of their language development journey. This record serves as a valuable tool for self-assessment, allowing them to pinpoint areas of strength and weakness and tailor their learning strategies to achieve continued progress. This approach leverages the inherent entertainment value of Indian films while fostering a deeper appreciation for the associated culture. The paper concludes by discussing potential limitations of the method and outlining avenues for further exploration within this exciting intersection of film, language learning, and self-reflective journaling.

**Key words**: Bollywood, self-assessment, phrases, Contrasting and comparing.

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## Insight into mechanism of excellent visible-light photocatalytic activity of CuO/MgO/ZnO nanocomposite

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#### **Abstract:**

In the realm of environmental remediation, there has been a surge in interest in innovative approaches for wastewater treatment, capturing the attention of researchers worldwide. Our study focuses on advancing sustainable and practical methods for treating wastewater. We present the synthesis of a CuO/MgO/ZnO nanocomposite using sol-gel techniques, followed by comprehensive characterization using advanced analytical methods including FTIR, SEM, TEM, PL, XRD, Raman, and AFM. The SEM, TEM, and AFM analyses shed light on the surface morphology of the nanocomposite in both 2D and 3D, confirming its well-dispersed nature. FTIR spectroscopy identified the characteristic functional groups responsible for the Cu–O, Mg–O, and Zn–O reactions. XRD analysis provided insight into crystal size, dislocation density, and microstrain. Photoluminescence spectroscopy was employed for optical studies. Subsequently, the nanocomposite was tested against methylene blue, a toxic organic dye. The rate constants (k) for the nanocomposite components – CuO, CuO/MgO, CuO/ZnO, and CuO/MgO/ZnO – were calculated as 2.48 × 10<sup>-3</sup> min<sup>-1</sup>, 2.04 × 10<sup>-3</sup> min<sup>-1</sup>, 1.82 × 10<sup>-3</sup> min<sup>-1</sup>, and 2.00 × 10<sup>-3</sup> min<sup>-1</sup>, respectively. This research underscores the versatile applications of nanotechnology, particularly in the realm of wastewater treatment, which has increasingly garnered attention.

Key words: Wastewater treatment, FTIR, SEM, TEM, PL, XRD, microstrain.

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## Catalytic Performance of Transition Metal Nanoparticles in Hydrogenation Reactions

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#### Abstract:

Transition metal nanoparticles (TMNPs) have demonstrated exceptional catalytic efficiency in hydrogenation reactions, a crucial process in the synthesis of fine chemicals, pharmaceuticals, and fuels. Their high surface area, tunable electronic properties, and ability to facilitate hydrogen adsorption and activation make TMNPs ideal for both selective and non-selective hydrogenations. Key transition metals like palladium, platinum, and nickel are particularly effective, offering tailored activity and selectivity through controlled synthesis and surface modifications. Advances in TMNP design are enhancing their stability and catalytic performance, promising significant improvements in hydrogenation technologies

**Keywords**: Transition Metal Nanoparticles, Catalysis, Hydrogenation Reactions, Surface Properties.



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## A Comprehensive Study On Speckle Disorder In Harmonic Confinement With Spin-Polarized Fflo State Fermi Gas

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**Abstract:** The disordered example delivered by speckle has been utilized in quantum reproductions with cold particles. The haphazardly circulated areas of splendid and dim light go about as a simple of disorder in strong state frameworks and are utilized to examine restriction wonders. Spin polarization is how much the spin, i.e., the natural precise energy of rudimentary particles, is lined up with a provided guidance. We present a numerical report on one dimensional alluring Fermi gases with spin polarization within the sight of the harmonic confinement and the speckle disorder by utilizing the neighborhood thickness estimate dependent on the specific Bethel an satz arrangement. For a perfect framework without catching, the ground state is an in part captivated Fulde-Ferrell-Larkin-Ovchinnikov (FFLO) express, a full matched Bardeen-Cooper-Schrieffer (BCS) state or a completely enraptured ordinary state. For a spotless framework within the sight of catching, a twoshell structure exists with an energized superfluid center encompassed by wings made out of either an un-captivated superfluid (FFLO-BCS) or a completely spellbound ordinary (FFLO-N) gas. Within the sight of speckle disorder with fixed polarization, the framework can be changed from FFLO-BCS to FFLO-N after expanding the disorder adequacy, insignificant to the alluring or loathsome nature of the speckle disorder. We reason an articulation for the basic polarization P C beneath which the FFLO-state rises in one-dimensional cross sections with spin-imbalanced populaces.

**Keywords:** Spin Polarization, Fulde–Ferrell–Larkin–Ovchinnikov (FFLO), Bardeen–Cooper–Schrieffer (BCS), Speckle Disorder, Harmonic Confinement, Fermi Gas.

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The membrane having antimicrobial properties using ternary blended for removal of heavy metals in wastewater treatment

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#### Abstract:

The endeavored of biopolymer films have received much consideration because they are environmental friendly, alternatives to synthetic and non-biodegradable films. Chitosan is the deacylated form of chitin composed of glucosamine, which is one of the most abundant polysaccharides in environment. The subsequently of its favorable properties such as enzymatic biodegradability, non-noxiousness, and biocompatibility, a variety of applications have been found either unaided or blended with other polymers in the pharmaceutical industries. Chitosan and its derivatives have been proposed as matrices in pharmaceutical formulations in the form of films, emulsions, troche, transmucosal devices and in drug delivery system. At present, it has been commonly recognized that the biological activity of chitosan depends on its molecular weight, deacetylation degree, chitosan derivatization, degree of substitution, length and position of a substituent in glucosamine units of chitosan, pH of chitosan solution and the target organism.

Keywords: Chitosan; Nylon 6; Clay; Antimicrobial activity; Antifungal activity.

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Anti-Corrosive Efficiency Of Aqueous Extract Of Cordia Dichotoma Linnplant Leaves As Inhibitor For Corrosion Of Carbon Steel Immersed In Hydrochloric Acid Solution

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#### Abstract:

An aqueous extract from the Cordia Dichotoma Linn (CDL) plant was examined for its corrosion-inhibiting characteristics using the mass loss technique. Immersed in 1N hydrochloric acid, its corrosion inhibitory effects on carbon steel were the primary focus of the investigation. The highest efficiency of this inhibitor system is 94.60%. Electrochemical studies have looked at the ways that corrosion inhibition works, using techniques including electrochemical impedance spectroscopy and the potentiodynamic polarisation approach. Research indicates that when the concentration of the inhibitor increases, both its effectiveness and corrosion rate decrease. This occurs because the active molecules in the extract form a chemical connection with the surface of the metal. The potentiodynamic polarisation method is used to study the inhibitor system, which functions as an anodic inhibitor and regulates the anodic response in direct correlation with its concentration. An inhibitor enhances the linear polarisation resistance value while reducing the corrosion current. Studies on electrochemical impedance have shown that the presence of an inhibitor system leads to a drop in double layer capacitance and an increase in surface charge transfer resistance. The outcome is a protective barrier referred to as the "blanket effect." The technique of Fourier transform infrared spectroscopy has been used to analyse the coatings applied on surfaces of carbon steel.

**KEY WORDS:** Corrosion inhibition, Cordia Dichotoma Linn, Surface morphology, AFM, EIS, Carbon steel, Green inhibitor.

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A survey on financial inclusion in rural sector using a statistical analysis

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#### Abstract:

This research article presents a detailed survey conducted in the rural sector to evaluate the financial inclusion facilitated by mobile banking, utilizing advanced statistical analysis. The study aims to assess the penetration, usage patterns, and impact of mobile banking services on the financial well-being of rural populations. Employing a stratified random sampling method, data was collected from a diverse cross-section of rural households through structured questionnaires and interviews. Financial inclusion is a critical component of economic development, particularly in rural areas where access to traditional banking services is often limited. Ensuring that all individuals and businesses have access to useful and affordable financial products and services is essential for fostering economic growth and reducing poverty. In recent years, the advent of mobile banking has emerged as a promising solution to bridge the financial inclusion gap in rural sectors. Mobile banking leverages the widespread use of mobile phones to provide financial services, thus overcoming the physical and infrastructural barriers associated with traditional banking.

**Keywords:** *mobile banking, rural customers* 

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### Individualism through Women characters in the novels of Manju Kapur

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#### Abstract

Individualism emphasizes personal autonomy, choice, consent, freedom from state-sanctioned discrimination on the basis of sex or gender, and equality under the law. It advocates women's rights on the basis of the human right to independence. It indicates that a woman's sexual choices should be made by her and her alone. The idea of the individualism is that women are deserving of equal rights in the legal and political spheres. Individualism also promotes gender equality. Individualist values of autonomy and self-determination transcend gender identities and serve to legitimize women's goals and choices. It is concerned with the marginalization of women and their reduction to second-class status. Women always believe that men are sentimental, helpless, and traditional, but men are discovered to be active, self - confident, and reasonable in societies where men predominate. Western concepts of individual freedom have an impact on the Indian society that is in transition. This personal aspiration of success has strengthened one's sense of self. Humans are subject to a wide range of pressures, which has led to psychic trauma and fragmentation. To affirm individual freedom in the face of social stresses and national regulations, the individual needs mental fortitude.

**Key Words:** self - confident, psychic trauma, fragmentation, Individualism, personal autonomy, .

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## A Review On Various Properties Of Light

#### **Anitha Sheelam**

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#### **Abstract:**

Light acts as both a particle and a wave. Light is an electromagnetic wave that carries energy in the visible spectrum. People see light waves with their eyes. White light can be separated into colors in the visible spectrum using a prism. Different types of light have different colors, which correspond to different wavelengths in the visible region of the electromagnetic spectrum. The properties of light include refraction, reflection, diffraction, interference, dispersion, polarization, and dispersion. This article describes the characteristics of the light that have been verified using the latest test methods.

**Keywords:** refraction, reflection, diffraction, interference, scattering, polarization, dispersion.

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An industrial and chemical engineering perspective on the formulation of active ingredients in pharmaceuticals and agrochemicals

#### Hemambika Sadasiyuni

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#### Abstract:

A perspective is given on the current status and outlook of chemical product design in industry, focusing on the design of formulated products for active ingredients in pharmaceutical or agrochemical applications. Albeit not an exhaustive review, a reflection is provided based on our experience, aiming to give insight in the industrial needs and barriers. Opportunities in formulation design through the application of chemical engineering principles are highlighted. It is noticed that besides obstacles of a purely scientific nature, there are many adjacent hurdles like organizational and cultural ones. An outlook is provided on the needs in science development, what it takes to using the science and other aspects, though non-scientific, still crucial to a successful application.

**Keywords:** formulated products, agrochemical applications.

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## **Integration Of Stock Market With Global Trends**

### P Phani Kasyap

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#### **Abstract:**

In the abstract realm of overall techniques within the stock markets, a dynamic tapestry of innovation, adaptation, and evolution unfolds, shaping the landscape of investment practices and financial decision-making. At the core of this abstract domain lies the relentless pursuit of efficiency, accuracy, and informed decision-making, propelled by advancements in technology, changes in market structure, and shifts in investor behavior. Here, we delve into the intricate nuances that define the abstract essence of stock market techniques, encapsulating a multifaceted journey of discovery, analysis, and optimization. Central to the abstract realm of stock market techniques is the relentless quest for data-driven insights and predictive capabilities. With the advent of big data analytics, artificial intelligence (AI), and machine learning, investors have gained unprecedented access to vast troves of information, spanning financial data, economic indicators, social sentiment, and beyond. This wealth of data serves as the raw material for sophisticated analytical models and algorithms, which sift through the noise to uncover hidden patterns, correlations, and trends. In this abstract realm, data becomes the currency of knowledge, empowering investors to make informed decisions and navigate the complexities of financial markets with greater precision and confidence.

**Keywords:** data, market structure, artificial intelligence (AI), currency of knowledge

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# The Impact of Emotional Intelligence on Employee Job Satisfaction: An Academic Perspective

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#### Abstract:

Emotional Intelligence (EI) has gained significant prominence in organizational psychology due to its profound impact on various workplace outcomes. This paper examines the complex relationship between Emotional Intelligence and employee job satisfaction, emphasizing theoretical foundations, empirical evidence, and practical implications for organizational practices. The literature consistently supports the positive effect of EI on job satisfaction. By fostering EI within the workplace, organizations can enhance employee well-being, reduce turnover, and improve overall performance. The methodology employs a comprehensive approach, integrating both quantitative and qualitative methods to ensure robust and insightful findings. Through rigorous sampling, data collection, and analysis procedures, the study aims to substantially contribute to understanding EI's role in enhancing job satisfaction across diverse organizational settings. Future research should focus on longitudinal studies to further elucidate the causal pathways and long-term benefits of EI in various organizational contexts.

Key Words: Emotional Intelligence, Job Satisfaction, employee well-being and quantitative and qualitative method.

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## Techniques Of Teaching English Grammar For Technical Students In Engineering Colleges

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#### **Abstract:**

This paper is approximately methods of instructing English language structure for specialized understudies in rustic building colleges. Instructing linguistic use is nothing unused in the field of English dialect educating. Learning language structure is moreover an vital component to progress the communication abilities. It clarifies how battle a few it is to educate English language structure for the specialized understudies. To make intrigued among the understudies, we utilize a few strategies to educate language structure exceptionally effortlessly. Provincial Designing learners still slacking in utilizing the dialect without any syntactic mistakes in spite of their seventeen a long time of learning linguistic use. Indeed in spite of the fact that they are not certain clients of the dialect, they do not appear any intrigued on learning language structure since it is the overconfidence of the understudies and a few feel it is humiliating being designing understudies. Here, we essentially apply a few methods which bring astounding comes about in our students.

**Keywords:** Strategies of Educating English Linguistic use, Component, Communication Abilities, Battle a few, Linguistic Blunders, Astonishing Results



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## **Innovative Approaches To Teaching Language And Literature**

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#### **Abstract**

Literature can be regarded as a rich source of 'authentic material' because it conveys two features in its written text: one is 'language in use,'i.e the employment of linguistics by those who have mastered it into a fashion intended for native speakers; the second is an aesthetic representation of the spoken language which is meant to recover or represent language within a certain cultural context. Teaching language through literature help teachers first to acquaint themselves with language use to develop their own competence and understand language as a social phenomenon, and not as an exclusive branch of learning. And another thing is that it transforms the classrooms as the stage in which there is real practice of communicative language. It also helps teachers to consider language as entailing social acceptability in other words; they can look to classroom language as carrying resemblance with the outside language. And As a result, this would raise communication to the level of a social responsibility. It is important that the learners develop their linguistic competence by learning how to express meanings in English, but also that they develop their communicative competence, that will allow them to transmit messages, to use the language to interact, to communicate with other people, which is, in the end, the basic function of language. It is widely acknowledged that a literary text with richness and variety can be stimulating for language learners and can be used to elicit a wide range of responses from the learners.

**Key words**: Literature and language teaching, pedagogic practices, stylistic feature, vocabulary and pronunciation.

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## Transient Analysis of Asynchronous Network Node with Voids using Markovian Quasi Birth & Death Process

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#### Abstract:

Network nodes namely routers and switches are pivotal elements within the networking infrastructure, and their performance analysis holds an immense importance in delivering higher quality of service (QoS). In this context, an asynchronous network node with self-similar input traffic is modelled as a single-server queuing system with a finite buffer. Markovian Arrival Process (MAP) is employed to emulate self-similar traffic. The voids that occur in asynchronous networks are considered, and are assumed to follow Uniform distribution. The aim is to examine queuing behaviour of the nodes across various time points, which is carried out through continuous-time Markov chain (CTMC) and a finite Quasi Birth and Death process (QBD). Queuing behaviour is studied through performance metrics, namely mean waiting time (MWT) and loss probability at arbitrary times. This kind of study is useful in dimensioning the asynchronous nodes.

**Keywords:** Network node; Markovian Arrival Process; Voids; Quasi Birth & Death process; Mean waiting time; Loss probability

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# **Applications Of Queuing Theory In Health Care Settings Using Relocation**(Relsys) Software

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#### Abstract:

Operation research, often abbreviated as O.R., encompasses a broad array of techniques aimed at enhancing the planning and organization of health services. By utilizing analytical methods, O.R. seeks to contribute to improved decision-making processes. This article endeavors to examine the queuing theory and its practical applications by using RelSys software within healthcare organizations worldwide, along with the resulting advantages.

Keywords: Operation research, RelSys software

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Waves, patterns, bifurcations: A tutorial review on the vertebrate segmentation clock

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#### **Abstract**

Proper vertebrae formation relies on a tissue-wide oscillator called the segmentation clock. Individual cellular oscillators in the presomitic mesoderm are modulated by intercellular coupling and external signals, leading to the propagation of oscillatory waves of genetic expression eventually stabilizing into a static pattern. Here, we review 4 decades of biophysical models of this process, starting from the pioneering Clock and Wavefront model by Cooke and Zeeman, and the reaction—diffusion model by Meinhardt. We discuss how modern descriptions followed advances in molecular description and visualization of the process, reviewing phase models, delayed models, systems-level, and finally geometric models. We connect models to high-level aspects of embryonic development from embryonic scaling to wave propagation, up to reconstructed stem cell systems. We provide new analytical calculations and insights into classical and recent models, leading us to propose a geometric description of somitogenesis organized along two primary waves of differentiation.

**Keywords:** Developmental biology, Non Linear Dynamics, Somitogenesis, Bifurcation theory Oscillators, Biophysics,

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## A Study On Financial Analysis Of Tata Steel S. Srinivas

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## Abstract:

Financial analysis is important for any of the organization to know about its capacity to earn the money and to sustain in the market for long term if the organization is not getting good profits then market will not believe to invest funds in that particular company so each and every organization is very regress to work with its operational and aspects of business to get more and more profits The company's profits are segregated into two types. Firstly operating efficiency is going The Company's profits are segregated into two types. Firstly operating efficiency is going to be used to find out what is the return for the company out of oral work performed by the company, the return for the company out of oral work performed by the company for example if a person is considered then the salary that is end for the job and whatever the revenue generated for him for the business aspects performed by the person is called as operating income.

The analysis of the financial statements of TSL to analyze the financial performance of TSL I will consider the different financial ratios and comparative balance sheet which are published. The ratio analysis can be performed with the help of different ratios The market in which the company is going to compete with other computers so the company has to follow different strategies. All Strategies for any company are mainly focusing only on one objective to earn profit increase market share and stakeholder wealth. The companies which are having different areas and different Industry companies will have different capabilities to develop and to grow themselves in the market.

**Keywords**: operating efficiency, operating income, financial performance, financial ratios

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## Variable Viscosity Peristaltic Transport In Curved Channels

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#### Abstract:

Variable viscosity's impact on a Newtonian fluid's peristaltic flow in an asymmetric channel has been examined. Traveling waves with varying phases and amplitudes cause asymmetry in the flow as they move along the channel walls. In the flow analysis, a long wavelength approximation is employed. Analytical solutions in closed form are acquired for the longitudinal pressure gradient and velocity components. The study also demonstrates that the wave amplitude affects the peristaltic flow in addition to the mean flow parameter. Through numerical integration, this impact may be seen in the pressure rise and frictional forces per wavelength.

**Keywords:** peristaltic, variable viscosity, curved channel

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## The nonlinear relationship between poverty and financial globalization

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### Abstract:

After analyzing data from 109 countries between 1980 and 2018, we explored the complex relationship between financial globalisation and poverty. We categorized financial globalisation into de facto and de jure dimensions to assess their distinct impacts on poverty. Our study yielded two significant findings. Firstly, we uncovered substantial nonlinearities, indicating that the link between financial globalisation and poverty is not straightforward. There is a threshold beyond which the influence of financial globalisation on poverty becomes negative. Furthermore, the effect of financial globalisation on poverty is more pronounced in countries with strong institutional characteristics. Secondly, we observed that the impact of financial globalisation varies across different levels of poverty. The influence of financial globalisation is more substantial at higher poverty levels for the entire sample. However, we identified both a U-shaped and an inverted U-shaped relationship between financial globalisation and poverty across different poverty levels, depending on a country's economic development and institutional quality. Our results remain robust when using alternative measures of poverty and financial globalisation. Additionally, we addressed unobserved variations and employed various econometric methods to validate our findings.

**Keywords:** unobserved variations, globalisation and poverty, financial globalisation

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## Leddimmer

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#### **Abstract:**

The project focuses on the design and implementation of an LED dimmer circuit, aiming to provide efficient control over the brightness of light-emitting diodes (LEDs). LED dimming technology has gained significant importance due to its energy-saving potential and adaptability in various lighting applications. The proposed electronic project utilizes pulse width modulation (PWM) technique to regulate the luminosity of LEDs effectively. The design process involves selecting appropriate electronic components such as microcontrollers, power transistors, resistors, and capacitors to construct a robust dimming circuit. The microcontroller serves as the control unit, generating PWM signals to adjust the duty cycle and hence the brightness of the LEDs. The circuit is designed to be versatile, accommodating different types of LEDs and varying power requirements. The implementation phase includes assembling the components on a printed circuit board (PCB) and testing the functionality of the dimming circuit. Rigorous testing ensures reliable performance and compatibility with different LED configurations. Additionally, considerations are made for user interface elements such as switches or potentiometers to provide intuitive control over dimming levels. The LED dimmer electronic project offers numerous benefits including energy efficiency, customizable lighting environments, and extended lifespan of LEDs by reducing operating stress. Furthermore, the project contributes to the advancement of sustainable lighting solutions in residential, commercial, and industrial settings.

**Keywords:** *LED dimmer, PWM control, energy-efficient lighting, microcontroller, circuit design, brightness regulation.* 

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## Design of Rocker Bogie Machine Mechanism

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## **Abstract:**

This abstract highlights a major project titled "Design of Rocker Bogie Machine Mechanism" that exclusively focuses on the design aspect using SolidWorks software. The project aims to develop an innovative machine mechanism by integrating the principles of a rocker bogie suspension system, leveraging the capabilities of SolidWorks for efficient and accurate design creation. The design process involved a comprehensive analysis of existing rocker bogie systems and their applications to gain insights into their underlying principles and mechanics. Through extensive research, a deep understanding of the system's functionality was acquired. Various designparameters, including weight distribution, structural integrity, and articulation angles, were meticulously considered to optimize the performance of the mechanism. Leveraging the powerful features of SolidWorks software, a detailed 3D model of the Rocker Bogie Machine Mechanism (RBMM) was created. The design encompassed multiple rockers, bogies, and articulated joints, ensuring effective obstacle traversal and stability maintenance. Component sizing, material selection, and joint mechanisms were carefully addressed to achieve a robust and efficient design. The project also involved the incorporation of control systems and actuators within the SolidWorks environment. By integrating sensors and feedback mechanisms, precise motion control and adaptability to different terrains were embedded into the RBMM design.

Keywords: Rocker Bogie Machine Mechanism (RBMM), SolidWorks, 3D model.

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## **Aurdino and TCS 230**

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#### **Abstract:**

This project deals with a model of laser security alarm system design. Laser security systems used to be difficult to install and rarely available to anyone other than the superrich. Now, there are dozens of different security systems on the market that utilize lasers and can effectively protect everything from small apartments and businesses to large areas of property. Most home laser security systems consist of two parts: a basic alarm unit and an infrared motion detector. Laser based security system is a type of security and alarm system that uses laser light and a light sensor. Why a laser to be used? It is known that a laser light goes through long distance without any scattering effect (disturbing) and it is only visible at source and the destination point.

Keywords: Security alarm design, identification of colour, lazer light, light sensor

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## **Solar Mobile Charger**

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#### **Abstract:**

The increasing reliance on portable electronic devices in daily life has spurred a demand for innovative and eco-friendly charging solutions. This abstract explores the concept and functionality of a solar mobile charger, a device designed to harness solar energy for powering mobile phones and other portable gadgets. The solar mobile charger consists of photovoltaic cells that convert sunlight into electrical energy, coupled with an integrated charging system and rechargeable batteries. These photovoltaic cells, often composed of crystalline silicon or thin-film materials, efficiently capture solar radiation and convert it into direct current (DC) electricity. A charge controller regulates the charging process, preventing overcharging and ensuring a consistent and safe power supply to connected devices. The stored electrical energy is maintained in high-capacity lithium-ion or lithiumpolymer batteries, allowing users to charge their devices even in the absence of direct sunlight. The charger's compact and portable design makes it a practical solution for outdoor activities, travel, and emergency situations where access to conventional power sources maybe limited. Moreover, the solar mobile charger contributes to environmental sustainability by reducing dependence on conventional electricity grids and minimizing the carbon footprint associated with energy production. Its integration of renewable energy aligns with the global shift towards greener technologies, providing users with a convenient and responsible means of powering their devices.

**Keywords:** Footprints, Portable, Greener Technology, Energy Production, Website.

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## **Alcohol Breathalyzer**

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## Abstract:

This abstract introduces an innovative alcohol breathalyzer designed for enhanced accuracy and user convenience. Leveraging advanced sensor technology, the device ensures precise blood alcohol content (BAC) measurements, promoting reliable fir personal and law enforcement use. The compact and User-friendly design incorporates real-time feedback features, such as a digital display and intuitive interface, facilitating seamless operation. Additionally, the breathalyzer employs state-of-the-art algorithms to minimize false positives and negatives, enhancing its effectiveness in diverse environments. This technology represents a significant advancement in promoting responsible alcohol consumption, offering a reliable and accessible tool for individuals and authorities alike.

Keywords: User-Friendly, Real-Time Feedback, Digital Display.

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## **Bluetooth Remote Home Automation System Using Android Application**

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## Abstract:

This article represents the implementation of a Bluetooth Home Automation Control System with low cost and wireless remote control. This is carried out using an android application for remote switching of electrical appliances such as lighting, fan, garage, door motor, power sockets, water-pump motor or any other load in homes. The android application in the mobile phone acts as a modem for the control of home appliances. Also, the smart home concept in the system improves the standard living at home. The main control system implements wireless Bluetooth technology to provide a remote access from PC/laptop or smartphone. The design remains the existing electrical switches and provides more safety control on the switches with low voltage activating method. The system used an Arduino microcontroller for signal processing, a Bluetooth module for receiving data from android smart phone with a Bluetooth terminal/switching application and relays as its major switching component. The use of android mobile phones is simple and on the increase, the researcher deem it necessary to take advantage of its Bluetooth technology. By using an android mobile phone with the necessary application, we can switch ON/OFF home appliances within the Bluetooth signal range of approximately 100m conveniently without stress or risk of electric shock. The Bluetooth Home Automation Control System as presented in this paper is most suitable for everyone especially the elderly and disabled as it ease the stress of to and from movement for manual control of appliances within the home environment. Proper authentication/protection is implemented in this project to prevent unauthorized users from accessing the appliances at home. This creates a user-friendly interface.

**Keywords:** Android application, Arduino, Bluetooth module, Home automated system, MIT app inventor, Smart phone

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## **LED Dimmer**

## K. Nikitha Reddy<sup>1</sup> M.Kaveri<sup>2</sup> Krishna Yadav<sup>3</sup> K.Kishore<sup>4</sup>

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## **Abstract:**

The project focuses on the design and implementation of an LED dimmer circuit, aiming to provide efficient control over the brightness of light-emitting diodes (LEDs). LED dimming technology has gained significant importance due to its energy-saving potential and adaptability in various lighting applications. The proposed electronic project utilizes pulse width modulation (PWM) technique to regulate the luminosity of LEDs effectively. The design process involves selecting appropriate electronic components such as microcontrollers, power transistors, resistors, and capacitors to construct a robust dimming circuit. The microcontroller serves as the control unit, generating PWM signals to adjust the duty cycle and hence the brightness of the LEDs. The circuit is designed to be versatile, accommodating different types of LEDs and varying power requirements. The implementation phase includes assembling the components on a printed circuit board (PCB) and testing the functionality of the dimming circuit. Rigorous testing ensures reliable performance and compatibility with different LED configurations. Additionally, considerations are made for user interface elements such as switches or potentiometers to provide intuitive control over dimming levels. The LED dimmer electronic project offers numerous benefits including energy efficiency, customizable lighting environments, and extended lifespan of LEDs by reducing operating stress. Furthermore, the project contributes to the advancement of sustainable lighting solutions in residential, commercial, and industrial settings. Future iterations of the project could explore wireless connectivity options for remote dimming control and integration with smart home systems for enhanced automation and energy management.

**Keywords:** LED dimmer, PWM control, energy-efficient lighting, microcontroller, circuit design, brightness regulation.

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# Study of Design and Implementation of Water Level Indicator D.Bindu Sahithya<sup>1</sup> S.Srivani<sup>2</sup> B.Hari Rao<sup>3</sup> M.Hemanth<sup>4</sup>

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## **Abstract:**

Water tank overflow is a common problem which leads to wastage of water. Though there are many solutions to it like balls valves which automatically stops the water flow once the tank gets full. But the design and implementation of water level indicator aimed at monitoring and controlling water levels in various reservoirs, tanks, or containers. The system utilizes ultrasonic sensors to measure the water level accurately and displays the information through a user-friendly interface. The hardware components include microcontrollers, sensors, display units, and interfacing modules, while the software is developed using embedded programming techniques. The system offers real-time monitoring, alerting users of critical levels, and enabling timely interventions to prevent overflow or depletion. Its versatility allows integration into diverse applications such as home water tanks, industrial reservoirs, and agricultural irrigation systems. The water level indicator system provides an efficient and cost-effective solution for managing water resources, contributing to conservation efforts and ensuring optimal usage.

**Keywords:** Ultrasonic Sensors, Cost-Effective Solution, Real- Time Monitoring, User-Friendly Interface.

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## **Smart Blind Stick**

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## **Abstract:**

The main aim of this paper is to assist blind persons without human need. Notably, the visually impaired individuals convey a hand that stays with them at whatever point they need help. Once in a while in any event, when they utilize this stick, there is no assurance that the visually impaired people are protected and get in arriving at their destinations. There might be a deterrent in individual with the assistance of the stick. Notably, the visually impaired individuals convey a hand that stays with them at whatever point they need help. Once in a while in any event, when they utilize this stick, there is no assurance that the visually impaired people are protected. There might be an obstruction in their way however isn't experienced by the individual with the assistance of the stick. Thus, the people may be injured if the obstacle is big enough or dangerous. Thus, in this paper, a blind stick is designed and developed to assist the blind person and provide them a clear path. The system consists of an ultrasonic sensor fixed to the user's stick. While the user moves the stick in the forward direction, the ultrasonic sensor with Arduino mega fixed to the stick tries to detect the obstacle if any present in the path. If the sensor recognizes the obstacle, the output of the recipient triggers, and this change will be identified by the microcontroller since the output of the receiver is given as inputs to the microcontroller. This stick recognizes the article before the individual and offers a reaction to the client either by vibrating or through the order. In this way, the individual can walk with no fear. This gadget will be the best answer for defeat the troubles of the visually impaired individual.

**Keywords:** Arduino Mega, Electronic Travel Aids, Smart Blind Stick, Microcontroller, Ultrasonic Sensor

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## **Solar Mobile Charger**

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### **Abstract:**

The increasing reliance on portable electronic devices in daily life has spurred a demand for innovative and eco-friendly charging solutions. This abstract explores the concept and functionality of a solar mobile charger, a device designed to harness solar energy for powering mobile phones and other portable gadgets. The solar mobile charger consists of photovoltaic cells that convert sunlight into electrical energy, coupled with an integrated charging system and rechargeable batteries. These photovoltaic cells, often composed of crystalline silicon or thin-film materials, efficiently capture solar radiation and convert it into direct current (DC) electricity. A charge controller regulates the charging process, preventing overcharging and ensuring a consistent and safe power supply to connected devices. The stored electrical energy is maintained in high-capacity lithium-ion or lithium- polymer batteries, allowing users to charge their devices even in the absence of direct sunlight. The charger's compact and portable design makes it a practical solution for outdoor activities, travel, and emergency situations where access to conventional power sources maybe limited. Moreover, the solar mobile charger contributes to environmental sustainability by reducing dependence on conventional electricity grids and minimizing the carbon footprint associated with energy production. Its integration of renewable energy aligns with the global shift towards greener technologies, providing users with a convenient and responsible means of powering their devices. In conclusion, the solar mobile charger represents a sustainable and efficient solution for the ever-growing need to charge portable electronics

**Keywords:** Footprints, Portable, Greener Technology, Energy Production, Website.

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Sensor Based Watch Safety Management

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### **Abstract:**

Unsafe human behaviors cause over 80% of fatal accidents in the construction industry. Despite the use of technologies for safety control, injury rates remain high due to inadequate safety management systems and lack of analysis of workers' safety performance. This study aims to (1) identify critical construction hazards and the sensor-based technologies that can be used to detect workers' unsafe behaviors; and (2) develop a Sensor-Based Safety Performance Analytic Mobile System (SBSPAMS) to detect, alert, and analyze workers' unsafe behaviors. This study identified the top risky hazards and corresponding unsafe behaviors, along with specific applications of sensor-based technologies for safety management. The developed SBSPAMS is able to monitor and analyze workers' unsafe behaviors. This study contributes to the body of knowledge of safety management by identifying the critical construction hazards, unsafe behaviors, and the sensor-based technologies for behavior detection. The developed mobile system can be a key instrument for technology adoption in the construction safe management.

A wristwatch-based wireless sensor platform for IoT wearable health monitoring applications is presented. The paper describes the platform in detail, with a particular focus given to the design of a novel and compact wireless sub-system for 868 MHz wristwatch applications. An example application using the developed platform is discussed for arterial oxygen saturation (SpO2) and heart rate measurement using optical photoplethysmography (PPG). A comparison of the wireless performance in the 868 MHz and the 2.45 GHz bands is performed. Another contribution of this work is the development of a highly integrated 868 MHz antenna.

**Keywords:** photo plethysmography (PPG), IoT, SBSPAMS

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## Fire Detection and Alarm

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#### **Abstract:**

A fire alarm system has a number of devices working together to detect and warn people through visual and audio appliances when smoke, fire, carbon monoxide or other emergencies are present. These alarms may be activated automatically from smoke detectors, and heat detectors or may also be activated via manual fire alarm activation devices such as manual call points or pull stations. Alarms can be either motorized bells or wall mountable sounders or horns. The primary thought in the present field advances are computerizations, power utilization, and expense adequacy. Automation is implied for the decrease risk of human neglection. Two sensors viz. The Temperature sensor and Air quality sensor which are utilized as a part of the Fire Detection System to recognize a fire. The temperature sensor records the temperature of the room. The Air quality sensor detects if there is any gas present in the room. Here we have utilized an Arduino Uno to control all the command from both the sensors and execute them legitimately. Fundamentally it acts as themind of the entire framework.

**Keywords:** Automation, fire alarm system, Fire Detection System.

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## **Smart Street Lights and Barriers**

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## **Abstract:**

Street lights play a vital role in our daily lives. Either traveling by road or just going out for a walk in the evening, street lights help us navigate through the road. Even barriers play an important role in our lives. It stops outsiders from entering our housing areas. But these barriers need manpower to operate. Instead, we could use our present-day technology to reduce manpower and power consumption, which are efficient to use. Our project focuses on cost-efficient ways to use street lights and barriers with less manpower. This project uses light-dependent resistors (LDRs) for smart street lights to sense the light. LDR is a type of resistor that works on photoconductivity. The resistance of the resistor adjusts itself based on the intensity of the light. In simple words, when an environment is dark, the LDRs turn on the light, and as soon as the light touches an LDR, the light is turned off. These help with power consumption and are cost-effective.IR sensors and Arduino boards are used to build smart barriers. The IR sensors detect motion and the distance of the object. The Arduino boards help us give and take orders from the sensors. When a moving person or moving car is detected, the smart barriers open the gate without consuming human power. These are very easy to handle and operate. In conclusion, this project focuses on the advantages of using modern technology in our daily lives. From streets to homes, this technology could be used everywhere in every way.

**Keywords:** Smart Street Lights, Smart Barriers, Light Detection, Movement Detection, Power Consumption, Cost Effectiveness.

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## Fingerprint Bank Locker System

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## Abstract:

Fingerprint bank locker systems offer a robust and secure means of accessing personal valuables. Employing biometric authentication technology, these systems authenticate users based on their unique fingerprints, ensuring only authorized individuals can access the locker. Through a combination of hardware and software components, such as fingerprint scanners and encrypted databases, these systems provide a seamless and efficient user experience while maintaining stringent security measures. The integration of advanced encryption techniques further enhances data protection, safeguarding sensitive information stored within the locker. Additionally, the scalability of fingerprint bank locker systems allows for easy integration into existing banking infrastructure, making them a viable solution for financial institutions seeking to modernize their security protocols. By replacing traditional key-based access methods, fingerprint bank locker systems mitigate the risk of unauthorized entry and theft, thereby instilling confidence among users regarding the safety of their stored belongings.

**Keywords:** Biometric authentication, Fingerprint recognition, Secure storage, Financial security

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## **Simple Clap Switch for Home Automation**

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## Abstract:

This is a simple clap switch circuit with high sensitivity. It switches ON/OFF electrical appliances through claps. clap operated circuit is operated by clapping from a particular distance (Depends upon the microphone used). Then that leads to the first output of the circuit which is to be turned on, then when another clap is given to the circuit it will show us the next output & that continues with the clap. The main component of this circuit is the Electric Condenser Microphone, This Microphone used as a sound sensor and converts sound energy into electrical energy, and that continues with another two Ic's and then with the Transistor. Primarily it is a Sound operating switch. For example, real life application based on this device include fan, fluorescent light, tv and other appliances which can be switched on off by clapping. This clap switch circuit can be changed based on situation.

Keywords: Integrated circuit, Transistor, Resistors, Decade Counter, Operational Amplifier.

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**UGC AUTONOMOUS** 

## **Automatic Water Planting Sensor**

## Gadhe Saipurnima<sup>1</sup> Jogini Srujan<sup>2</sup> Ponugoti Srija<sup>3</sup> Mohammed Ashwaq<sup>4</sup>

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## Abstract:

Herein we introduce automatic plant watering system, which is considered as one of the most commonly used and the most beneficial automated systems nowadays, which help people in their daily activities by reducing or completely replacing effort heir, system uses sensor technology along with microcontroller and other electronics in order to behave moisture like smart switch system which senses soil level and irrigates the plant if necessary. Purpose of this work is to show how someone can easily make own and cheap automatic plant watering system in just few hours by connecting certain electronic components and other materials required. In our experiment, we connected all required materials ex-actly as shown in this paper, in order to test whether our system will work properly or not. Although the system made in that way would be the most appropriate for home usage as solution for some daily and usual issues, there is a wide spectrum of possibilities of implementing these systems as a long-term solution for many agricultural and medical problems, some of are undernourishment and air pollution as most prominent, dangerous and important ones. As one possible agricultural solution, this system can be very which helpful in keeping vegetables and other useful and specific plants for watered bigger harvest, which enables farmers from all around world to breed crops of these plants which are the most want solution and the most commonly used in diet. As medical, these systems can be used for purpose of cultivating certain plants that are famous and well known by their ability to remove air pollutants and therefore reduce the concern of toxic pollutants in the air as well the occurrence of respiratory diseases. Future possibilities include some challenging and demanding ideas like joining plants of similar variety and characteristics into complex connections of plants, called "Internet of plants".

**Keywords:** plant watering system, smart switch system

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## Web Data Scraper Tool

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#### Abstract:

In this digital era, web data extraction efficiency is vital to many applications like marketing and data analysis. PyScraper is a website data extraction tool written in Python that simplifies the data extraction process from websites. Utilizing various libraries such as Beautiful Soup and Requests among others, PyScraper enables users to fetch web data, parse HTML content and save the extracted information in various formats including CSV or JSON. With PyScraper users can easily specify scraping rules, navigate complex website structures and also automate repetitive data retrieval tasks. This project is aimed at providing a flexible and dependable solution to empower data enthusiasts, researchers and businesses with an ability of extracting valuable information over the vastness of internet space.

Keywords: Web data extraction Python, BeautifulSoup

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## Virtual Assistant with Python

## Gopi Nihal<sup>1</sup> G Bhanu<sup>2</sup> Ch Ashritha<sup>3</sup> S Vaishnavi<sup>4</sup>

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#### **Abstract:**

This abstract represents the exploration of virtual assistant development using the Python programming language. It begins by elucidating the significance of virtual assistants in modern-day applications and the role Python plays in their implementation. The study delves into various Python libraries and frameworks commonly utilised for virtual assistant development, including but not limited to NLTK, TensorFlow, and PyTorch, highlighting their functionalities and advantages. Furthermore, it discusses key components of virtual assistants such as speech recognition, natural language understanding, and dialogue management, elucidating how Python facilitates the integration of these components. Through case studies and practical examples, this paper demonstrates the effectiveness and versatility of Python in creating intelligent and interactive virtual assistants. Additionally, it addresses challenges and future prospects in Python-based virtual assistant development, paving the way for further research and innovation in this domain. In an increasingly digitised world, the demand for virtual assistants has surged, revolutionising the way we interact with technology. This abstract outlines the development and implementation of a virtual assistant leveraging the power of Python programming language. Through integration with external APIs and Python automation libraries such as Selenium and pyautogui, the assistant automates repetitive tasks such as sending emails, managing calendars, and fetching information from the web. The virtual assistant represents a fusion of cutting-edge technologies and innovative algorithms, empowering users to accomplish tasks more efficiently and effectively in today's fast-paced digital landscape.

Keywords: Virtual Assistant, UI, Artificial Intelligent, Python Library

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Study of Digital Library - Analyze it's Working and Convey Changes

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#### Abstract:

The aim of this project was to design and develop a audio power amplifier. The Amplifier is mainly for the CD, DVD players which are most common audio player Today. In this Project, we study the audio amplifier circuits. Moreover, study the flow of the Whole system from a music player to the loudspeakers. Each functions of the Components in the amplifier Then the whole single ended audio power amplifier is built. After finish the whole. Have some different test and measurement to define the performance of the Amplifier.

**Keywords:** Digital Library, Bar-Code, Online, Offline, Identification Number, Website.

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## Fire Alarm

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## Abstract:

Fire alarm systems are essential in alerting people before fire engulfs their homes. However, fire alarm systems, today, require a lot of wiring and labour to be installed. This discourages users from installing them in their homes. Therefore, we are proposing an IOT based wireless fire alarm system that is easy to install. The proposed system is an ad-hoc network that consists of several nodes distributed over the house. Each of these nodes consists of a microcontroller connected to smoke, temperature, humidity, flame, methane and carbon monoxide (co) sensors that continuously sense the surrounding environment to detect the presence of fire. The nodes create their own wi-fi network. These nodes communicate with a centralized node implemented with a Raspberry pi microcontroller integrated with a 4G module. Once fire is detected by a node, it sends a signal to a centralized node that id triggered to send an SMS to the fir department and the user, call the user and alert the house by producing a local alarm. The user can also get information about the status of his home via sending an SMS to the system. The sensing nodes create a mesh network and they are linked to the central node via a bridge node. Communication between the bridge node and the sensing node is through Message Queuing Telementry Transport (MQTT) protocol. A prototype was developed for the proposed system and it carried out the desired functionalities successfully with an average delay of less than 30 seconds.

**Keywords:** Computer science Market research Security, Sustainable development, Conferences, Internet of Things, Ad hoc networks, Wireless, Temperature Sensor, Central Node, Mesh Network, Average Delay, Raspberry Pi, Humidity Sensor, Fire Department, Access Points, User Requests, Fire Detection, Concerned Parties.

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## Kaun Banega Crorepati Using Python B Sai Archana<sup>1</sup> P Sai Sowmya<sup>2</sup> P Kalyan Reddy<sup>3</sup> P Bhanu<sup>4</sup>

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### **Abstract:**

This Python program simulates a console-based version of the popular quiz game show "Kaun Banega Crorepati" (KBC). The program is designed to provide an engaging and interactive experience, where players answer multiple-choice questions to win virtual prize money. The key features of the system include, Question Bank, Prize Structure, Interactive Questioning. In this abstract KBC simulation serves as a fundamental framework that can be further developed to include additional features such as lifelines, dynamic question loading, enhanced user input validation, and a more extensive question database, enhancing the realism and educational value of the game.

Keywords: Sys module, definition functions, random Module.

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UGC AUTONOMOUS

## Study of Password Strength Checker - Analyse it's Working P.Sai Ruthika<sup>1</sup> S.Hema<sup>2</sup> K. Rakshith<sup>3</sup> R.Vishnu<sup>4</sup>

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#### Abstract:

This paper presents a Python implementation of a Password Strength Checker. Utilizing advanced algorithms, the tool assesses the robustness of user-generated passwords. Through predefined rules for password strength, the system provides real-time feedback on password strength. Designed for simplicity and effectiveness, it guides users towards creating stronger credentials. The implementation showcases Python's versatility in cybersecurity applications. With an emphasis on efficiency and accuracy, the checker enhances security measures across digital platforms. In today's digital landscape, ensuring robust security measures is paramount, with password strength being a critical component in safeguarding sensitive information. This paper introduces a Python-based Password Strength Checker aimed at assessing the resilience of user-generated passwords. The proposed tool employs a combination of at least 8 characters long with an uppercase letter, lowercase letter, number & special character to evaluate the strength of passwords comprehensively. Leveraging Python's versatility and simplicity, the system provides users with real-time feedback on the strength of their passwords, guiding them towards creating stronger and more secure credentials. Through a detailed analysis of the methodology and implementation, this paper demonstrates the effectiveness and efficiency of the proposed Password Strength Checker in bolstering cybersecurity measures across various digital platforms.

**Keywords:** Password Strength, Security, Real-Time Feedback, Predefined Rules.

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## **Home Automation System Using Raspberry PI**

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#### Abstract:

Presently, automation plays a crucial role in all places, from work to living homes. The techniques are implemented either using microcontrollers or computers. However, microcontrollers cannot run multiple programs at a time, it is difficult to control two or more appliances at a time, so we are using the Raspberry Pi module to eliminate this. Over here, we are using a Raspberry Pi board along with the relevant modules and switches and sensors to create a simple home automation. Thus, Smart home automation can include controlling aspects of our home remotely through a computer or phone. Smart home automation results in convenience, energy efficiency, and safety benefits leading to improved quality of life. The control of home appliances can be done from a remote area with an option from a local server, using the Internet of Things. Overall, home automation is nothing but the interconnection of physical devices embedded with sensors and software. The network connectivity is used to collect and exchange data. It can be defined as a mechanism removing as much human interaction as technically possible and desirable in various domestic processes and replacing them with programmed electronic systems. Here, we have used Raspberry Pi 3 as the main module of the system, it is a lowcost credit-card-sized minicomputer which consists of an ARM-compatible central processing unit (CPU) and an on-chip graphics processing unit. The whole system is unique because of the use of the Internet of Things (IoT).

**Keywords:** *Internet Of Things, Raspberry Pi, Central Processing Unit.* 

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## **2048 Game Using Python**

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#### Abstract:

This paper is about creating a simple version of the 2048 game using Python. The 2048 game is a fun puzzle where you slide tiles on a grid to combine them and try to make a tile with the number 2048. The paper will cover Game Rules: Making the tiles move and combine correctly, and ending the game when you win or lose. Graphics: Designing a basic user interface so players can see and play the game using their keyboard. Random Tiles: Making sure new tiles appear in random spots to keep the game challenging. Scoring: Keeping track of the player's score and showing it on the screen. Clean Code: Writing clear and organized code that's easy to understand and update. We'll start by setting up everything we need and choosing the right tools. Then we'll write the code for the game rules and graphics. After that, we'll test everything to make sure it works well. Finally, we'll add some extra features like tracking high scores and making the game look nicer. This paper will teach us how to make a game from scratch and understand key programming concepts in a fun way. By the end, we'll have a fully working 2048 game built with Python.

Keywords: 2048 Game, Graphics, Game Rules, Clean Code.

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## Modern Convenience Store Using Python Mirjapuram Varsha<sup>1</sup> Tulasi Sravya<sup>2</sup> Kariema Kashudh<sup>3</sup> Gutti Rupa<sup>4</sup>

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#### **Abstract:**

This paper aims to create a waitress-less restaurant system, designed to streamline the process of taking and processing customer orders in a digital environment. The system comprises several key components Menu Display Order Taking, Order Processing, order Status Tracking. The program leverages a console-based interface for simplicity, illustrating the core functionalities of a digital ordering system. This abstraction can serve as a foundation for more complex implementations, including graphical user interfaces and backend server integrations, enhancing the efficiency and user experience in a restaurant setting.

Keywords: Time Module, list, dictionary, definition function.

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## Automatic Road Reflector Light P.Harshini<sup>1</sup> K.Thanwika<sup>2</sup> K.Srija<sup>3</sup> K.Nandini<sup>4</sup>

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#### **Abstract:**

Creating an automatic road reflector light project involves integrating sensors and microcontrollers to detect vehicles or ambient light levels and control the reflector lights accordingly. Here are some ideas and concepts to consider: \*Vehicle Detection\*: Use infrared sensors, ultrasonic sensors, or cameras to detect approaching vehicles. When a vehicle is detected, activate the reflector lights to enhance visibility. \*Ambient Light Sensing\*: Incorporate light sensors to measure ambient light levels. Adjust the intensity of the reflector lights based on ambient light conditions, ensuring optimal visibility during different times of the day or in varying weather conditions. \*Energy Efficiency\*: Integrate powersaving features such as solar panels and rechargeable batteries to power the reflector lights, making the system more sustainable and reducing reliance on grid electricity \*Weather Resistance\*: Design the project to withstand harsh weather conditions like rain, snow, and extreme temperatures. Use waterproof and durable materials for outdoor deployment. \*Safety Features\*: Include fail-safe mechanisms to ensure safe operation, such as backup power sources and automatic shut-off in case of system malfunctions. \*Data Logging and Analytics\*: Incorporate data logging capabilities to record traffic patterns, light usage, and environmental conditions. Analyzing this data can provide insights for optimizing road safety measures. \*Modular Design\*: Build the system with a modular architecture, allowing for easy expansion and customization to accommodate different road configurations and traffic patterns. \*Integration with Smart City Infrastructure

**Keywords:** *Infrared sensors, Ultrasonic sensors, Cameras.* 

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Enhanced Security In Military Using Li-Fi Technology

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#### Abstract:

LiFi technology has potential benefits for military applications, particularly in providing secure, highbandwidth wireless communication in specific scenarios. Li-Fi can deliver more bandwidth compared to traditional radio communication, which is crucial for pushing data in military operations It eliminates the wide radiation pattern of radio, reducing detectability. LiFi enables quickly setting up network infrastructure or using vehicle-to-vehicle communication, which could be a game changer for military operations. It can be used in areas where laying optical fiber is difficult, like hospitals and operation theaters. The signal coverage of this technology is limited to a small geographical area. The data in VLC technology is transmitted using an LED bulb. Be fast switching of LED light enable data Pansfer from sender to the receiver. The switching of LEDs is invisible to naked eyes. This property stands the LED out from other kind of lamps. This character enables data encoding at the sender side and decoding at the receiver side. This is how we can use LEDs for both illumination and communication. The RF spectrum is now facing the issue of bandwidth scarcity. In traffic signals, LiFi can communicate with LED lights of vehicles to decrease accident numbers. Thousands of street lamps can be converted to LiFi lamps for data transmission. However, LiFi also has vulnerabilities that need to be addressed, such as ensuring the equipment is cyber-hardened and the data transmitted is secure and encrypted to prevent interception. The form factor and ease of deployment must be balanced with security requirements.

**Keywords:** bandwidth, detectability,transmitter,vulnerabilities,interception

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Water Level Monitoring System Using IOT

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#### Abstract:

One of the major problems faced by most of the countries is the issue of water scarcity in the world and wastage during transmission has been identified as a major culprit; this is one of the motivations for this research, to deploy computing techniques in creating a barrier to wastage in order to not only provide more financial gains and help the environment as well as the water cycle which in turn ensures that we save water for our future. IOT based Water Level Monitoring system is an innovative system which will inform the users about the level of liquid and will prevent it from overflowing. To demonstrate this the system makes use of containers, where the ultrasonic sensors placed over the containers to detect the liquid level and compare it with the container's depth. The system makes use of AVR family microcontroller, Raspberry Pi, LCD screen, Wi-Fi modem for sending data and a buzzer. A 12 V transformer is used for power supply in this system. The LCD screen is used to display the status of the level of liquid in the containers. The liquid level is highlighted as coloured to show the level of liquid present in the container with the help of a web page to the user. The buzzer starts ringing when the set limit of the liquid is crossed. Thus this system helps to prevent the wastage of water by informing about the liquid levels of the containers.

**Keywords:** AVR microcontroller, LCD, Raspberry Pi, WiFi and buzzer.

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## Energy Meter Monitoring Over IOT G.Sai Sree<sup>1</sup> G.Jyothi Sri<sup>2</sup> B.Vaishnavi<sup>3</sup> K.Snehith<sup>4</sup>

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## **Abstract:**

Monitoring energy meters over the Internet of Things (IOT) involves installing sensors on the meters to collect data and then transmitting that data wirelessly to a central system for analysis and management. It allows for real-time monitoring, remote management, and data-driven decision-making to optimize energy usage and detect anomalies. Energy meter monitoring utilizing Internet of Things (IOT) technology. By integrating sensors with energy meters, data can be collected in real-time and transmitted wirelessly to a centralized system. This enables remote monitoring, analysis, and management of energy consumption patterns. The IOT-based solution offers benefits such as improved efficiency, reduced operational costs, and the ability to detect anomalies promptly. Additionally, it facilitates data-driven decision-making for optimizing energy usage and promoting sustainability. Through this abstract, the potential of IOT in revolutionizing energy meter monitoring is highlighted, paving the way for smarter and more sustainable energy management systems.

**Keywords:** IOT, Energy Metering, Sensors, Wireless Communication, Remote Monitoring

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Raspberry Pi Based - Android Control Survillance Robot K. Harika Reddy<sup>1</sup> Shreshta Javvaji<sup>2</sup> P. Nikhila<sup>3</sup> K. Bhanu<sup>4</sup>

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## **Abstract:**

In recent years, the fusion of Raspberry Pi and Android technology has enabled the development of innovative solutions in various domains. One such application is the creation of surveillance robots that offer remote monitoring capabilities. This abstract explores the design and implementation of a Raspberry Pi-based surveillance robot controlled through an Android interface. The proposed surveillance system integrates Raspberry Pi as the core computing unit and utilizes its GPIO (General Purpose Input Output) pins to interface with motor controllers, cameras, and sensors. These components enable the robot to navigate its surroundings and capture visual data efficiently. The Android platform serves as the user interface, providing users with remote control and real-time access to the robot's camera feed. Key features of the surveillance robot include its ability to navigate autonomously or respond to user commands via the Android app. The Android application facilitates seamless interaction, allowing users to steer the robot, adjust camera angles, and initiate surveillance tasks remotely. In conclusion, the Raspberry Pi-based Android-controlled surveillance robot presents a promising approach to remote monitoring, offering flexibility, accessibility, and advanced features for enhanced surveillance capabilities. This abstract outline the architecture and functionality of the system, highlighting its potential for addressing diverse monitoring requirements in both residential and commercial settings.

Keywords: Digital Library, Bar-Code, Online, Offline, Identification Number, Website.

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## **Rain Sensing Automatic Car Wiper**

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#### **Abstract:**

Today's car wipers are manual systems that work on the principle of manual switching. So here we propose an automatic wiper system that automatically switches ON detecting rain and stops when rain stops. Our project brings forward this system to automate the wiper system having no need for manual intervention. For this purpose, we use rain sensor along with microcontroller and driver IC to drive the wiper motor. Our system uses rain sensor to detect rain, this signal is then processed by microcontroller to take the desired action. The rain sensor works on the principle of using water for completing its circuit, so when rain falls on it it's circuit gets completed and sends out a signal to the microcontroller. The microcontroller now processes this data and drives the motor IC to perform required action. The motor driver IC now drives a servomotor to simulate as a car wiper.

**Keywords:** Automatic, Car Wiper, Rain Sensor, Wiper Motor, Microcontroller

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## Automatic Bike Speed Controlling System D.Pranathi<sup>1</sup> A.Vaishnavi Reddy<sup>2</sup> A.Yashwanth<sup>3</sup> N.Sampath<sup>4</sup>

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#### **Abstract:**

The Automatic Bike Speed Controlling System (ABSCS) is a cutting-edge technological solution designed to revolutionize two-wheeled transportation. This abstract provides a succinct overview of the ABSCS, highlighting its core functionalities and benefits. Utilizing a sophisticated integration of sensors, actuators, and intelligent algorithms, the ABSCS monitors and adjusts bike speed automatically, ensuring optimal safety and efficiency. Key components include a sensor suite comprising speed sensors, accelerometers, and GPS, which continuously gather real-time data on bike dynamics and environmental factors. The control unit, equipped with advanced microcontrollers, processes this data to execute precise speed control algorithms. These algorithms dynamically regulate throttle input and braking mechanisms, maintaining safe speeds in accordance with road conditions and user preferences.

Keywords: Safety, Efficiency, Sensors, Control Algorithm, Adaptive Control, User Interface

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Car Accident & Alcohol Detector & Recorder Blackbox

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#### Abstract:

The system makes use of Temperature sensor for fire detection in car, Vibration sensor to detect any impact force or heavy vibrations, Alcohol sensor to check if driver was drunk, gyro scope sensor to record data if vehicle tilted or turned over during accident and a GPS and GSM modem to send SMS with GPS Coordinates about the incident. This complete system is now powered by an Arduino Mega to operate the system. The system also has 2 Motors used to demonstrate as car engine. We can increase the speed of Motors using Trimpot. As we increase the speed beyond set limit, the system detects over speeding and sends an SMS Message with over speeding alert and GPS coordinates to registered number. The system monitors all sensor data to check for any abnormalities. If the fire sensor detects a fire, the controller operates the interfaced GSM modem to send an SMS to the registered contact number informing about the event and also starts recording data. Similarly if the vibration sensor detects heavy vibrations, the controller sends SMS to registered number informing about the event to the registered user. Is alcohol sensor is triggered the controller similarly sends an SMS notification with alcohol data and GPS Coordinates on Map link for easy vehicle location tracking. In case of any sensor triggers an abnormal activity the black box starts storing all sensor data on a second by second basis in an SD card so that investigation team may recover the data and study exactly what went on during the accident.

Keywords: Sensor, Detectors, SD card, Motors, Black box.

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### **Gas Sensing**

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#### **Abstract:**

Sensing technology has been widely investigated and utilized for gas detection. Due to the different applicability and inherent limitations of different gas sensing technologies, researchers have been working on different scenarios with enhanced gas sensor calibration. This paper reviews the descriptions, evaluation, comparison and recent developments in existing gas sensing technologies. A classification of sensing technologies is given, based on the variation of electrical and other properties. These are the sensors which can be used in industries and even in houses we can even upgrade the sensors by fitting them into the stove. Detailed introduction to sensing methods based on electrical variation is discussed through further classification according to sensing materials, including metal oxide semiconductors, polymers, carbon nanotubes, and moisture absorbing materials. Methods based on other kinds of variations such as optical, calorimetric, acoustic and gas-chromatographic, are presented in a general way. Several suggestions related to future development are also discussed. Furthermore, this paper focuses on sensitivity and selectivity for performance indicators to compare different sensing technologies, analyzes the factors that influence these two indicators, and lists several corresponding improved approaches.

Keywords: Gas Sensors, Industries, Domestic Purpose, Sensing Technologies

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## Automatic Night Light Control by Using Arduino UNO G. Siva Rama<sup>1</sup> K. Bharath<sup>2</sup> M.Sathwik<sup>3</sup> C.Vishwagna<sup>4</sup>

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#### **Abstract:**

Our manuscript aims to develop a system which will lead to energy conservation and by doing so, we would be able to lighten few more homes. A circuit with LDR sensor, Arduino UNO as a main processor, and few of electronic components is designed and implemented to control the electricity based on night. Night light control has been designed and constructed based on LDR sensor as the light range sensing device this circuit may perform something sample for example in our case switch an AC light ON/OFF and may be extended to controlled a light affected process. The lights are in working functionality over the whole night that consumes a lot of energy and reduces the lifetime of the electrical equipment such as electric bulb etc. In this regard, controlling lighting system using Light Dependent Resistor (LDR). It is a sensor which is a particular kind of resistor whose resistance decreases when exposed to light. Likewise, it offers high resistance in dark. This project design tocontrol night light system by using Arduino UNO and LDR. An LDR or light dependent resistor is also known as photo resistor, photocell, photoconductor. It is a one type of resistor whose resistance varies depending on the amount of light falling on its surface. When the light falls on the resistor, then the resistance changes. These resistors have a variety of functions and resistance. For instance, when the LDR is in darkness, then it can be used to turn ON a light or to turn OFF a light when it is in the light.

Keywords: Arduino Uno, Light Sensor, Leds Or Light Bulbs, Breadboard And Jumper Wires, Etc.

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## Study of Simple Calculator & Analyses of its Working A Chandu<sup>1</sup> A Mahiraj<sup>2</sup> A Renvitha<sup>3</sup> Dia Yadav<sup>4</sup>

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#### **Abstract:**

The Simple Calculator project is a Python-based endeavor aimed at developing a versatile and user-friendly calculator application. This project encapsulates the essence of elementary programming principles, serving as an educational tool for novice programmers while offering utility to users in need of basic arithmetic computations. At its core, the Simple Calculator employs a modular structure, dividing functionality into distinct components for enhanced organization and maintainability. Each arithmetic operation (addition, multiplication, and division) is encapsulated within its own function, facilitating code readability and ease of modification. This modular approach not only simplifies development but also encourages adherence to best practices in software design. Moreover, the Simple Calculator project serves as an ideal platform for hands-on learning and experimentation. Beginners can delve into the intricacies of Python syntax, control structures, and function definitions while actively contributing to a tangible project. Advanced users, on the other hand, may explore avenues for optimization, extend functionality, or even port the application to alternative platforms. Looking ahead, the Simple Calculator project harbors potential for expansion and refinement. Future iterations could introduce supplementary features, such as support for exponentiation, square root computation, or memory functions. Additionally, the integration of a graphical user interface (GUI) could enhance accessibility and broaden the application's appeal to a wider audience.

**Keywords:** Simple Calculator, Arithmetic Computations, Extended Functionality.

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## **Currency Converter**

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#### **Abstract:**

The Currency Converter aims to create a program that can convert one currency to another based on the current exchange rates. The program will take user input for the amount to be converted and the currencies involved. It will then fetch the latest exchange rates from a reliable API and perform the conversion calculation. To accomplish this, the project will utilize the requests library in Python to make API calls and retrieve the exchange rate data. The program will also incorporate error handling to ensure that the user enters valid currency codes and amounts. Overall, this Currency Converter Python project will provide a practical solution for individuals who frequently need to convert currencies, not only serves as a practical tool for everyday users needing currency conversions but also provides a valuable learning experience, the Currency Converter Python project stands as a testament to the power of Python in solving real-world problems.

**Keywords:** Simple Calculator, Arithmetic Computations, Extended Functionality.

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UGC AUTONOMOUS

**Stock Visualization-Forecasting Dashboard Using Dash** 

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#### **Abstract:**

In today's dynamic financial landscape, understanding stock market trends and making informed investment decisions is paramount. Data visualization and forecasting tools play a pivotal role in empowering investors with actionable insights. This abstract outlines the development of a comprehensive stock visualization and forecasting dashboard using Dash, a Python framework for building analytical web applications. The dashboard integrates diverse data visualization techniques to offer a holistic view of stock market dynamics. Through interactive charts, graphs, and widgets, users can explore historical trends, analyze correlations, and identify patterns across various stock indices, sectors, or individual equities. Real-time data updates ensure that users have access to the most recent market information, facilitating timely decision-making.

Furthermore, the dashboard incorporates advanced forecasting models to provide predictive analytics. Utilizing machine learning algorithms such as ARIMA, LSTM, or Prophet, the system generates forecasts for stock prices, volatility, and other relevant metrics. Users can adjust parameters, customize models, and evaluate forecast accuracy to refine their investment strategies. User-centric design principles guide the development of the dashboard, ensuring intuitive navigation and seamless user experience. Features like bookmarking, exporting data, and customizable layouts enhance usability and cater to diverse user preferences. Additionally, integration with external APIs enables access to supplementary financial data, news feeds, and sentiment analysis, enriching the analytical capabilities of the platform.

**Keywords:** Dynamic Visualization, Technical Analysis, Forecasting Models, Real-Time Updates

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## **Exploratory Analysis of Geolocational Data**

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#### **Abstract:**

Geolocational data analysis has become pivotal in understanding human behavior, urban dynamics, and environmental patterns. This study embarks on an exploratory journey into geolocational datasets to uncover hidden insights and patterns. Leveraging advanced statistical techniques and visualizations, we delve into the vast expanse of location-based data to extract valuable knowledge. Our analysis encompasses diverse domains, including transportation, urban planning, and social dynamics. By scrutinizing trajectories, hotspots, and spatial distributions, we elucidate spatial-temporal trends and anomalies. Furthermore, we investigate the impact of external factors such as weather and events on location-based activities. Through this interdisciplinary approach, we aim to facilitate informed decision-making processes and foster innovation in various fields. Our findings not only contribute to the existing body of knowledge but also pave the way for future research endeavors in geospatial analytics.

**Keywords:** Eolocational Data. Exploratory Analysis, Spatial-Temporal Trends, Urban Dynamics, Data Visualization

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## **Library Management System**

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#### Abstract:

The Library Management System (LMS) is a Python-based software solution designed to streamline the management of books within a library. It offers functionalities for librarians to efficiently handle tasks such as adding new books, searching for existing books, checking out books to patrons, and managing book availability. The system consists of two main classes: Book and Library. The Book class represents individual books with attributes such as title, author, and ISBN. Meanwhile, the Library class serves as the central management system, allowing librarians to perform operations on the collection of books.

Key features of the Library Management System include:

- 1. \*Book Management:\* Librarians can add new books to the system, providing details like title, author, and ISBN.
- 2. \*Book Search:\* The system enables users to search for books by title, author, or ISBN, facilitating easy access to specific books within the library collection.
- 3. \*Book Checkout:\* Patrons can check out books from the library by providing the title of the desired book. The system ensures that the book is available for checkout before completing the transaction.
- 4. \*Book Return:\* Upon completion of reading, patrons can return books to the library. The system updates the book's availability status accordingly.

The Library Management System enhances operational efficiency within libraries by automating key processes and providing a user-friendly interface for both librarians and patrons. With its modular design and intuitive functionality, the system aims to improve the overall library experience for all stakeholders.

**Keywords:** Books, Members, loans, Catalog, Search, Database, Reports

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## Safety Alarm to Detect Drowsiness of Driver

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#### Abstract:

Driver drowsiness is a major contributing factor to road accidents worldwide, posing a significant threat to public safety. To address this issue, we propose a real-time drowsiness detection system designed to monitor driver alertness and mitigate the risk of accidents caused by drowsy driving. Our system utilizes a combination of computer vision techniques and machine learning algorithms to analyze driver behavior and physiological signals in real time. The system's core component is a camera-based eye-tracking module that captures and analyzes the driver's eye movements, such as blink rate, eye closure duration, and gaze direction. The model takes input from the eye-tracking module and physiological sensors, leveraging their combined features to make accurate predictions in real time. The proposed drowsiness detection system holds immense promise in the automotive industry, contributing to the development of advanced driver assistance systems and autonomous vehicles. By mitigating the dangers associated with drowsy driving, this technology can save lives, reduce injuries, and make our roads safer for everyone.

**Keywords:** Drowsiness detection, Safety alarm, Human eye, Sleepiness detection, sensor sound alarm.

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## **Online Voting System**

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#### **Abstract:**

The Online voting systems represent a significant advancement in the electoral process, leveraging digital technologies to facilitate secure, convenient, and efficient voting. These systems offer a robust alternative to traditional paper-based voting, aiming to increase voter turnout, reduce administrative costs, and enhance accessibility for all eligible voters, including those with disabilities and those residing in remote areas .Key components of an online voting system include voter authentication, secure ballot casting, real-time vote counting, and robust data encryption. Voter authentication mechanisms, such as biometric verification and two-factor authentication, ensure that only eligible voters can cast their votes. Secure ballot casting protocols, often implemented using blockchain technology, ensure that votes are recorded accurately and cannot be tampered with or altered. Realtime vote counting and result dissemination enhance transparency and trust in the electoral process. Despite its advantages, online voting systems face several challenges. Ensuring the security and integrity of the voting process is paramount, with potential threats including cyber-attacks, hacking, and data breaches. Additionally, maintaining voter privacy and preventing coercion are critical concerns. Addressing these challenges requires rigorous security measures, comprehensive testing, and adherence to strict regulatory standards. The future of online voting systems is promising, with ongoing innovations aimed at enhancing security, improving user experience, and expanding accessibility. As these systems evolve, they have the potential to transform the democratic process, making it more inclusive and efficient.

**Keywords:** Electoral process, Digital Technologies, Real Time Vote counting, Data Encryption.

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## **Emergency Mangement System**

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#### Abstract:

This program titled 'Emergency management System' is designed for comprehensive guide to report incidents, list all incidents and resolve accidents. This program covers aspects of listing and updating all the accidents, emergency injuries including sudden natural health issues. This program is implemented in Python. It provides the choices for adding and updating the emergencies. With this program, we will solve the emergency case by adding it into emergency list and providing service of ambulance. The emergency management system is a structured approach used by government agencies, organizations, and communities to prepare for, respond to, and recover from emergencies or disasters. It involves various phases such as mitigation, preparedness, response, and recovery. During the response phase, emergency services and organizations act to address the immediate effects of a disaster, including search and rescue, providing medical care, and ensuring public safety. Recovery efforts aim to restore the affected area to its pre-disaster state or better, including rebuilding infrastructure, providing assistance to individuals and businesses, and addressing long-term impacts. An emergency management system abstract would likely summarize the key components and functionalities of an emergency management system. It could touch upon aspects such as risk assessment, preparedness, response coordination, communication protocols, resource allocation, and recovery efforts. The abstract might also highlight the importance of such systems in mitigating the impact of disasters and enhancing community resilience. The abstract of an emergency management system would typically summarize the key components, strategies, and goals of such a system in a concise manner, highlighting its importance in safeguarding lives, property, and the environment during emergencies.

**Keywords:** Disaster Preparedness, Community Resilience, Emergency Response, Incident Command System (ICS), Crisis Communication Disaster Recovery.

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#### **Stack Overflow Autosearch Tool**

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#### **Abstract:**

The Stack Overflow autosearch tool is an innovative solution aimed at enhancing the efficiency and productivity of developers by automating the search process for programming-related queries on Stack Overflow. This tool is designed to integrate seamlessly into the developer's workflow, providing quick and targeted access to a vast repository of coding knowledge and solutions. By employing various methodologies, including browser extensions, custom search engines, Python scripts, integrated development environment (IDE) plugins, and command-line interfaces (CLI), the tool offers multiple access points to accommodate different user preferences and technical environments. Browser extensions and custom search engines enable users to perform Stack Overflow searches directly from their browser's address bar, offering convenience and speed. Python scripts, leveraging the Stack Exchange API, provide a programmable approach to automate searches and retrieve results, which can be particularly useful for more advanced users or those who require customized search functionalities. IDE plugins integrate Stack Overflow search capabilities directly into the development environment, allowing developers to query and retrieve information without disrupting their coding session. CLI tools, such as so-cli, offer a lightweight and efficient means to perform searches directly from the terminal, catering to users who prefer command-line operations.

Keywords: Digital Library, Bar-Code, Online, Offline, Identification Number, Website.

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## **Personal Assistant System**

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#### **Abstract:**

The paper presents the design and implementation of a python- based personal assistance system.leveraging speech recognition, natural language processing and task automation, the system anables real time interaction through voice commands integrating with external APs.it performs task such as scheduling.weather forecast, email management, and news retrieval.user personalisation achieved through machine learning, tailors responses to individual preferences, showcasing the potential of python in creating intelligent and versatile personal assistant applications.

**Keywords:** Personal Assistant, Python Machine Learning, Voice Command, Task Automation.

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## **Employee Management System**

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#### **Abstract:**

This report includes a development presentation of an information system for managing the staff data within a small company or organization. The system as such as it has been developed is called Employee Management System. Employee management system is an application based system, having two applications developed, one for employers to manage employee details and another for employees to mark their attendance. Every organisation whether government or private uses an information system to store data of their staff. However, in India it is found that many small scale industries use pen and paper to keep a record. However, there are many advanced technology systems available that can do this work but they all are costly for these low level industries. This paper discusses making a system for solving problems for them at a cheaper cost. This system will mark attendance of each employee and calculate the salary of them at the end of month. It also calculates overtime and total working hours of each employee. As in small scale each company has their own holidays preference and variable week off for employees, so all this power is given to the employer to manage holidays and week days of each employee separately. It saves lots of time and has no error in pay calculation hence preventing clashes between HR Team and employees. So that both employer and employee can focus on their work to develop their company.

**Keywords:** Employee Management System, Small Scale Industries, Employer And Employee.

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Automation.

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## House Price Prediction Using Machine Learning in Python T. Nikhila<sup>1</sup> Y. Rishith<sup>2</sup> Zaina Aziz<sup>3</sup> Pranay Raj<sup>4</sup>

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#### Abstract:

This project aims to develop a machine learning model to predict house prices based on various features such as location, size, number of bedrooms, and amenities. The dataset used for training and testing the model is sourced from real estate listings and public databases. The project involves data preprocessing, feature engineering, model selection, and evaluation. Various regression algorithms including linear regression, decision trees, and ensemble methods are explored and compared to identify the most accurate predictive model. The final model is deployed using Python libraries such as scikit-learn and Flask, allowing users to input house features and obtain predicted prices. This project contributes to the field of real estate by providing a reliable tool for estimating house prices, aiding buyers, sellers, and real estate professionals in making informed decisions.

**Keywords:** public database, data preprocessing, regression algorithms, python library.

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## **Password Authentication Using Python**

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#### **Abstract:**

Password authentication is a widely used method for verifying the identity of users in computer systems. It involves users providing a secret password that is compared to a stored version in a database. If the provided password matches the stored one, access is granted. This abstract explores various techniques, challenges, and security measures associated with password authentication, The system securely stores hashed passwords and employs salted hashing techniques to protect against common attacks such as rainbow table attacks. It incorporates user input validation and error handling to ensure robustness and reliability. In today's world, the data storage is getting increased due to (i) business and banking information, (ii) personalized data, (iii) research improvements on the field of data retrieval, pattern and future prediction over the retrieved data, (iv) improvement in machine learning algorithms, (v) social media and (vi) higher e-mail transactions. If the information value is higher, then that increases possibility and attracts hacker towards the available or transacted information. This clearly says that the field area of research is very much in need to focus and further improvement towards authentication security. The authentication security can be provided by using some devices like (i) finger print sensor, (ii) face recognition devices, etc., but these leads to additional cost and additional device dependent which reduces the ease approach of authentication. When the authentication mechanism need to be improved without any additional sensors then the password entering scheme will come into the picture and this password entering mechanism can be researched and improved better, aiming to enhance understanding and implementation in digital system. Through this system, users can securely authenticate their identities, providing a foundational layer of security for digital applications and systems.

**Keywords:** Password Authentication, Secret, Hacker, Security, Sensors, Password Entering Mechanism, Securely Authenticate, Protection

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### **Face Detection Attendence System**

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#### **Abstract:**

In response to the growing need for streamlined attendance management solutions across diverse sectors, this project endeavors to design, develop, and implement a sophisticated Face Detection Attendance System (FDAS). Grounded in cutting-edge advancements in computer vision and machine learning, the FDAS represents a pivotal leap forward in automating attendance tracking processes within educational institutions, corporate enterprises, governmental agencies, and public venues. By harnessing the power of facial recognition algorithms, the system aims to accurately and efficiently identify individuals, authenticate their presence, and seamlessly record attendance data in real-time, thereby obviating the need for manual intervention and mitigating the associated risks of error and inefficiency. The architecture of the FDAS encompasses a comprehensive suite of functionalities, including robust face detection mechanisms, feature extraction algorithms, and database matching protocols, all underpinned by a framework that prioritizes data privacy, security, and regulatory compliance. The system's modular design facilitates seamless integration with existing infrastructure and software ecosystems, ensuring scalability, interoperability, and adaptability across a myriad of organizational contexts and operational environments. Moreover, the FDAS is engineered to optimize resource utilization, minimize latency, and uphold performance benchmarks, thereby enhancing user experience and organizational productivity. Looking ahead, the evolution of the FDAS is envisioned to encompass enhancements such as multimodal biometric authentication, adaptive learning capabilities, and augmented intelligence functionalities, thus positioning it as a versatile, future-proof solution for attendance management challenges in the digital age.

**Keywords:** Face Detection, Attendance Management, Computer Vision, Machine Learning, Facial Recognition, Real-Time Data Processing, Data Privacy, Security, Regulatory Compliance, Interoperability, Scalability, Resource Optimization, Biometric Authentication, Augmented Intelligence.

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## Language – Translator K. Jasmine<sup>1</sup> H. Akhil<sup>2</sup> S. Nandini<sup>3</sup> P. Chandra Trifosa<sup>4</sup>

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#### **Abstract:**

The development of technology connects everyone from all around the worlds. The problem is, people cannot really mingle with one another because they have communication problems. Some of the problems are with other traveller, disabled peoples, friends in social media. This project stresses the role of translation in teaching different foreign languages. The students who practice translation helps improve their linguistic skills in various languages and therefore helps to develop their multilingual skills. We chose Python as our programming language because of its simplicity and because of its wide applicability. Python Programming language provides adequate and easy setup of programs with the availability of various different modules which are used on day-to-day basis for different purposes such as Web Server Programming, Artificial Intelligence, Data Science, Machine Learning. This project presents the development of a language translator using Python programming. The translator utilizes natural language processing techniques and machine learning algorithms to accurately translate text from one language to another. The system employs libraries such as Natural Language Toolkit and TensorFlow for pre-processing, feature extraction, and training of translation models. Additionally, it integrates with external APIs like Google Translate for extended language support and enhanced accuracy. The project demonstrates the feasibility and effectiveness of building a language translator using Python, contributing to the advancement of multilingual communication technologies. In conclusion, language translators are indispensable tools in breaking down language barriers and promoting inclusivity in an increasingly diverse world.

**Keywords:** Tensor Flow, Python, languages.

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## Study of QR Code Generator B Praveen<sup>1</sup> A Shreyas<sup>2</sup> G V S Charan Reddy<sup>3</sup> K Vignesh<sup>4</sup>

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#### **Abstract:**

The usage of QR codes has surged recently, facilitating quick and contactless information sharing. QR codes are versatile two-dimensional barcodes that can store data like URLs, contact info, or text, easily scanned by smartphones. Previously, information sharing required manual data entry, which was time-consuming and error-prone. QR code generators have simplified this process by enabling easy creation of QR codes through websites or apps. Users can input data, customize the QR code's appearance, and download it for various uses, such as marketing, education, or event management. Dynamic QR codes allow data updates without altering the QR code itself, and built-in analytics track scan performance. Security features like password protection and expiration dates ensure safe data sharing. This digital tool streamlines the creation and management of QR codes, enhancing efficiency and versatility across numerous applications. With QR code generators, businesses and individuals can quickly adapt to the growing demand for fast, secure, and contactless data exchange, making them an essential tool in the modern digital landscape.

Keywords: QR Code Generator, Contactless information sharing, Security features, Data entry.

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## Face Mask Detector-Analyze it's Working and Convey Changes J. Tharuni Sai<sup>1</sup> A. Sravani<sup>2</sup> B. Ruthika<sup>3</sup> S. Nikhil<sup>4</sup>

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#### **Abstract:**

Since the infectious corona virus disease (covid-19) was first reported, it has become a public health problem in and even around the world. This pandemic is having devasting effects on societies and economies around the world. Health Oraganization and local authorities are propelling people to wear face masks as it is one of the comprehensive strategies to overcome the transmission. Therefore, we focus on implementing real-time face mask detection model as a embedded vision system people violating social distancing or not wearing masks were detected using this model. It has been trained with the dataset that contain around 4000 images and compiled for differentiating accuracy to choose the best for this type of model. This solution tracks the people with or without masks in a real-time scenario and this can be used with existing embedded camera infrastructure to enable these analytics which can be applied to various vehicles, as well as in office building or at airport terminals/gates. The main goal of the project is to implement this system at entrances of colleges, airports, hospitals, and offices where chances of spread of covid-19 through contagion are relatively higher. It is an object detection and classification problem with two different classes (mask and without mask). A dataset is used to build this face mask detector using python, while entering the place everyone should scan their face and then enter ensuring they have a mask with them. If anyone is found to be without a face mask, beep alert will be generated. Hence to ensure that people wear masks while coming to work we hope this module will help in detecting it. Not only in covid situations, it also helps and used in remaining many other situations. For example, when government conducts any entrance exams like eamcet, Jee mains, etc, then for entry purpose, everyone must wear the mask.

**Keywords:** Detection, COVID-19, Mask, Open CV, No Mask, Pandemic, Safety.

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## Random Password Generator- Analyze it's Working and Convey Changes

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#### Abstract:

Security is one of the most crucial parts of our lives. The importance of security is increasing day by day as most things are going online. Password come into light as we talk about security. In this project, we will create a password generator that helps us generate random and strong password quickly. The best thing about creating our own password generator is that ewe can customise it as we like. First, we will create a password generator that asks the length of the password and generates a random password containing digits, alphabets, and special characters. Next, we will improve it by asking the number of each type of character, like the number of digits, alphabets, and special characters by asking the user to enter the number of digits, alphabets, and special characters they want. When the user enters the number of characters for each type, the program will include the respective number of character types into the password Password generators, i.e. systems designed to generate site-specific passwords on demand. Such systems are an alternative to password managers. Over the last 25 years a range of password generator systems have been described. This paper proposes the first general model for such systems, and critically examines options for instantiating this model

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**Keywords:** Password, Security, Digits, Alphabets, And Special Characters.

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## Simple Calculator- Analyze it's Working and Convey Changes

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#### Abstract:

The Simple Calculator is a fundamental computational tool developed using Python, designed to perform basic arithmetic operations such as addition, subtraction, multiplication, and division. This application, executed in Python's Integrated Development and Learning Environment (IDLE), focuses on providing a user-friendly and reliable solution for everyday calculations. The Simple Calculator features a straightforward interface created with Tkinter, Python's standard GUI library. The interface includes a clear display area for showing current inputs and results, and responsive buttons for digits and operations. This layout ensures ease of use and minimizes input errors, making it accessible to users of all ages and technical backgrounds. Supporting both integer and floating-point arithmetic, the calculator delivers precise results for a variety of mathematical problems. Robust error handling is integrated to manage invalid operations, such as division by zero, by displaying appropriate error messages without causing the application to crash. Optimized for performance, the Simple Calculator operates efficiently even on devices with limited processing power. The codebase is well-structured and documented, facilitating easy maintenance and potential enhancements.

**Keywords:** Python, IDLE, Tkinter, GUI, arithmetic operations, user-friendly, reliable, efficient, error handling, floating-point arithmetic, integer arithmetic, modular code.

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#### **Grade Calculator**

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#### **Abstract:**

Grade calculator takes input from the user for marks obtained in assignments, projects and final exams. It then validates the input and calculates the weighted average of the marks, where assignments are worth 30%, projects are worth 30% and the final exams worth 40%. The program then outputs the final grade based on the weighted average. The program also checks for invalid inputs and provides an error message if necessary.

Keywords: Grade Calculator, Weighted Average.

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DECEMBER ON ONORS

Study of QR Code - Analyze Working of QR Code

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#### **Abstract:**

A QR.(quick response) code is two-dimensional barcode readable by QR scanners, smart mobile phones with a camera. QR codes can be used to link any URL. They can also be used to automatically add information into a user's smartphone such as a calendar event, map or personal contact information than a conventional barcode and is readable from any direction.

A QR code system is used in combination with a QR code printer(Or QR code creation software) and QR code scanner. QR code is generated with QR code creation software and a special printer. A QR code is a special matrix created by Japanese corporation Denso wave in 1994. The QR is derived from (Quick Response), as the creator intended the code to allow its contents to be decoded at high speed.

Keywords: Bar-Code, Online, Offline, Website.

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#### Resume Parser AI

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#### Abstract:

The advent of artificial intelligence (AI) has revolutionized the recruitment process, and one of the significant innovations in this domain is the resume parser AI. This technology automates the extraction and analysis of resume content, enhancing the efficiency and accuracy of candidate evaluation. Resume parser AI utilizes natural language processing (NLP) and machine learning algorithms to identify and categorize key information such as personal details, education, work experience, skills, and accomplishments from various resume formats. By converting unstructured resume data into structured data, it facilitates seamless integration with Applicant Tracking Systems (ATS) and other HR tools. The core functionality of a resume parser AI involves several stages: data extraction, information classification, and relevance ranking. Initially, it scans and extracts text from diverse file formats (PDFs, Word documents, etc.). Subsequently, it classifies this information into predefined categories using NLP techniques. Advanced algorithms then evaluate the relevance and quality of the extracted data, enabling recruiters to prioritize candidates based on predefined criteria. The benefits of using resume parser AI are multifaceted. It significantly reduces the time spent on manual resume screening, minimizes human error, and ensures a standardized evaluation process. Furthermore, it enhances the candidate experience by providing faster feedback and more personalized interactions. Despite its advantages, challenges such as handling diverse resume layouts, maintaining data privacy, and ensuring the fairness and transparency of the AI algorithms persist.

**Keywords:** NPLS, ATS, Multifaceted ,Faster Feedback .

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### **Exploring The Evolution and Applications of Chatbots**

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#### Abstract:

Chatbots, computer programs designed to simulate conversation with human users, have evolved significantly since their inception. This abstract explores the evolution, capabilities, and applications of chatbots in various domains. Initially conceived as basic rule-based systems, chatbots have undergone transformative advancements, primarily fueled by the integration of artificial intelligence (AI) techniques such as natural language processing (NLP) and machine learning (ML). The evolution of chatbots has seen them transcend traditional customer service roles to become versatile tools in fields ranging from healthcare and education to e-commerce and entertainment. In healthcare, chatbots assist with appointment scheduling, symptom assessment, and medication reminders, offering accessible support and information dissemination. Educational chatbots facilitate personalized learning experiences, delivering tailored content and assessments to students. Moreover, in e-commerce, chatbots enhance customer engagement through conversational interfaces, providing product recommendations and support throughout the purchasing process. Key challenges in chatbot development include ensuring accuracy in understanding user queries, maintaining conversational coherence, and addressing ethical considerations such as data privacy and bias mitigation. Ongoing research aims to enhance chatbot capabilities through advancements in AI, including improved context awareness, emotion recognition, and multi-modal interaction. As chatbots continue to evolve, their integration into everyday life is expected to deepen, reshaping how individuals interact with technology and access services.

**Keywords:** Chatbots, Artificial Intelligence, Natural Language Processing (NLP)

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# Advancements in Face Unlock Systems: A Comprehensive Review G Narsimha<sup>1</sup> M Ruthvik Reddy<sup>2</sup> M Abhishek<sup>3</sup> M Henosh<sup>4</sup>

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#### Abstract:

Face unlock systems have emerged as one of the most convenient and secure methods for authentication and access control in various domains, including smartphones, computers, and security systems. This paper presents a comprehensive review of the advancements in face unlock technology, focusing on the underlying mechanisms, challenges, and recent developments.

The primary objective of face unlock systems is to accurately identify individuals based on their facial features. Early implementations relied on basic image processing techniques to detect faces and match them against stored templates. However, with the rapid advancements in artificial intelligence and deep learning, modern face unlock systems have significantly improved in terms of accuracy, speed, and robustness. Key components of contemporary face unlock systems include face detection, feature extraction, and recognition. Face detection algorithms, such as Viola-Jones and convolutional neural networks (CNNs), efficiently locate faces in images or video streams. Feature extraction techniques, such as principal component analysis (PCA) and deep neural networks (DNNs), extract discriminative facial features for identification. Recognition algorithms, including neural networks and support vector machines (SVMs), match the extracted features against stored templates to authenticate users. Despite the progress, face unlock systems still face several challenges, including variations in lighting conditions, facial expressions, occlusions, and spoof attacks. Researchers are actively addressing these challenges through innovations such as robust feature representation learning, multi-modal biometric fusion, and anti-spoofing techniques based on liveness detection.

**Keywords:** Face Unlock Systems, Convolutional Neural Networks (Cnns), Face Detection.

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### **Voting System with Python**

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#### Abstract:

An election system is a structured process used to select individuals for public office or to make decisions on policies or issues through voting. It involves a series of steps, including candidate nomination, voter registration, campaigning, voting, and vote counting. Different types of election systems include plurality (first-past-the-post), proportional representation, and mixed systems, each with unique methods for translating votes into seats. Key principles of a robust election system include fairness, transparency, accessibility, and security. These systems are designed to reflect the will of the electorate while ensuring the integrity and legitimacy of the electoral process.

**Keywords:** Election System, Candidate Nomination, Vote Counting, Proportional Representation

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### **Marriage Matrimony Interface**

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#### Abstract:

This project presents the development of a marriage matrimony interface using the Python programming language. The interface aims to provide an efficient and user-friendly platform for users to find potential life partners based on various criteria such as age, gender, religion, location, and personal preferences. The marriage matrimony interface is a comprehensive application designed to facilitate the matchmaking process for individuals seeking marriage partners. This interface provides a user-friendly platform for users to create detailed profiles, search for compatible matches, and communicate securely. Key features include robust user authentication, profile management, advanced search algorithms, and private messaging capabilities. The application employs modern web development technologies to ensure a seamless and efficient user experience. By offering a reliable and secure environment, this matrimony interface aims to simplify and enhance the process of finding a suitable marriage partner.

**Keywords:** *Gender, Age, Elgibility, Website, Identification, Online.* 

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## Web Application Using Django

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#### **Abstract:**

In recent years, the proliferation of web applications has revolutionized the way businesses operate and interact with customers. This paper explores the development of web applications using Django, a high-level Python web framework that encourages rapid development and clean, pragmatic design. Django's robustness and scalability make it a preferred choice for developers aiming to build dynamic and secure web applications.

The Django framework, designed with the principle of "don't repeat yourself" (DRY), enables developers to write less code while achieving more functionality. This efficiency is achieved through Django's use of reusable components, a rich set of features, and a modular architecture. Key components such as the Django ORM (Object-Relational Mapping) facilitate seamless interaction with databases, abstracting complex SQL queries into simple Python code.

This study delves into the architecture and core components of Django, including its MTV (Model-Template-View) design pattern, which separates concerns to enhance maintainability and scalability. The model layer handles data and business logic, the template layer manages the user interface, and the view layer acts as a bridge, processing user requests and returning appropriate responses. Furthermore, the paper examines Django's built-in features that contribute to security, such as protection against SQL injection, cross-site scripting (XSS), cross-site request forgery (CSRF), and clickjacking. These security mechanisms are crucial in today's digital landscape, where web applications are frequent targets of malicious attacks.

**Keywords:** Django, Python, web development, web applications, MVC architecture, ORM, security, scalability, RESTful APIs.

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# Storing of Product Details and Data Using Python Saideep Macherla<sup>1</sup> P. Sai Kumar<sup>2</sup> P. Dharma Teja<sup>3</sup> P. Bhaskar<sup>4</sup>

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#### Abstract:

Storing product details and data efficiently is crucial for businesses to manage inventory, track sales, and analyze trends. Python, with its versatile libraries and user-friendly syntax, provides a robust platform for creating software solutions that facilitate the storage and retrieval of product information. By utilizing data structures like dictionaries, lists, or databases such as SQLite or MongoDB, Python developers can design scalable systems for storing vast amounts of product data. Additionally, leveraging object-oriented programming concepts in Python enables the creation of reusable classes and methods for managing product attributes and relationships. Furthermore, integrating Python with data visualization tools like Matplotlib or Plotly allows for insightful analysis of stored product data, aiding in strategic decision-making processes. This abstract showcases Python's capabilities in handling product details and data effectively, offering businesses a flexible and powerful tool for enhancing their operational efficiency and competitiveness in the dynamic market landscape.

**Keywords:** Python, Product Details, Data Storage, Dictionaries, Lists, Sqlite, Mongodb, Object-Oriented Programming, Data Visualization, Matplotlib, Plotly, Scalability, Efficiency, Business Operations.

JGC AUTONOMOUS

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### **Classify Song Genres from Audio Data**

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#### Abstract:

The classification of song genres from audio data is a significant area of research in the field of music information retrieval (MIR). This paper provides an overview of the methodologies used to classify song genres using audio data, with a particular emphasis on machine learning (ML) and deep learning (DL) techniques. The process typically involves three main steps: feature extraction, feature selection, and classification. Feature extraction is the initial step, where audio signals are analyzed to extract relevant attributes such as tempo, pitch, rhythm, timbre, and spectral features. Common techniques used for this purpose include Mel-Frequency Cepstral Coefficients (MFCCs), chroma features, and beat tracking. Feature selection follows, aiming to identify the most relevant features that enhance the classification model's performance while reducing computational complexity. Techniques such as Principal Component Analysis (PCA) and various wrapper and filter methods are employed in this phase. The final step involves the application of classification algorithms. Traditional methods like k-Nearest Neighbors (k-NN), Support Vector Machines (SVM), and Decision Trees have been widely used. However, recent advancements have seen the emergence of deep learning approaches, particularly Convolutional Neural Networks (CNNs) and Recurrent Neural Networks (RNNs), which have shown superior performance in capturing complex patterns within audio data. Challenges in genre classification include the subjective nature of genre definitions, overlap between genres, and variability in audio quality and production techniques.

**Keywords:** *MFCC*, *PCA*, *SVM*, *RNNs*, *CNNs* 

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# Study of Simple Calculator- Analyze It's Working and Convey Changes Naresh Yadav<sup>1</sup> T. Ashwith<sup>2</sup> V.Sumanth<sup>3</sup> V. Rethvik Shiva<sup>4</sup>

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#### Abstract:

A simple calculator is a compact, user-friendly device designed to perform basic arithmetic operations such as addition, subtraction, multiplication, and division. Its primary components include a numeric keypad, function keys, a display screen, and an internal processor. These calculators operate on minimal power, often utilizing small batteries or solar cells. They are ubiquitous in educational settings, businesses, and homes due to their affordability and ease of use. The straightforward interface ensures that users of all ages can quickly learn to perform basic calculations, making it an essential tool for everyday numerical tasks. The evolution of simple calculators has seen improvements in both functionality and design, with modern versions incorporating additional features such as memory storage, percentage calculations, and square root functions. Despite the advent of advanced computing devices and smartphones with sophisticated applications, simple calculators remain relevant due to their reliability, portability, and dedicated functionality. Their design continues to emphasize simplicity and efficiency, ensuring they remain an indispensable tool for quick and accurate arithmetic computations.

**Keywords:** Digital Library, Bar-Code, Online, Offline, Identification Number.

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#### AI Voice Assistant

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#### Abstract:

In recent years, AI voice assistants have revolutionized the way humans interact with technology, offering seamless and intuitive experiences across various domains. This abstract explores the role of AI voice assistants in enhancing user experience (UX) by leveraging natural language processing (NLP), machine learning (ML), and advanced algorithms. AI voice assistants, such as Siri, Alexa, and Google Assistant, have become ubiquitous in smartphones, smart speakers, and other IoT devices, serving as personal assistants capable of understanding and responding to natural language commands. These assistants utilize sophisticated NLP algorithms to parse user queries, extract intent, and generate relevant responses in real-time. ML algorithms enable them to continuously improve their understanding and response accuracy through data-driven learning from user interactions. Key components contributing to the effectiveness of AI voice assistants include speech recognition, natural language understanding, context awareness, and personalized recommendations. Speech recognition technologies convert spoken words into text, enabling the assistant to comprehend user input accurately. Natural language understanding algorithms analyze the semantics and intent behind user queries, allowing assistants to provide contextually relevant responses. Context awareness enables assistants to consider factors such as user location, preferences, and past interactions, tailoring responses to individual needs. Personalized recommendations leverage user data and behavioral patterns to offer proactive assistance and suggestions.

**Keywords:** AI Voice Assistants, User Experience, Natural Language Processing, Machine Learning, Speech Recognition, Context Awareness, Personalization, Privacy, Ethics.

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## **Study of Grocery Management**

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#### Abstract:

Grocery management is a crucial aspect of the food retail industry, encompassing the meticulous coordination of inventory, procurement, storage, and distribution processes. Leveraging advanced technology and data analytics, grocery management aims to optimize supply chains, enhance inventory control, and reduce waste. Key strategies involve demand forecasting using historical sales data and predictive analytics, ensuring accurate inventory levels to prevent overstock and stockouts. Supplier relationship management is essential, fostering strategic partnerships to secure reliable product availability and favorable terms. Automation through point-of-sale (POS) systems, real-time inventory tracking, warehouse management systems (WMS), and transportation management systems (TMS) has revolutionized the efficiency and accuracy of grocery operations. The rise of e-commerce and omnichannel retailing has transformed grocery management, necessitating seamless integration between online and offline operations. This integration requires sophisticated logistics solutions, such as automated picking systems and optimized last-mile delivery. Additionally, sustainability practices, such as reducing food waste, eco-friendly packaging, and ethical sourcing, are increasingly prioritized. Retailers must also adapt to changing consumer preferences, offering convenience through online ordering and home delivery, while leveraging data analytics for personalized customer experiences. Effective grocery management thus balances cost efficiency with high service levels, meeting consumer demands and driving business growth in a competitive market.

**Keywords:** Shopping Mall, Customer Experience, Data Analytics, Perishable Goods Management, Stock Replenishment, Inventory Turnover, Cost Efficiency.

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## **Design of Wind Turbine Energy System**

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#### **Abstract:**

Air flowing is called the wind. Because of sun, the wind always exists. The wind energy is from the sun; it is a renewable energy resource. Wind-turbine is the equipment to convert the wind dynamic energy into the electrical energy. Unfortunately, the wind energy is uncertain and unstable. How to use the energy source is the engineering topic? This paper introduces a method to obtain a stable energy from wind.

Keywords: Wind-Turbine, Renewable Energy Resource

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# On Solving A Transportation Problem Using Lingo And Study On Composting Kitchen Waste To Organic Fertilizer

### <sup>1</sup>Dr.P.Jamuna Devi, <sup>2</sup>Dr.R.Karthi

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### Abstract.

The major challenge for many developing countries like India is kitchen waste. Kitchen waste accounts 50 percent of household waste in the country. India stands a chance to convert this into an opportunity. Convert kitchen waste into organic fertilizer creates economic and environmental benefit, which can improve soil health, help reduce erosion, and improve water quality. This paper focuses its attention on making kitchen waste into organic fertilizer. Thirukkuvalai Taluk is a agricultural based Taluk in Nagapattinam District of Tamilnadu State in India has chosen for the study and a generalized findings and suggestions have been given based on the secondary data observed. Also, to solve the Transportation problem to minimize the total transportation cost and total delivery time using LINGO software.

**Keywords:** Kitchen Waste – Composting – Transportation problem – LINGO software

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Enhancement of Digital Systems with Integrated Asynchronous FIFOs and RISC-V Processors

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Abstract:

This paper presents an integrated design of an asynchronous FIFO with a RISC-V processor using Verilog code and simulated using the Xilinx vivado 2016.4 tool. The integration aims to enhance digital system performance and energy efficiency by leveraging asynchronous design principles. Unlike synchronous FIFOs that introduce latency and power overheads due to clock synchronization, asynchronous FIFOs offer reduced latency and power consumption. The design includes a customized asynchronous RISC-V architecture interfaced with the asynchronous FIFO, ensuring reliable data transfer without clock domain crossings. Extensive simulations in Vivado validate the design, showcasing improvements in throughput, latency, and power consumption compared to traditional synchronous designs. This work contributes to the advancement of asynchronous design methodologies and highlights the potential of asynchronous architectures in addressing performance and power challenges in modern digital systems.

**Keywords**—asynchronous FIFO, asynchronous RISC-V processor, clock synchronization, throughput, digital system.

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Exploring Humanity's Obsession with the Unknown in M. Night Shyamalan's "The Village" Through Cinematic Techniques

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### Abstract:

This research paper explores the concept of humanity's obsession with the unknown as it is shown in M. Night Shyamalan's film, "The Village." In this article, we analyze how the characters in the film symbolize different parts of this underlying preoccupation via an examination of several cinematic techniques, including close-up views, non-diegetic music, color symbolism, and framing. The paper investigates the reasons behind the characters' actions, the consequences of their preoccupations, and the philosophical foundations around which the story is built. This article focuses mostly on the primary character of the movie, Lucius Hunt, who also serves as a protagonist in the story. The function of the audience in perceiving this subject and the intellectual reactions it elicits are also topics that are covered in this section of the article. The observations and conclusion of the article may make significant contributions to our understanding of cinematic techniques and their effective use in m. Night Shyamalan's movies.

**Keywords**— *Techniques*, *Obsession*, *Unknown*, *Cinema*, *Humanity*, *Shyamalan*...

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# Artificial Intelligence: Redefines The Professional Workflows In Future Engineering

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### Abstract

This research paper explores the transformative impact of artificial intelligence (AI) on the day-to-day professional lives of engineers. By integrating AI tools, engineers are poised to experience significant enhancements in productivity, decision-making accuracy, and innovative capabilities. The study analyzes various AI applications, from automated design and simulation to predictive maintenance and real-time data analysis, illustrating how these tools reduce time-consuming tasks and foster a more efficient workflow. Additionally, the paper discusses the potential challenges, including the need for new skill sets and the ethical implications of AI deployment. Overall, AI is set to revolutionize engineering practices, making them more precise, efficient, and adaptable to future challenges

UIGE AUTONOMOUS

**Keywords**— artificial intelligence.. AI applications

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# Database technology on its baby steps towards autonomous <sup>1</sup>Debashis Mishra, <sup>2</sup> Ayush Mathur, <sup>3</sup> Santosh Kumar Sahoo, <sup>4</sup> Saumyaprava Acharya

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### Abstract

Database is a well-known technology in the field of computer science since its immemorable time of advancements in IT world. Database needs huge efforts on managing, storing, recovering, and retrieving data. Administration in database has been always in an important role in any database, handling data is not quite easy. Time has been changed and everyone, every technology are looking forward to advanced methods of AI and autonomous. Hence, database is not in the back foot, as the premium vendors of database in IT world have started their progress to make their database intelligent enough to work smarter and efficiently to minimize the human efforts. This research article will try to survey on various advancements of database on this direction.

JGC AUTONOMOUS

Keywords— Database, AI

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### An Innovative Idea for Constructing a Graph with a Specified Domination Number and Maximal Domination Number

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### Abstract

This paper presents a novel approach for constructing a graph with a domination number s and a maximal domination number t in which the given s and t are both positive integers.

**Keywords**— Domination number, maximal dominating set, maximal domination number, greatest common divisor

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# A Comprehensive Study on the Contributions of commander-in-chief Kuyili in Tamilnadu's Freedom Struggle

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### Abstract:

India's freedom struggle is full of stories of countless sacrifices. Some of these sacrifices were such whose names were recorded in the pages of history. Unfortunately many of these freedom fighters remain unsung to date. One such unladed freedom fighter was Kuyili. But there is knowledge about these heroes in folk stories and oral literature. These folk stories and oral literature provide a look into the fortitude and perseverance of these unsung warriors, demonstrating their unflinching loyalty to the cause of freedom. Their stories serve as a reminder of the rich history and struggle for liberation in Tamil Nadu, encouraging future generations to continue fighting for justice and liberty. Kuyili was born in the 18th century at Sivagangai district. Kuyili was an army commander of Queen Velu Nachiyar who participated in campaigns against the East India Company in the 18th century. She was the first suicide bomber and the first woman martyr in Indian history. While attacking a fort of East India Company, her battalion of 4000 women was fired at by British cannons. She applied ghee and oil on her body, set herself ablaze and jumped into the armoury of the East India Company, thus securing victory for Queen Velu Nachiyar. Kuyili has played an important role in shaping the history of India. Not many of us are aware that Kuyili was the first suicide bomber in the history of India's battle for freedom. This article discusses contribution of Kuyili to India's War of Independence

**Keywords:** Kuyili, Dalit women, Indian freedom struggle, Tamil Nadu, subaltern history

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### Navigating the Human Experience: Exploring Themes of Isolation and Connection in Jhumpa Lahiri's *Interpreter of Maladies*

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#### **Abstract**

Jhumpa Lahiri's collection of short stories, Interpreter of Maladies, intricately weaves together narratives of individuals grappling with the complexities of human connection and the pervasive sense of isolation. Through nuanced characterizations and poignant storytelling, Lahiri delves into the depths of human emotion, illuminating the universal experiences of loneliness, displacement, and longing for connection. This paper aims to explore the thematic underpinnings of isolation and connection in Lahiri's work, examining how characters navigate the intricacies of their relationships and identities in a world marked by cultural dislocation and emotional detachment. By delving into the multifaceted layers of Lahiri's narratives, this analysis seeks to shed light on the profound insights into the human condition offered by Interpreter of Maladies.

**Keywords**: Isolation, connection, loneliness, displacement, cultural dislocation, human condition.

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Towards an Inclusive Learning Environment: Integrating Embedded Technologies in Teaching & Learning Literature in the Classroom

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### **Abstract**

Teachers using technology in the language classroom can improve their instruction for their students and even change the very nature of that instruction. Taking into consideration the difficulties faced by literature professors today due to students declining interest in reading books by students the article stresses the need to motivate them, to the role that technology plays, its resources and communication, play in this regard. Focused on second language acquisition—especially in the context of reading, interpreting both contemporary and classical texts by using digital tools, social media and internet resources, this study's primary focus is on a thorough analysis of the impact of modern technologies on teaching literature. Analyzing the basic changes the use of new technologies has brought in literature with a learner-centric approach this paper proposes the inclusion of digital technologies in the curriculum's literature and relating to the significance of mental, emotional and moral development of an individual.

UGC AUTONOMOU

**Keywords**: *Internet, literature, digital tools, social media, Web, e-book* 

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### Legacy Of Shame And Trauma: A Psychoanalysis Of Shadrack In *Sula* And Robert Ross In *The Wars*

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### **Abstract:**

Chloe Anthony Wofford Morrison, known as Toni Morrison, was an American novelist and Nobel Prize winning author for renowned works. *Sula* is an exploration of complex friendship between two African American women Nel and Sula. Shadrack is a minor yet a remarkable character who was shattered in the name of war, living in an abandoned state without any respect from the family, society and government which a veteran could never deserve for the sacrifice done on war field. Timothy Findley was a Canadian author, a recipient of the Governor General s Literary Award and a renowned for his intelligent writing and storytelling. His subject matter often focused on the lives of troubled individuals. *The Wars* is based on Findley s uncle, Thomas Irving. Robert Ross, the protagonist, is a troubled young soldier in the First World War who was haunted by a family tragedy, traumatized by the horrors of trench warfare resulting in the inheritance of soul-destroying guilt, shame and trauma.

**Keywords:** Trauma in Shadrack and Robert Ross, Shame in Shadrack and Robert Ross, Morrison and Findley - a comparison, Legacy of shame and traum handled by Morrison and Findley in Sula and The Wars, Shadrack and Robert Ross - scapegoat of wars

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# Comprehensive Evaluation Of The Digital India Programme To Address Pain Points In India's Digital Transformation

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### Abstract:

The Digital India Programme represents a transformative vision aimed at reshaping India's digital landscape to promote widespread digital inclusion and socio-economic development. Despite significant advancements in digital banking, e-governance, and rural development, the programme faces numerous challenges, especially in rural areas. These challenges include inadequate digital literacy, poor infrastructure, socio-economic disparities, and cybersecurity threats, which hinder the effective adoption of digital financial services. Studies highlight these impediments and underscore the need for interventions to ensure equitable distribution of digital benefits. This comprehensive evaluation identifies pain points associated with the programme's implementation and suggests measures to enhance its efficacy. This study discusses key issues such as network and infrastructure limitations, digital literacy gaps, socio-cultural resistance, economic barriers, insufficient customer support, and slow regulatory responses. The findings emphasize the importance of strategic investments, regulatory support, and community engagement to overcome these challenges and achieve the programme's full potential.

**Keywords:** Digital India, digital literacy, rural development, e-governance, cybersecurity.

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# The Role of Condition Monitoring Techniques In Industries, To Avoid And Effective Control of Industrial Accidents.

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<sup>2</sup>Professor, Mechanical Engineering Department, Anil Neerukonda Institute of Technology

#### Abstract:

Industries Are play a vital role of a country economic growth, They produce goods, Components and their activities or manufacturing sequences concerns to converts raw material into products of more value to people. Industry refers to economic activities concerned with the production of goods, extraction of services and provision or services. Hence we can say that Industries are Directly and indirectly supports Social, Economical and Cultural Growth of a Country. Especially India like countries Recognize the need and importance of Industries for Sustainable Development. After Independence (1947), Government of India Completely focusing and Allocate more Budget to Industries Development. But, Unfortunately now the time Industries are referred for Accidents. There are several reasons for occurring these. Human error is a leading cause of industrial accidents. Despite technological advancements, the reliance on human intervention in industrial processes introduces the possibility of mistakes and oversights. Factors contributing to human error include fatigue, lack of concentration, inadequate training, and poor communication. The Common Accidents like Fire and explosion hazards in industrial storage units have gained a considerable attention in recent years. Indian Oil Corporation (IOC) storage terminal accident in Jaipur, India, is a recent example of Vapor Cloud Explosion (VCE) and fire accidents preceded by Buncefield (2005) and Puerto-Rico (2009). On 29th October 2009, a leak of gasoline occurred in the IOC storage terminal. This Paper is mainly focusing on need of inspections and Condition monitoring Techniques to implement timely in industries to avoid accidents.

Keywords: Production of goods, Industrial Accidents, Human Error, Explosion hazards, Condition monitoring,

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Paper ID: ICCIASH-2024/197

### Android Bluetooth Device Control For Industrial Automation K. Anitha Reddy <sup>1</sup>, K.S.S. Naga Teja<sup>2</sup>

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### Abstract:

The paper presents the home appliances like a lightweight, TV and Fan control with the assistance of Wireless micro controller through Android mobile. It is possible by using cell technology which is useful to our society. The goal of this project is to help the physically challenged and elderly people. Automated processes provide comfort for operator and increase productivity. The risk involved is also decreased. With the development of remote systems, it is possible to access and control the strategy, system or interface from a computer, mobile android devices with a user friendly interface. The mobile electronics and control concepts are required to develop a strategy. In the recent times, cell phones have become very powerful with better efficiency and improved characteristics. This project helps to develop device control for industrial automation.

**Keywords:** Android, Bluetooth, device control, industrial automation

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### Computational Intelligence in Wireless Sensor Networks: Techniques and **Applications**

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Associate Professor, Department of Management, Asian Business School, Noida<sup>3</sup>

### **Abstract:**

Wireless sensor networks (WSNs) are compact, lightweight, and distributed devices designed to monitor environments or systems by collecting data, periodic reporting and detecting events. These networks face numerous challenges, including sensor node design and deployment, mobility and topology changes, localization, clustering, data aggregation, security, and quality of service management. Intelligent approaches are highly effective in dynamic environments where sensor nodes are deployed. Computational intelligence (CI) provides flexibility, autonomous behavior, resilience to communication failures and robustness to topology changes. This paper explores common CI paradigms such as fuzzy systems, artificial neural networks, evolutionary algorithms, swarm intelligence, and artificial immune systems.

**Keywords** - Wireless Sensor Networks, Computational Intelligence, Machine Learning, Fuzzy Logic, Evolutionary Algorithms, Neural Networks.

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### Resistance Against Societal Norms – In Nayantara Sahgal's Novel "Mistaken Identity

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### **Abstract:**

Mistaken Identity is a political novel imbued with socio-political events in India during the British regime in the year 1929. Nayantara Sahgal has clearly described that all her female characters are a mere reflection of the present social environment and highlights the mental misery and psychology suffering of stereotyped women in married life. Sahgal in her novels transforms her own experience of the traumatic marriage and the consequent divorce together with what she observed, understood and sympathized in the contemporary world, into fiction: she, as a socio-political novelist portraying the twentieth century Indian Milieu, describes the conflict of values among married woman. The present paper is an attempt to reflect the resistance of women and men characters in the novel against the societal norms and their struggle for identities.

**Keywords** - resistance, societal norms, conflict, identities.

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The Design and Implementation of D-Statcom Aim to Improve Power Quality Namburi Nireekshana<sup>1</sup>, Ashwini Omprakash<sup>2</sup>, Md.Mujtaba Furkhan Ali<sup>3</sup>, A.Shiva<sup>4</sup>, Mudayath Sridhar<sup>5</sup>

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### **Abstract:**

The utilisation of renewable energy systems has gained significant popularity. Due to the lack of rigorous tracking of the end points of distribution lines by most utilities, which is where the majority of wind turbines are linked to the grid, the increased use of renewable energy in utilities can lead to issues with the overall dynamics of the system. This article outlines the development and management of a D-STATCOM inverter specifically designed for small to mid-sized wind turbines with power outputs ranging from 10kW to 20kW. The primary objective of this system is to address the issue of power factor correction in the electrical grid. The proposed D-STATCOM Inverter has the capability to regulate the VARs on individual feeder lines, even when there are fluctuations in the production of the renewable energy source, particularly wind. The control of active power is performed by adjusting the phase angle, whereas the control of reactive power is achieved by modulation index control. Additionally, the inverter has the capability to effectively mitigate a significant number of harmonics through the utilisation of the optimised harmonic stepped waveform (OHSW) approach. The inverter proposed employs the hybrid-clamped topology. The simulations have been performed using the MATLAB/Simulink platform.

**Keywords -** *D-STATCOM*, *Wind*, *Inverter*.

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### **Deep Learning Techniques for Lung Cancer Prediction and Classification**

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#### Abstract

The substantial health risk posed by lung cancer has sparked general public alarm. The likelihood of a favourable outcome from therapy for lung cancer is greatly improved by early identification. One potential way to improve the accuracy of early-stage lung cancer detection is to use deep learning in conjunction with a convolutional neural network (CNN). Using data sets obtained from the Image Database Resource Initiative (IDRI) and the Lung Image Database Consortium (LIDC), this research presents two separate approaches to lung cancer detection. Support vector machines (SVMs) and deep convolutional neural networks (CNNs) are used to classify lung cancer images as either malignant or non-cancerous. The convolutional neural network (CNN) is trained in MATLAB using either a single batch or numerous batches before classification. During multiple batch training, the deep CNN achieves an accuracy of 80% and during single batch training, it achieves a surprising 100% in classification, which is a huge improvement over the SVM's modest 65%. The remarkable testing performance of the deep CNN stands out; in less than 20 iterations, it achieves nearly 100% classification accuracy. The assessment is carried out with the use of 25 CT scans of the lungs, with a resolution of 512×512 pixels each scan. In contrast to earlier studies that mostly concentrated on clipped pictures of lung cancer nodules, this one demonstrates the effectiveness of the deep CNN in evaluating complete lung CT scans.

**Keywords** – CNN, Database Resource Initiative. MATLAB

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### Optimizing Supply Chain Management in the Shrimp Industry of Andhra Pradesh: Challenges and Opportunities

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#### Abstract:

The shrimp industry in Andhra Pradesh plays a crucial role in India's aquaculture sector, contributing significantly to the economy through domestic consumption and exports. This research paper explores the current state of supply chain management (SCM) within this industry, identifying key challenges and opportunities for optimization. Through a comprehensive literature review, methodology involving qualitative and quantitative analysis, and detailed case studies, this paper aims to provide actionable insights for stakeholders. The findings highlight the importance of adopting advanced SCM practices, leveraging technology, and addressing systemic issues to enhance efficiency and sustainability.

**Keywords:** Supply Chain Management, Shrimp Industry, Andhra Pradesh, Aquaculture, Optimization, Technology, Sustainability

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The Portrayal of Women Characters in Attia Hosain's Sunlight on a Broken Column and Shashi Deshpande's The Binding Vine- A Comparative Study on Narrative Strategies

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### **Abstract:**

The present paper, "The Portrayal of Women Characters in Shashi Deshpande's The Binding Vine" and Attia Hosain's "Sunlight on a Broken Column" aims to study the plight of women bound by traditions and also by the norms of the society. In "Sunlight on a Broken Column", the lives of women in a typical patriarchal society are portrayed. The women are bound by the customs and traditions being followed through ages. In "The Binding Vine", on the other hand, the male domination in the society, especially in the husband-wife relationship is portrayed. The narrative strategies of both the writers are also discussed.

**Key Words:** Purdah System, Man-Women Relationship, Patriarchal Society, First Person point of View, Stream of Consciousness.

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### Heuristic Approach To Voltage Profile Improvement And Power Loss Mitigation Through Distributed Generation Placement And Sizing

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### **Abstract:**

One of the rapidly developing research areas in the power system is the integration of distributed generation (DG) with the distribution system. The size and location of DG sources had a considerable impact on power system networks. Artificial intelligence (AI) techniques can be used to address multidimensional problems relating to DG size and location in distribution systems. Heuristic optimization offers a reliable and effective method for solving complicated real-world problems. This work focuses on a hybrid approach that combines the two heuristic optimization methods i.e., Particle Swarm Optimization (PSO) and Genetic Algorithm (GA) for the optimal siting and sizing of DG in distribution systems. An extensive performance analysis of the IEEE 33 bus standard test system is conducted to demonstrate the viability of the suggested methodologies. In the designated locations, DG is placed, and the outcomes have been verified. The results indicated that the right placement of DG injection enhances the voltage profile and lowers the distributed system's power losses. These techniques offer unique methods for determining the location of the DG unit, demonstrating the potential of such a computational technique to reduce computing time and complexity while simultaneously reducing human errors associated with hit-and-trail methods.

**Keywords:** hybrid heuristic approach, Distributed generation, voltage profile, power losses, optimization methods, genetic algorithm, particle swarm optimization

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Elevating Spirits: The role of physical activity in enhancing mental wellbeing among corporate employees

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#### **Abstract:**

This paper aims to bring forth the value of physical activities in a working employee that would help him become physically & mentally fit for work. A peaceful, mentally stable person will be much more proactive & decisive in his actions & analysis. In the realm of human resource department, where humans are thought to be of the greatest treasure or one of the most important resources of the company it is likely that they are asked or arrangements are made for them to be physically active so that they can give their cent percent to their work & their company. The paper ascertains whether physical activities help having a sound mind of a working employee. Quantitative approach has been resorted to that helped to understand the relationship in between the physical activity & the mental wellbeing of a working employee. When the human resource department of a company makes it mandatory for the employees to indulge into some sort of employee engagement program that would be associated with some physical activity, they would be reaping the benefits of the work done by the few of the most productive & proactive employees who are not only physically healthy but also mentally fit.

**Keywords:** *Mental health, physical activity, sports, employee satisfaction, human resource department, sound mind* 

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Virtual Communication and its Impact on the Teaching and Learning

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**Abstract:** 

There were significant shifts in lifestyle and perspective that occurred in the year 2020, as well as new obstacles that were introduced into the educational system. When it came to providing pupils with an education, the teaching profession had to adjust to new circumstances and take on new difficulties. All of these changes had the effect of paving the way for bigger challenges in terms of methodology and attitudes among the students. Gen Z students are proficient in the use of technology. They have a strong ability to adjust to the new learning environment. The issue that needs to be asked, however, is, "How much are they learning from the classroom teaching?" A new problem in the teaching-learning process is the behavioural changes that have occurred in addition to the learning that has taken place. Discipline, etiquette, and manners have all become less of a blessing and more of a curse in today's society. The world has taken refuge in Virtual Communication, virtual workplace, everything has become digitalized. This paper discusses and focusses on the problems encountered, making it an empirical paper to trying to come up with feasible solutions.

**Key words:** Challenges in Teaching-Learning, Technology, Virtual communication, behavioural changes.

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### Advancements in Optical Sensor Technologies for Enhanced Measurement and Monitoring

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<sup>2</sup>Department of Physics, Malla Reddy College of Engineering, Hyderabad, India.

### Abstract:

This paper reviews the latest advancements in optical sensor technologies, focusing on their applications, benefits, and future prospects. Optical sensors have become essential in various fields due to their high sensitivity, accuracy, and ability to function in diverse environments. This study highlights the fundamental principles, recent innovations, and practical implementations of optical sensors, emphasizing their impact on industry and research.

**Keywords:** Optical Biosensors, Healthcare Diagnostics, Photonic Sensors, Biophotonics, Clinical Applications

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Sensitivity Analysis of Block Triangular and Symmetric Splitting of Method for Regularized Fuzzy Linear System

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### **Abstract:**

In this paper, we study the sensitivity analysis of steady state vector of the regularized fuzzy linear system using Triangular and Symmetric splitting method for block stochastic matrices. The homogeneous fuzzy linear system  $\pi Q = 0$ , where Q is the fuzzy stochastic rate matrix and  $\pi$  is the fuzzy steady state vector, gives the one dimensional null solution. For unique non-zero fuzzy solution, the said homogeneous system converted into the non-homogeneous linear system Ax = b, where both left-hand side and right hand side matrices are fuzzy stochastic matrices. From numerical results, one can draw conclusions with variations in the solution by changing the values in the left-hand matrix A and right-hand matrix b.

**Keywords:** Fuzzy Stochastic Rate Matrix; Triangular and Symmetric Splitting Method; Regularized Fuzzy System; Sensitivity Analysis.

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### Fourth Hankel and Toeplitz Determinants for Convex And Reciprocal of Bounded Turning Functions

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### **Abstract:**

The main purpose of this work is to compute the Fourth Hankel and Toeplitz determinants for convex and reciprocal of bounded turning functions. We also consider the Fekete-Szego inequality and Zalcman conjecture for the functions in this class. We also estimate sharp bounds for some coefficients in this class.

AMS MSC (2020): Primary 30C45; Secondary 30C50.

**Keywords:** Analytic functions; Function with positive real part; Convex functions; Reciprocal of bounded turning functions; Coefficient inequalities; Hankel determinants; Toeplitz determinants.

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### **Women in Esther David's Novels**

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### Abstract:

Esther David is the renowned Indian Jewish writer. Her novels depict the life of the Bene Israel in India. Bene Israel are the Jews mostly settled in the Konkan coast of Maharashtra and Gujarat. Their relation with India for two thousand years made them a prominent part in Indian culture. In actual fact, Bene Israel Jews are the perfect example of hybrid culture. They are nationally Indian and culturally Jewish. They have partially assimilated in India. Bene Israel Jewish women play key role in the community. They took forward the culture even after facing challenges of assimilation. It was their sacrifice and resilience that Bene Israel Community is able to sustain in India. For many centuries they lead a secluded life as Jews. Two thousand years ago when they arrived to India there were only fourteen of them. By the time Israel state was formed, they were more than sixty thousand Bene Israel Jews living in India. Mass emigration led to shrinking of the community. When men took the native women as wives to increase the tribe, Bene Israel women did not take the route. Instead, they lived on a hope of returning to their land. The stories of Bene Israel women in Esther David's novels project the plight in upholding the community. Hence, Bene Israel women had a great contribution in continuing their culture in a multicultural setting like India.

Key words: Bene Israel, resilience, multicultural, assimilated.

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### A Study on Customer Behavior Towards Grocery Retailing Services in Hypermarkets

### Dr. P Meena Kumari

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### Abstract:

Retail business is not a new idea in a populated country like India. By 2020, it has gradually moved towards becoming a global economic power. Indian retail is expected to be the biggest beneficiary of this growth story. India's retail industry is worth 31 trillion rupees and represents about 20 percent of the country's GDP. Food and grocery accounted for the largest share of retail sales in India, followed by clothing, jewelry and consumer goods. It was valued at over Rs 38,000 crore in 2015 and has grown at a rapid rate of -11 percent over the past two years, more than India's GDP growth over the same period. There are three main factors driving the development and growth of the retail industry in India are

- 1. Promotion of basic retail facilities
- 2. Increased literacy rates are the result of better schoolingFactors contributing to the expansion include a growing middle-class population, increasing literacy rates, and urbanization, which leads to alternative sources of income.
- 3.Liberalization, legalization and globalization have shifted the focus from retailers to consumers, promoting quality products for a better quality of life.

The study analyzed the buying behavior of consumers in organized retail markets and the factors that influence their preference for modern retail stores over traditional stores, as well as the relationship of demographic factors with store formats.

**Key words**: Retail business— growing middle-class population—preference for modern outlet—satisfaction—Organised retail formats

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### Impact Of Relationship Marketing Orientation on Brand Equity in Banking Sector

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### **Abstract:**

This paper investigates the impact of bank experience on the emotions and perception of brand equity among Generation Y customers in the banking sector. Employing the stimulus-organism-response (S-O-R) framework, the study explores how dimensions of bank experience influence brand equity perception. Data was collected using a panel method adapted from Walsh and Beatty (2007), with a final sample of 205 respondents. Results reveal that executional excellence, staff engagement, and value for money are significant factors shaping overall bank experience. Additionally, customer satisfaction emerges as the primary emotion enhancing brand equity perception. This research contributes to the S-O-R model by incorporating experience dimensions as stimuli and brand equity as a response, highlighting the crucial role of emotions, particularly customer satisfaction, in influencing brand perceptions among Generation Y.

UGC AUTONOMOUS

**Keywords**: Customer experience, Banking sector, Brand equity

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# Factors Influencing Organizational Citizenship Behaviors Leading to Career Attitude among Faculties of HEIs with special reference to Private Institutions

Dr Radhika Thapar<sup>1</sup>, Dr Tanuja Saroha<sup>2</sup>

<sup>1,2</sup> Associate Professor, Rukmini Devi Institute of advanced studies

### Abstract:

Purpose – Higher Education Institutions (HEIs) are a place adding to the scholarly progression of the nation, quality Human Resources, and various socio-economic upgrades for society and associations. Despite staff and facilitators being the bare-bone of HEIs, there is a noteworthy scarcity of empirical and conceptual research zeroing in on their organizational citizenship behaviors (OCB). To strive to fill this gap, this article fosters a conceptual model of OCB under the influence of Job Satisfaction, Leadership Behaviour, Role Perception and Organizational Justice. The exploratory trial of the proposed model focuses on private institutions with more than a year of experience and above, following random selection of prospective respondents from HEIs. The outcomes recommend that organizational citizenship behavior is one of the most important variables impacting organizational performance. Moreover, the performance of HEIs does not impact only the national human resources but also impacts the national economy(Dong, L. N. T., & Phuong, N. T. (2018) .In this context, a conceptual framework is proposed to study the factors of organizational citizenship behavior impacting Career Attitude. Finally, the authors discuss the managerial implications of their research. This study used Structural Equation Modeling (SEM) as a strong analytical framework, specifically the SmartPLS4 software. Using this strategy, the study hoped to get deep insights into the interactions between variables, shedding light on the fundamental mechanisms driving the phenomenon under inquiry.

**Keywords** Job Satisfaction, Organizational Justice, Leadership Behaviour, Role Perception, Organizational Citizenship Behavior, Career Attitude, HEI's

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### Impact of Occupational Challenges and Work Environment on Cognitive Functions Among Law Enorcement Officers

G. Suma Sahithi<sup>1</sup> and Dr. Lavanya Madagani<sup>2</sup>

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<sup>2</sup>Department of English, Andhra University

### **Abstract:**

The jobs related to the Law Enforcement Department are the most challenging jobs in this world that demand a great deal of commitment and sacrifice. The Law Enforcement Department is a wellorganized department that dedicatedly works towards maintaining peace in society, caretaking public safety, and ensuring law and justice for the common people. The Law Enforcement Department is one of the world's most challenging jobs, which demands a great deal of commitment and sacrifice. Adaptability to evolving circumstances is not just a preference but an absolute necessity. The relentless workload, staff shortages, and gruelling hours significantly affect cognitive functions such as memory, attention span, decision-making, reasoning, judgment, and problem-solving abilities. Scientific research has shown that these conditions can profoundly impact memory retention, attentional focus, decision-making processes, logical reasoning, sound judgment, and problemsolving capabilities among law enforcement professionals. The well-being of law enforcement personnel is often overlooked or disregarded amidst increasingly complex social dynamics and challenges. These cognitive impairments affect individual performance and potentially compromise public safety and the integrity of judicial outcomes. Understanding these challenges is pivotal for devising strategies to support the mental resilience and cognitive agility of law enforcement personnel for effective policing. By addressing these issues comprehensively, including through enhanced training, adequate workforce, reasonable working hours and supportive organizational practices, society can better equip these professionals to meet the complex demands of their vital roles.

**Keywords**: Law Enforcement Officers, Cognitive functions, mental resilience, effective policing

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An Approach to an Iterative Technique based on Triangular and Triangular Splitting on Fuzzy Linear System

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### Abstract:

This study introduces a novel iterative technique based on Triangular and Triangular splitting. With a fuzzy coefficient stochastic rate matrix, this strategy aims to solve a specific kind of fuzzy linear homogeneous systems of equations. The homogeneous linear system  $\pi Q = 0$ , where Q is the stochastic rate matrix and  $\pi$  is the steady state vector, yields the non-homogeneous linear system Ax = b. It is essential to take note of that this framework has a special non-zero arrangement. The proposed iterative methodology is created and its adequacy and proficiency are exhibited through mathematical models. When compared to more conventional iterative approaches, these examples demonstrate this strategy's superiority.

**Keywords:** Fuzzy Stochastic Rate Matrix; Triangular and Triangular Splitting Method; Fully Fuzzy System of Linear Equations; Error Analysis.

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