3rd International Conference on "Advances in Electrical and Electronics Engineering"

St. MARTIN'S Engineering College

UGC AUTONOMOUS

ACCREDITED WITH GRADE A+ NAAC

A NON MINORITY COLLEGE, AFFILIATED TO JNTUH, APPROVED BY AICTE,
ACREDITED BY NBA & NAAC A+, ISO 9001:2008 CERTIFIED
SIRO RECOGNITION BY MINISTRY OF SCIENCE & TECHNOLOGY, GOVT.OF INDIA.
Dhulapally, Near Kompally, Secunderabad - 500 100, T.S. www.smec.ac.in

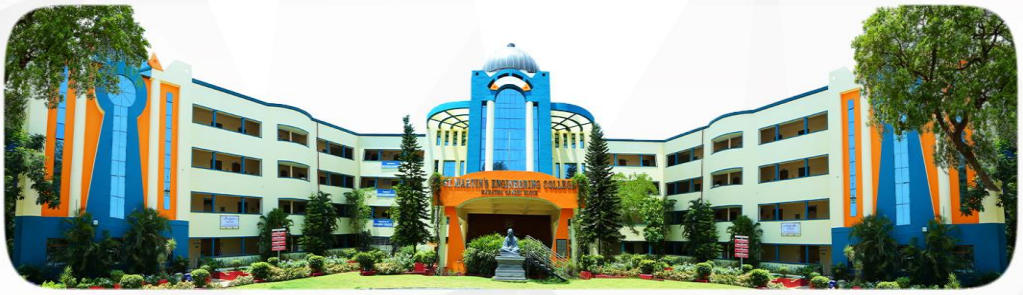
NIRF ranked 51-100 | National ranking by ARIIA | Ranked 2nd by 'Wikipedia' | Ranked TOP by Competition Success Review | 12886 Research papers | 594 crores funding received | 108 MOUs | 288 patents

Department of ***Electrical and Electronics Engineering*** Presents

3rd International Conference on

"Advances in Electrical and Electronics Engineering"

on 15th & 16th December 2023



(ICAEEE-2023) ***PROCEEDINGS***

ISBN:
978-93-91420-99-4

Editor in Chief
Dr.P.Santosh Kumar Patra

nirf Ranked Institute

: 8096945566, 8008333876, 8008333886 : www.smec.ac.in
: Dhulapally, Near Kompally, Secunderabad - 500 100, T.S.

ESTABLISHED 2002

St. MARTIN'S ENGINEERING COLLEGE

UGC Autonomous
A Non Minority College | Approved by AICTE | Affiliated to JNTUH, Hyderabad |
NAAC-Accredited, 'A+' Grade | 2(f) & 12(B) status (UGC) ISO
9001:2008 Certified | NBA Accredited | SIRO (DSIR) | UGC-Paramarsh |
Recognized Remote Center of IIT, Bombay
Dhulapally, Secunderabad – 500100, Telangana State, India.
www.smec.ac.in

Department of Electrical and Electronics Engineering

Third "International Conference on Advances in Electrical and Electronics Engineering" during 15th & 16th December 2023 (ICAEEE – 2023)

ISBN: 978-93-91420-99-4

Patron, Program Chair
&
Editor in Chief

Dr. P. SANTOSH KUMAR PATRA

Group Director, SMEC

Editors

Dr. N. Ramchandra

HOD, Dept. of EEE, SMEC

St. MARTIN'S ENGINEERING COLLEGE

Dhulapally, Secunderabad - 500100

NIRF ranked, NAAC A+ ACCREDITED

Sri. M. LAXMAN REDDY
CHAIRMAN

MESSAGE

I am extremely pleased to know that the Department of Electrical and Electronics Engineering, of St. Martin's Engineering College is organizing Third **"International Conference on Advances in Electrical and Electronics Engineering"** during 15th and 16th of December 2023. I understand that thelarge number of researchers have submitted their research papers for presentation in the conference and also for publication. The response to this conference from all overIndia and Foreign countries is most encouraging. I am sure all the participants will bebenefitted 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.

M. Laxman Reddy

M. LAXMAN REDDY
Chairman

St. MARTIN'S ENGINEERING COLLEGE

Dhulapally, Secunderabad - 500100

NIRF ranked, NAAC A+ ACCREDITED

Sri. G. CHANDRA SEKHAR YADAV
EXECUTIVE DIRECTOR

MESSAGE

I am pleased to state that the Department of EEE Engineering of SMEC is organizing Third **"International Conference on Advances in Electrical and Electronics Engineering"** during 15th and 16th of December 2023. For strengthening the "MAKE IN INDIA" concept many innovations need to be translated into workable product. Concept to commissioning is a long 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 Interdisciplinary streams. I wish all the best to the participants of the conferenceadditional insight to their subjects of interest.

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

G. CHANDRA SEKHAR YADAV
Executive Director

St. MARTIN'S ENGINEERING COLLEGE

Dhulapally, Secunderabad - 500100

NIRF ranked, NAAC A+ ACCREDITED

Dr. P. SANTOSH KUMAR PATRA
GROUP DIRECTOR

I am delighted to be the Patron & Program Chair for the Third **"International Conference on Advances in Electrical and Electronics Engineering"** organized by the Department of EEE on 15th and 16th of December 2023. I have strong desire that the conference to unfold new domains of research among the EEE Engineering fraternity 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 EEE Engineering.

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 56 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 EEE Engineering for their continuous untiring contribution in making the conference a reality.

(Dr. P. Santosh Kumar Patra)
Group Director

St. MARTIN'S ENGINEERING COLLEGE

Dhulapally, Secunderabad - 500100

NIRF ranked, NAAC A+ ACCREDITED

Dr. M. SRINIVAS RAO
PRINCIPAL

MESSAGE

Contemporary Society is technological and relies on technology for various aspects of daily life. There is no life without digital platforms, Internet, apps, codes, etc. Navigating the complexities of a technological society requires a balance between embracing innovation and addressing the challenges that come in the way. Considering the immediate needs of the technical Society, SMEC has been organizing International Conferences every year which really help a candidate in acquiring technical skills and making themselves familiar with the new inventions.

International Conferences are a Perfect Platform for enthusiastic researchers to come up with their innovative ideas, and I am delighted that SMEC is organizing the **International Conference on Advances in Electrical and Electronics Engineering** this academic year as well to enhance the skills of desiring participants. The showcase of new ideas and the latest technological advancements through this Conference would facilitate the transfer of technology, helping participants to get updated with the latest tools and methodologies. I firmly believe that this Conference serves as the catalyst for change by bringing attention to pressing issues in different fields, encouraging discussions, fostering collaboration, and promoting initiatives that address different challenges on a global scale. It is an excellent opportunity to broaden our knowledge, establish meaningful connections, and contribute to advancing engineering research. I assure you that the commitment to excellence in education and research is reflected in this Conference, providing a unique platform for learning and growth.

Around 39 research papers were submitted to this Conference. I wish the authors a promising future and the Conference a grand success.

I appreciate the continuous efforts and dedication of the HOD of the Electrical and Electronics department and faculty members for their invaluable contribution to advancing global discourse. My most profound appreciation to the organizers and coordinators for organizing a conference of such calibre.

Dr. M. Srinivas Rao
Principal

St. MARTIN'S ENGINEERING COLLEGE

Dhulapally, Secunderabad - 500100

NIRF ranked, NAAC A+ ACCREDITED

DR. S.V.S. RAMA KRISHNAM RAJU
DEAN ACADEMICS

MESSAGE

It gives me an immense pleasure to know that St. Martin's Engineering College, Department of Electrical & Electronics Engineering is organizing III International Conference on Advances in Electrical and Electronics Engineering ICAEEE-2023. I am sure that this conference will provide a forum to national and international students, academicians, researchers and industrialists to interact and involve in Research and Innovation. Such academic events benefit the students, teachers and researchers immensely and widen the horizons of their knowledge and work experience in the field of Electrical engineering.

I sincerely appreciate the humble efforts of the Institute in providing a platform for students, academicians, researchers and industrialists to share their ideas and research outcome through the forum of this Conference.

I give my best wishes to all delegates and organizing committee to make this event a grand success.

Best Wishes

Dr. S V S Rama Krishnam Raju
Dean Academics

St. MARTIN'S ENGINEERING COLLEGE

Dhulapally, Secunderabad - 500100

NIRF ranked, NAAC A+ ACCREDITED

Dr. SANJAY KUMAR SUMAN
DEAN R & D

MESSAGE

Research, curiosity and discovery has been in existence ever since man's presence on this planet millions of years ago, civilization has been characterized by curiosity and discovery. Therefore, the curiosity to explore what will happen, how it happens, is there a better way to do it, has been the driving force behind all research efforts. During the past few decades, the engineering faculties have taken a number of initiatives to reorient the engineering machinery to play leading roles in the industrial development process.

I am delighted to acknowledge the international conference on Advances in Electrical and Electronics Engineering organized by the department of Electrical and Electronics Engineering. I appreciate organizing team for showing their keen interest in organizing a successful conference to provide a platform for contributors to explore new ideas and exchange research findings among researchers.

I thank the support of all students, authors, reviewers, conference team, faculty members, and conference convener for making the conference a grand success.

Best Wishes

Dr. Sanjay Kumar Suman

Dean R&D

St. MARTIN'S ENGINEERING COLLEGE

Dhulapally, Secunderabad - 500100

NIRF ranked, NAAC A+ ACCREDITED

DR. D V SREEKANTH
DEAN ADMINISTRATION

MESSAGE

The III International Conference on Advances in Electrical and Electronics Engineering ICAEEE-2023 has concluded its work successfully on 15th & 16th Dec, 2023 in St. Martin's Engineering College (SMEC), Hyderabad, India. The ICAEEE-2023 was organized online by the Department of Electrical & Electronics Engineering, and the objective of this conference was to bring together experts from academic institutions, industries, research organizations for sharing of knowledge and experience in the recent technologies in Electrical & Electronics engineering. The conference programme featured a wide variety of invited and contributed lectures from national and international speakers with expertise in their respective fields. The ICAEEE-2023 has become one of the most extensive, spectacular international events hosted by St. Martin's Engineering College (SMEC), for its high-level quality and the large size of participation. Well- known international and national invited speakers addressed the audience, shared knowledge, and rich experiences on ICAEEE.

I am sure that this conference will provide a forum to national and international students, academicians, researchers and industrialists to interact and involve in Research and Innovation. Such academic events benefit the students, teachers and researchers immensely and widen the horizons of their knowledge.

Best Wishes

Dr. D V Sreekanth
Dean Administration

St. MARTIN'S ENGINEERING COLLEGE

Dhulapally, Secunderabad - 500100

NIRF ranked, NAAC A+ ACCREDITED

CONVENER

The world is always poised to move towards new and progressive engineering solutions that results in cleaner, safer and sustainable products for the use of mankind. India too is emerging as a big production center for world class quality. Electrical and Electronics Engineering plays a vital role in this endeavor.

The aim of the online "International Conference on Advances in Electrical and Electronics Engineering" being conducted by the Department of Electrical and Electronics Engineering of SMEC, is to create a platform for academicians and researchers to exchange their innovative ideas and interact with researchers of the same field of interest. This will enable to accelerate the work to progress faster to achieve the individuals end goals, which will ultimately benefit the larger society of India.

We, the organizers of the conference are glad to note that 53 papers have been receivedfor presentation during the online conference. After scrutiny by editorial board 36 papers have been selected, and the authors have been informed to be there at the online platform for presentations. Steps have been to publish these papers with ISBN number in the Conference Proceedings and allthe selected papers will be published in Scopus / UGC recognized reputed journals.

The editorial Committee and the organizers express their sincere to all authors who have shown interest and contributed their knowledge in the form of technical papers. We are delighted and happy to state that the conference is moving towards a grand success with the untiring effort of Head of the department, faculties and staff members of SMEC and with the blessing of the Principal and Management of SMEC

Ramchandra

Dr. N. Ramchandra
Convener, ICAEEE-2023
HOD, EEE

PROGRAM COMMITTEE

Advisor

Sri Ch. Malla Reddy, MLA, Medchal Constituency, Telangana State.

Chief Patrons

Sri. M. Laxman Reddy, Chairman.
Sri. G. Narasimha Yadav, Treasurer.
Sri. Ch. Mahender Reddy, Secretary & Correspondent.
Sri. G. Chandra Sekhar Yadav, Executive Director.
Sri. M. Rajasekhar Reddy, Director.
Sri. G. Jai Kishan Yadav, Director.
Sri. G. Raja Shekar Yadav, Director.

Patron

Dr. P. Santosh Kumar Patra, Group Director.
St. Martin's Engineering College
Dhulapally, Kompally, Secunderabad – 500100, India

Advisory Committee

International Advisory Committee & Keynote Speakers

Mr. Rohith Reddy,
ETL Developer, FNZ Group (UK) Limited,
United Kingdom.

National Advisory Committee

Dr. M. Kiran Kumar
Associate Professor, Department of EEE,
KL Deemed to be University,
Vaddeswaram, Guntur,
Andhra Pradesh, India.
Dr. B. Srikanth Goud
Assistant Professor, Department of EEE,
Anurag University,
Hyderabad, T.S., India.
Mr. T. Vishnu Charan
Assistant General Manager,
Worley, Hyderabad, India.

Local Advisory Committee

Dr. M. Sreenivasa Rao, Principal.
Dr. D. V. Sreekanth, Professor & HOD, Dept. of Mech. and Dean Administration.
Dr. S. V. S Rama Krishnam Raju, Professor, Dept. of ECE & Dean Academics.
Dr. Sanjay Kumar Suman, Professor, Dept. of ECE & Dean R&D.
Dr. B. Hari Krishna, Professor & HOD, Dept. of ECE.
Dr. R. Santhosh Kumar, Assoc. Prof. & HOD, Dept. of CSE.
Dr. V.K. Senthil Raghavan, Professor & HOD, Dept. of IT.
Dr. D. Ranadheer Reddy, Professor & HOD, Dept. of FME.
Prof. J. K. Sandhya Kiran, Assoc. Prof. & HOD, Dept. of Civil Engineering.
Dr. N. Krishnaiah, Professor & HOD, Dept. of AI&ML.
Dr. Rajalingam, Professor & HOD, Dept. of AI&DS.

Dr. G. Govinda Rajulu, Professor & HOD, Dept. of CSD.
Dr. K. Srinivas, Professor in HOD, Dept. of CSE (AI & ML).

Convener

Dr. N. Ramchandra
Professor & HOD
Department of Electrical & Electronics Engineering
St. Martin's Engineering College
Dhulapally, Kompally, Secunderabad – 500100, India

Coordinators

Mr. N. Daniel Manoj, Asst Prof., Department of EEE
Mr. K.V. Govardhan Rao, Asst Prof., Department of EEE
Mrs. T.V. Sai Kalyani, Asst Prof., Department of EEE
Ms. P. Priyanka, Asst. Prof., Department of EEE

ISBN: 978-93-91420-99-4
15th& 16th December 2023

INDEX

ISBN: 978-93-91420-99-4
15th& 16th December 2023

10	ICAEEE-23-010	Dr. M. Lakshmi Swarupa	Optimal Power Flow in Deregulated Power Systems by using Optimization techniques	10
11	ICAEEE-23-011	1.M. Poojitha Reddy 2.B. Surender 3.J. Vamshi3 4.K. S. Santhosh .K	Industry Power Consumption Penalty Minimization by Using APFC Unit	11
12	ICAEEE-23-012	1.R. Hemanth 2.S. Surya Prasad 3.T. Bharath Kumar Reddy 4.I. Daniel Paul	IOT Based Air and Sound Pollution Monitoring System	12
13	ICAEEE-23-013	1.Sapa Rajkumar 2.P. Mahesh 3.A. Yamini Devi 4.Jannana Deepika	Modelling of Soft-Switching Losses of IGBTs in High-Power High Efficiency Dual-Active-Bridge DC/DC Converters	13
14	ICAEEE-23-014	1.G. Yogender Reddy 2.G.M. Shiva shaushnav 3.J. Vamshi Krishna 4.B. Sai Kiran	An Emotion Based Music Player	14
15	ICAEEE-23-015	1.Divyesh Kalleda 2.Chelumalla Bharath 3.M. Sai Kiran Goud 4.K. Yashaswini	Generation of High DC Voltage with Marx Generator Using Arduino	15
16	ICAEEE-23-016	1.V.Sai Pranav Reddy 2.N. Satish 3.D. Vamshi Krishna 4.Uday Addenki	Controlling Solar Energy Charge	16
17	ICAEEE-23-017	1.G. Jahnavi 2.K. Swathi 3.A. Uday 4.A. Srinu	Suspicious Activity Detection	17
18	ICAEEE-23-018	1.J. Suresh 2.C. Sai Kiran 3.K. Hemanth	School Library Application Using Python	18
19	ICAEEE-23-019	1.V. Sai Kowshik 2.K. Akshay 3.K. Ravi Kumar 4.CH. Ruchitha	Advanced EV Charging Station	19

ISBN: 978-93-91420-99-4
15th& 16th December 2023

20	ICAEEE-23-020	1.SK. Azeem Ali 2.MD. Naveed 3.M. Siddhu 4.V. Gnaneshwar	Piezo Based Visitor Sensing Welcome Mat	20
21	ICAEEE-23-021	1.K. Keerthana 2.M. Sandhya Reddy 3.V. Vamshi Reddy 4.Advait Joshi	Buck Converter with Soft-Switching Cells for PV Panel Applications	21
22	ICAEEE-23-022	1.Jakkula Manohar 2.Megavath Nikhil 3.Monegari Sampath 4.Padala Raju	Dual Power Generation Solar Plus Windmill Generator	22
23	ICAEEE-23-023	1.P. Sampath Reddy 2.L. Rahul 3.S. Nithin 4.E. Sai Vardhan	Weapon Detection Using Artificial Intelligence and Deep Learning for Security Applications	23
24	ICAEEE-23-024	1.A. Shashank Nayak 2.B. Satya Narayana 3.B. Pavan 4.E. Rohit	Ultra Sonic Radar	24
25	ICAEEE-23-025	1.P. Sunni Raj 2.D. Sai Kiran Reddy 3.K. Saketh 4.Y. Bharath Kumar	DTMF Based Load Control System	25
26	ICAEEE-23-026	1.SK. MD. Uzair 2.K. Udaydathu 3.SK. Shareef 4.SK. Sohel	IOT Based E-Bicycle Locking and Break Alerting System	26
27	ICAEEE-23-027	Dr. N. Ramchandra	Forest Fire alerting system with GPS Co-ordinates using IOT	27
28	ICAEEE-23-028	Mr. N. Daniel Manoj	Electric Vehicles Charging Management Considering Vehicle to Vehicle Strategy	28
29	ICAEEE-23-029	Ms. S. Sunanda	Design of Large-Scale Integration of Photo Voltaic System to the Power Grid	29

ISBN: 978-93-91420-99-4
15th& 16th December 2023

30	ICAEEE-23-030	1.Ms. T. V. Sai Kalyani 2.K. V. Govardhan Rao	An Intelligent Scheme for Vehicle Theft	30
31	ICAEEE-23-031	1.Kambhampati Venkata Govardhan Rao 2.Mopuri Samanth Reddy 3.Seelaboina Karthik 4.Pallati Deepak	Street Light Controlling and Monitoring System with Microcontroller	31
32	ICAEEE-23-032	1.Mr. Vishnuvardhan Vadla 2.Abdul Sohail 3.G. Pranay 4.A.Vinuthna 5.A.Kavya 6.Shaik Afaq	Testing of Artificial Intelligence in Software	32
33	ICAEEE-23-033	Ms. Ch. Nirosha	SMART Power Flow Controller for Smarter Grid Applications	33
34	ICAEEE-23-034	Ms. P. Priyanka A. Abhishek B. Srinath	Unveiling the Power of Machine Learning and Deep Learning: A Comprehensive Overview	34
35	ICAEEE-23-035	Mrs. V. Kiranmayee	A Smart Way of Duck Egg Hatching System In Cultivation	35
36	ICAEEE-23-036	Mr. G. Balachandraiah	Intelligent System For Air Pollution Finding In Vehicles	36
37	ICAEEE-23-37	Mrs. K. Haritha	Vehicle Movement Based Street Light Control System	37
38	ICAEEE-23-38	Ms. V. Usha Rani	Automatic Pothole Detection And Alert System With Speed Reduction Features To Aid Drivers	38
39	ICAEEE-23-39	Mrs. Kallem Shravani	Accurate Speed Control of Electric Car	39

Paper ID: ICAEEE-23-001

Arduino Based Smart Vacuum Cleaner Robot

[*]V.Suma Deepthi[1], Jillela Manisha Reddy[2], Jetpolu Swathika[3]
Bolleboina Sravanthi[4], Gurram Srinidhi[5], Chenagoni Aishwarya[6]
[1]Assistant Professor, EEE Department, [2,3,4,5,6] UG Scholar, Department of EEE,
G. Narayanamma Institute of Technology and Science, Hyderabad, Telangana, India

* Corresponding Author
E-mail: sumadeepthi.veeraganti@gmail.com

ABSTRACT

People are becoming more career-oriented in recent years, which makes it difficult to maintain both home and office at the same time because of their erratic work schedules. They hire cleaners to clean their homes, offices, etc. most of the time, yet they have little faith in the cleaners. The Smart Vacuum Cleaner uses more advanced technology to solve this issue and is built to automate the cleaning process. The Arduino controlled mini smart vacuum cleaner robot is a work that involves the development of a small cleaning robot that can navigate a small area and clean it without human intervention. The robot is built using an Arduino microcontroller board, a suction system, and wheels. The robot can be controlled through a push-button switch. The car avoids colliding with obstacles by driving in the direction where there is a greater space between the obstruction and the car after measuring the distance with a sensor. The concept seeks to address the issue of cleaning tiny spaces in an easy and affordable manner. The primary purpose is to create a prototype utilising the Arduino Uno, L293D motor drive, motor, and ultrasonic sensor.

Keywords: Arduino, Vacuum Cleaner Robot, motor drive.

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-002

Smart Attendance System

* Pillalamarri Madhavi [1], Salava V Satyanarayana [2,] Yashwanth Sannidhi[3]
Uday Kiran Mamindla[4], Mahesh Babu Puttapaka[5], Mangali Shiva Kumar[6]
[1]Assistant Professor, [2]Associate Professor, [3,4,5,6]UG Scholar Department of EEE,
Hyderabad Institute of Technology and Management Hyderabad, India.

* Corresponding Author
E-mail: madhavipillalamarry@gmail.com

ABSTRACT

In today's academic operation process, maintaining the attendance of students plays a major role in the status of daily performance in their activities. The important task of the operating system is the process of pacing the attendance by using the Wi-Fi module (ESP8266). The smart way of taking attendance for multiple numbers of scholars is carried out in a one-point process of time. The Wi-Fi module takes the attendance in a thrusting order within a bit seconds and the scholar's records are readily available and are maintained by the garcon database, according to the colorful departments. Multiple lines like documents, images, vids, and zip lines, etc., can be uploaded and circulated to the scholars, those lines can be recaptured by the scholars with respect to their unique IP addresses. It helps the scholars to view their attendance as well as lines anywhere, anytime. This system provides an electronic attendance system for ease and security. Thus, the Proposed system is more efficient at the time of recovering data compared to another attendance system.

Keywords—Academic management process, ESP8266, private cloud, Wi-Fi Router, zip files.

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-003

Cruising with Confidence: Electric Tricycle for Empowered Handicapped Travel

Salava V Satyanarayana[1], * Pillalamarri Madhavi [2], B.Uday [3],
D.Praneeth [4], O.Tharun[5], P.Rakesh[6]
[1]Associate Professor, [2]Assistant Professor, [3,4,5,6] UG Scholar, Department of EEE
Hyderabad Institute of Technology and Management Hyderabad, India
* Corresponding Author
E-mail: pshve2011@gmail.com

ABSTRACT

Electric Tricycle for Empowered Handicapped Travel" aims to address the mobility challenges faced by individuals with disabilities by developing an innovative solution in the form of electric tricycles. Conventional transportation options often fail to cater to the unique needs of handicapped individuals, limiting their independence and quality of life. This project proposes the design, development, and implementation of electric tricycles that are specifically tailored to accommodate individuals with various disabilities. Through this project, the goal is to enhance the travel autonomy of handicapped individuals, empowering them to participate more actively in their communities and daily activities. The development of electric tricycles that prioritize accessibility and inclusivity has the potential to not only improve mobility but also promote social integration and overall well-being among individuals with disabilities. The project's success will be measured by the increased accessibility and improved quality of life for its target users, contributing to a more inclusive and equitable society.

Keywords:- Battery Protection System, Electric Tricycle, Disabilities

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-004

Solar Wireless Electric Vehicle Charging System

*Dr. O. P. Suresh[1], P Hema Bindu [2], K Anand[3], N Srujith Kumar [4], V Sujith[5]
Professor & Head of the Department[1], [2, 3, 4, 5]U.G. Scholar, Department of EEE,
Hyderabad Institute of Technology and Management Hyderabad, India

* Corresponding Author
E-mail: eeehod@hitam.org

ABSTRACT

The increasing adoption of Electrical Vehicles has changed the automotive industry, offering a cleaner and more environmentally friendly alternative to traditional fuel-powered vehicles. However, the adoption of the electric vehicles is being interrupted by the limited availability of EV charging facilities. To address this challenge, this paper proposes an innovative wireless EV charging system powered by solar energy, offering sustainable and convenient solutions for EV owners all around the world. The core of the proposed system is a wireless power transfer mechanism, enabling EV's to charge without any physical connectors. This technology not only eliminates the need for cables but also boosts the user's safety and accessibility. The usage of the solar energy further reduces the dependency on the conventional sources of the power, making the charging more Eco- Friendly and also cost- effective. This approach provides numerous advantages over the traditional plug-in EV charging methods. The wireless charging eliminates the need for physical connections, improving the safety and convenience and solar power provides a sustainable and renewable energy source, minimizing the dependency on the power grid and impact on the environment and also the system's ability to charge EVs in motion further enhances user convenience and decreases the discharge time. This paper goal is to contribute to the development of the sustainable transport by providing an advanced solution that addresses the flaws of the traditional Electric Vehicle systems. The integration of wireless electric Vehicle charging system with solar not only advises eco-friendly energy adoption, but also supports development of a more adaptable and networked energy ecosystem, forging a way for greener and more efficient future in city transportation.

Keywords:- MATLAB simulation, Solar energy, MPPT, Wireless charging system

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-005

Mechanized Stabilization and Fugitative Emission System

Kothapally. Vinitha[1], *YelluVyshnavi[2], Yellu. Nandini[3], Maddala. Chandu[4], K. Kavya[5]
[1,2,3,4,5] U.G. Scholar, Department of EEE
[1]Shadan Women's College of Engineering & Technology,
[2,3,5] St. Martin's Engineering College, [4]St. Peters Engineering College,
Secunderabad, - 500100,Telangana, India

* Corresponding Author
E-mail: yellu.vyshnavivyshu@gmail.com

ABSTRACT

Aim of the project is to recycle the waste material using some chemical components without affecting the nature and the process is made by machine not by manually. If the waste materials like sludge waste or hazardous waste or medical waste or pharmaceutical waste like solid waste if it is exposed to into air the environment gets polluted. So to overcome this we are introducing a machinery process called mechanized stabilization and fugitative emission system. In this the waste materials are first tested and gives the report by laboratory and gives a notice how amount of the lime ,cement and fly ash should be taken and gets mixes with waste material and are gets dumped on to a platform called landfill. In this landfill the materials which are used for dumping a material is laying a sheet called HDPE(high density poly ethylene) sheet on this sheet we are preparing a process of black soil, geotextile, sand, metal, leachate collecting pipes and this process is of 2 layers primary and secondary, on this layers we are going to unload the material which has been mixed by machinery. After few days or few months the leachate is going to formed and it is collected into sumps and it is used as a sprinkler for SD(spray dryer) plant and gets formed into rock salt and is utilized for land fill. So in this way we are going to recycle the waste material without disturbing the nature. The fugitive emission system is nothing but an exhaust fan which takes the chemical air into water droplets and gets filled in a drum its mixes with water and utilizes for an SD plant. By this we can recycle a waste material which will be environmental free for using. The name its self indicating us that waste management project. In this for time saving process we are introducing a project of mechanized stabilization and fugitative emission system. This is the best way to protect environment form pollution by recycling.

Keywords: - lime, cement and fly ash, geotextile, sand, metal, leachate collecting pipes, rock salt

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-006

Performance of PI and Artificial Neural Network Controllers on Unified Power-Quality Conditioner

[*]Suma Deepthi Veeraganti[1]

[1]Assistant Professor, EEE Department, Department of EEE

G. Narayanamma Institute of Technology and Science, Hyderabad, Telangana, India

* Corresponding Author

E-mail: sumadeepthi.veeraganti@gmail.com

ABSTRACT

This paper discusses about a comparative study of performance of Unified Power-Quality Conditioner (UPQC) with PI and Artificial Neural Network (ANN) controllers. UPQC is a electronic device consisting of an active power filter (APF) , used for compensation of various Power Quality (PQ) problems such as harmonic filtering, damping, isolation and termination, load balancing, reactive-power control for power-factor correction and voltage regulation, voltage-flicker reduction or their combinations. The output control signals from the UPQC necessary are derived with the use of various control strategies. Here a simple feed forward type ANN is used a control strategy for providing the necessary control signals for the accurate and fast operation of UPQC. The algorithm for training the neural network is developed from the data with conventional PI controller. The simulation is carried out in MATLAB/SIMULINK and the results of ANN controller are compared with that of a conventional PI controller.

Keywords: - Artificial neural networks, Active power filter, Unified power quality conditioner, Proportional Controller

Paper ID: ICAEEE-23-007

IOT Based Electric Vehicles Charging Station

A. Sreenidhi[1], *P. Shreya[2], G. Jai shree[3], Syeda Adeeba Qadri[4], Y. Vaishnavi[5],
[1,2,3,4] U.G. Scholar, Department of EEE
St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: shreyapoojala17@gmail.com

ABSTRACT

A scarcity of charging stations may make EVs less convenient and contribute to range anxiety resulting in less people embracing the use of electric vehicles. One solution is charging stations that service multiple vehicles at the same time with a given infrastructure. The prebuilt software and hardware system of charging stations is a rising revolution in these electric vehicle industries that helps to a huge increase in electric vehicles. Internet of Things (IoT) based Smart Electric Vehicle (EV) is a brilliant electric vehicle charging framework. It helps to design and implement an EV charging system that uses QR codes for payment and stores all transactional data in the cloud. By leveraging QR codes, users will be able to pay for charging easily using their smartphones without the need for physical payment methods. The cloud-based transactional data storage system will provide a high level of security and efficiency, enabling seamless integration with smart city infrastructure. This work is to make a smart application to connect with the grid and to know the different tariff rates of the grid. The tariff rates will have both the rate for power delivery to the grid and tariff rate for taking power from the grid. If the user is having the car battery fully charged, he can deliver some power to the grid and can earn some money.

Keywords:- GSM, Power, Power, Fault Monitoring,GSM

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-008

Islanding Detection Technique of Distribution Generation System

B. Srikanth Goud[1], Kambhampati Venkata Govardhan Rao[2*],
Meghana Urlana[3], Parijat[4], Mosra sadhan yadav[5]
[1]Associate Professor, Assistant Professor[2*], [3,4,5] U.G. Scholar**,** Department of EEE,
[1]Anurag University, Ghatkesar, Hyderabad, India,
[2,3,4,5] St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: govardhaneee@smec.ac.in

ABSTRACT

There is a condition known as islanding, which occurs when the micro grid is detached from the main grid, which is comprised of loads and distribution generation. In the event that there is a problem or anytime maintenance is required, islanding is a necessary procedure. The mode of constant current control is the mode that the system operates in when it is in normal conditions or stable conditions. Following islanding, the system transitioned into a mode that was controlled by voltage. Procedures such as active and passive procedures are two examples of the several approaches that can be utilized to identify situations involving islanding. This research takes a look at the DQ-PLL detection approach, which is utilized for the purpose of identifying islanding conditions. This paper also provides a comprehensive explanation of the benefits that the DQ-PLL method offers for the detection of islanding. MATLAB/SIMULINK software is utilized in order to achieve validation of the implementation.

***Keywords*:** Islanding; Detection techniques; Active methods, Passive methods, DQ-PLL method

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-009

E-Menu Card System in Intelligent E- Restaurants in Smart Cities

B. Srikanth Goud[1], *T.V. Sai Kalyani[2]
[1]Associate Professor, Assistant Professor[2*], Department of EEE,
[1]Anurag University, Ghatkesar, Hyderabad, India,
[2]St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: kalyanieee@smec.ac.in

ABSTRACT

Today's era is said to be the world of technology. So many efforts have been taken by restaurants owners also to adopt information and communication technologies such as PDA, wireless LAN, costly multi-touch screens etc. to enhance dining experience. This paper highlights some of the limitations of the conventional paper based and PDA based food ordering system and proposes the low-cost touch screen-based Restaurant Management System using an android Smartphone or tablet as a solution. The system consists of a Smartphone/tablet at the customer table contains the android application with all the menu details. The customer tablet and kitchen display connect directly with each other through Wi- Fi. Orders made by the customers will instantly reach the kitchen module. This wireless application is user-friendly, improves efficiency and accuracy for restaurants by saving time, reduces human errors and provides customer feedback. This system successfully overcomes the drawbacks in earlier automated food ordering systems and is less expensive as it requires a one-time investment for gadgets.

Keywords:- E-Menu Card, E-Restaurant, PDA, Wireless

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-010

Optimal Power Flow in Deregulated Power Systems by using Optimization techniques

* Dr.M. Lakshmi Swarupa[1]
[1]Professor, Department of EEE,
CVR College of Engineering,Hyderabad, Telangana, India

* Corresponding Author
E-mail: swarupamalladi@gmail.com

ABSTRACT

The independent system operator responsible for delivering inexpensive and comparable transmission services in an open market setting has the problem of dynamic, security-controlled transmission of the electric power grid. In this review, a clever strategy is given dependent on iterative solidness compelled ideal power stream and moth swarm strategies. Optimizing social welfare using particle swarm and moth swarm methodologies takes into consideration both static and dynamic functional operational restrictions as well as dynamic loading margin needs under normal and contingency settings. An additional method has been developed to compute the touchy stacking pattern related with a powerful burden edge since it is difficult to foresee load rise patterns in the present market scenario. The suggested solution will be shown and tested using an IEEE 14 bus test equipment that has both supply and demand displays.

Keywords: particle swarm optimization, dynamic load margin, and optimal power flow, moth swarm algorithm, Load flow.

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-011

Industry Power Consumption Penalty Minimization by Using APFC Unit

M. Poojitha Reddy[1], B. Surender[2], J. Vamshi[3], *K. S. Santhosh .K[4]
[1,2,3,4] U.G. Scholar, Department of EEE,
St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: sheshasanthoshkumar2003@gmail.com

ABSTRACT

The main aim of this project is designed to reduce penalty and power consumption for industrial units by using Automatic Power Factor Correction (APFC) unit. In the industrial sector the various motoring loads are continuously running and generating the inductive load. So, the power factor in this system gets reduced due to the inductive reactive power. Reactive power is the non -working power generated by the magnetic and inductive loads, to generate magnetic flux. The increase in reactive power increases the apparent power, so the power factor also decreases. Having low power factor, the industry needs more energy to meet its demand, so the efficiency decreases. In this proposed system the voltage and current sample is converted into a square wave using a zero-cross detector. The voltage and current sample signals are feed to the microcontroller at two analog pins and the difference between the arrivals of waveform indicate the phase angle difference. The difference is measured with high accuracy by using internal timer. This time value is calibrated and the phase angle and the corresponding power factor is also calculated. Arduino UNO displays the power factor on an LCD. The program takes over to actuate appropriate number of relays from its output to bring shunt capacitors into the load circuit to get the power factor till it reaches near unity. If capacitors fail to compensate and reach power factor unity, Arduino blows the buzzer and switch on LED.

Keywords:- Underground, Cable, Fault, Buzzer

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-012

IOT Based Air and Sound Pollution Monitoring System

R. Hemanth[1], *S. Surya Prasad[2], T. Bharath Kumar Reddy[3], I. Daniel Paul[4]
[1,2,3,4] U.G. Scholar, Department of EEE
St. Martin's Engineering College,Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: suryaprasadsadige007@gmail.com

ABSTRACT

Air and sound pollution is a growing issue these days. It is necessary to monitor air quality and keep it under control for a better future and healthy living for all. Here we propose an air quality as well as sound pollution monitoring system that allows us to monitor and check live air quality as well as sound pollution in particular areas through IOT. System uses air sensors to sense presence of harmful gases/compounds in the air and constantly transmit this data to microcontroller. Also system keeps measuring sound level and reports it to the online server over IOT. The sensors interact with microcontroller which processes this data and transmits it over internet. This allows authorities to monitor air pollution in different areas and take action against it. Also authorities can keep a watch on the noise pollution near schools, hospitals and no honking areas, and if system detects air quality and noise issues it alerts authorities so they can take measures to control the issue.

Keywords:- Ultrasonic, Sensors, Autonomous, Vehicle

ISBN : 978 -93-91420-99-4

Modelling of Soft-Switching Losses of IGBTs in High-Power High Efficiency Dual-Active-Bridge DC/DC Converters

Sapa Rajkumar[1], *P. Mahesh[2], A. Yamini Devi[3], jannana Deepika[4]
[1,2,3,4] U.G. Scholar, Department of EEE
St. Martin's Engineering College,Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: mahesh.paladugu6367@gmail.com

ABSTRACT

In medium-voltage and medium-frequency applications like solid-state transformers, soft-switching techniques are not only highly desirable but also frequently necessary requirements. This is because of the safety benefits associated with these approaches. The dynamic behavior of the internal stored charge in the utilized semiconductor devices is intimately connected to the efficacy of these soft-switching approaches, which are directly responsible for the technique's success. Because of this, the behavior of the internal charge dynamics in high-voltage (HV) semiconductors is analyzed in this paper. This provides a solid foundation on which to carry out overall converter optimizations and to comprehend the zero current-switching techniques that were previously proposed for insulated-gate bipolar-transistor (IGBT)-based resonant dual active bridges. The following are the two primary ideas that have been identified as contributing to the reduction of switching loss in HV semiconductors: 1) the shaping of the conducted current in order to achieve a high recombination time in the previously conducting semiconductors; and 2) the achievement of zero-voltage-switching (ZVS) in the turning-on device. Both of these ideas were derived from the methods described in the previous paragraphs. The means to implement these strategies in a triangular-current-mode dual active-bridge converter, as well as the benefits of the proposed approaches, are studied and experimentally confirmed with a 1.7-kV IGBT-based neutral-point-clamped (NPC) bridge. This bridge was used to conduct the experiments. Additionally, the impact of the adjusted currents on the performance of the converter is quantified in order to determine the benefits of the introduced concepts in the overall converter. This was done so that the benefits of the concepts could be determined.

Keywords:- Neutral point clamped inverter, zero voltage switching, IGBT

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-014

An Emotion Based Music Player

[*]G. Yogender Reddy[1], G.M. Shiva shaushnav[2], J. Vamshi Krishna[3], B. Sai Kiran[4]
[1,2,3,4] U.G. Scholar, Department of EEE
St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: saiyogender.reddy@gmail.com

ABSTRACT

People experience stress due to various factors like work pressure, emotional problems, disaster, violence, etc in their day to day life. This stress leads to many physical and mental health risk such as Asthma, Headaches, Anxiety, heart disease, Depression, Asthma, Alzheimer's disease, etc. Music therapy has the ability to balance both the physical and mental fitness of humans. Music therapy is a healing process that uses music to an inscribe the emotional, physical, cognitive needs of oneself or a group. Here we aimed to establish the music classification and prediction for music therapy using a machine learning algorithm Random forest. This study involves factors such as people's age, education status, music interest, preferences of music in both individual and therapist aspects, and their respective relaxation scale before and after music therapy. Our study reveals the important features involved in music prediction for music therapy and the accuracy performance of about 89 is achieved by this classification

Keywords:- DC-DC Converter, Battery, Energy Storage, Vehicle

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-015

Generation of High DC Voltage with Marx Generator Using Arduino

[*]Divyesh Kalleda[1], Chelumalla Bharath[2], M. Sai Kiran Goud[3], K. Yashaswini[4]
[1,2,3,4] U.G. Scholar,Department of EEE
St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: divyeshkalleda12@gmail.com

ABSTRACT

High voltage is of paramount importance in various scientific and industrial applications. It enables researchers to study and understand fundamental phenomena such as electrical breakdown and dielectric properties while also facilitating the creation of powerful electric fields for particle acceleration and plasma generation. Additionally, high voltage testing ensures the reliability and safety of electrical equipment used in diverse industries from power distribution to telecommunications. This project proposes the Marx generator, a versatile high voltage generation system utilizes cascaded charging and discharging of capacitors to produce rapid voltage rise. Its modular design allows easy scalability, ranging from kilovolts to megavolts. This proposed project highlights its principles, configurations, and applications in scientific research, industrial testing, and particle accelerators. Researchers and industries utilize it to simulate lightning strikes, test electrical equipment, and conduct high-energy physics experiments. Ongoing research aims to optimize efficiency and safety, ensuring continued relevance in a rapidly evolving technological landscape. The Marx generator's role as a reliable high voltage generation system drives progress across various domains, enabling ground breaking discoveries and innovations. Moreover, the Marx generator stands as a pivotal tool in the development of advanced materials, as it allows for controlled testing of insulation properties under extreme voltage conditions. The project also explores advancements in pulse-shaping techniques within the Marx generator, enhancing its versatility for tailored applications in fields like electromagnetic compatibility testing and high-power microwave generation. Furthermore, the modular nature of the Marx generator facilitates experimentation in diverse environments, from laboratory settings to harsh industrial conditions.

Keywords:- Headlight, Eccentric, Sensors, LED

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-016

Controlling Solar Energy Charge

*V. Sai Pranav Reddy[1], N. Satish[2], D. Vamshi Krishna[3], Uday Addenki[4]
[1,2,3,4] U.G. Scholar, Department of EEE
St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: pranavreddy13aug2002@gmail.com

ABSTRACT

The project allows for battery charging system from a solar panel. With the help of the solar panel the solar energy is converted into electrical energy through photo-voltaic cells. The system is beneficial for storing the energy for night time use. The project even controls the charging mechanism i.e. when the battery gets overcharged or undercharged. It requires a set of op-amps that constantly monitors the parameters like panel voltage etc. When the battery is under charged a green LED is switched on and when the battery is fully charged a red LED glows. Arduino is used to get the output values by considering the input values. It displays the value of voltage with the help of voltage sensor. When Arduino shows overcharged condition then we will switch off the connection between the panel and the Battery. It will shows undercharged condition then we will switch off the connection between the load and the Battery.

Keywords:- Life cycle, Electrical, Load, Counter

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-017

Suspicious Activity Detection

[*]G. Jahnavi[1], K. Swathi[2], A. Uday[3], A. Srinu[4]
[1,2,3,4]U.G. Scholar, Department of EEE
St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: jahnavigogula0190@gmail.com

ABSTRACT

With the increasing in the number of anti-social activities that have been taking place, security has been given utmost importance lately. Many organizations have installed CCTVs for constant monitoring of people and their interactions. For a developed Country with a population of 64 million, every person is captured by a camera 30 times a day. A 704x576 resolution image recorded at 25fps will generate roughly 20GB per day. Constant Monitoring of data by humans to judge if the events are abnormal is near impossible task as requires a workforce and their constant attention. This creates a need to automate the tasks. Also, there is need to show in which frame and which part of it contain the unusual activity which aid the faster judgment of the unusual activity being abnormal. This is done by converting video into frames and analyzing the persons and their activates from the processed frame. Machine learning and Deep Learning Algorithms and techniques support us in a wide accept to make Possible. In this paper, a methodology is proposed using CNN approach that classifies and detects suspicious activities in the stored videos. The whole automated process will affirm safety and security of the premises under surveillance.

Keywords:- Remote, Transformer, Internet, Micro Controller

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-018

School Library Application Using Python

[*]J. Suresh[1], C. Sai Kiran[2], K. Hemanth[3]
[1,2]U.G. Scholar, Department of EEE
St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: jarpulasuresh1437@gmail.com

ABSTRACT

The 'Library Management system' undertaken as a project is based on relevant technologies, which is an attempt to automate the existing library. The project enables its user to perform all the operations regarding a library. The project enables the user to make entry of a new book, deleting the record of a book from the library, issuing a book to member, making entry of a new member, deleting the record of a member from the library etc. The process model we have used for our project is Linear Sequential because the requirements are well stated and understood before in hand. In analysis phase we analysed the requirements of what the project will do. We collected the requirements needed to develop the project. Then in the design phase we designed our project according to user satisfaction. We created database to store the details of members, books in tables. We designed DFD diagrams based upon the operations that was carrying in the project. Then cost and effort estimations are calculated and testing and coding processes have been carried out. Hence in the existing system for LIBRARY MANAGEMENT SYSTEM, the performance evaluation system and the maintenance are done manually. The proposed system will maintain all the information in a standard database and will be able to generate reports when necessary.

Keywords:- Smart Crop, Protection, Arduino, GSM

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-019

Advanced EV Charging Station

[*]V. Sai Kowshik[1], K. Akshay[2], K. Ravi Kumar[3], CH. Ruchitha[4]
[1,2,3,4]U.G.Scholar,Department of EEE
St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: v.saikowshiksk@gmail.com

ABSTRACT

The Advanced EV Charging Station (AECS) represents a ground breaking and all-encompassing solution that is poised to transform the electric vehicle ownership experience as we know it. This innovative charging station incorporates a plethora of cutting-edge features, delivering an unparalleled level of convenience and efficiency for electric vehicle (EV) owners. One of the standout features of the AECS is its state-of-the-art wireless charging technology. This advancement eliminates the need for cumbersome cables and connectors, streamlining the charging process to an entirely new level of convenience. Furthermore, the AECS boasts automatic slot detection, making it incredibly user-friendly. It intelligently identifies available charging slots, saving EV owners valuable time and ensuring a hassle-free experience. Billing automation is another hallmark of the AECS, simplifying the payment process for EV charging. This feature not only enhances user experience but also provides a transparent and efficient billing system. The station's ability to switch power sources, including integration with renewable energy systems, significantly contributes to the promotion of clean energy use and a reduction in carbon emissions, aligning perfectly with sustainability goals and environmental concerns. To accomplish these remarkable feats, the AECS employs a sophisticated system that includes RFID technology for user authentication and authorization. In combination with infrared (IR) sensors, it ensures secure and efficient charging processes. Current transformers (CT) further contribute to precise energy measurement and management, guaranteeing an accurate billing system. At the heart of this technology lies an Arduino-based control system, which orchestrates the seamless integration of all these components, ensuring the smooth operation of the AECS. Additionally, the AECS integrates solar power systems to harness clean, renewable energy sources, further reducing the carbon footprint of EV charging.

Keywords:- Energy, Saving, System, Campus

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-020

Piezo Based Visitor Sensing Welcome Mat

SK. Azeem Ali[1], MD. Naveed[2], M. Siddhu[3], *V. Gnaneshwar[4]
[1,2,3,4]U.G.Scholar, Department of EEE,
St. Martin's Engineering College Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: gnaneshwarreddyvanga@gmail.com

ABSTRACT

The mat integrates piezoelectric sensors beneath its surface, capable of converting footsteps into electrical energy. This innovative approach not only generates a sustainable power source but also transforms the act of stepping onto the mat into a multisensory experience. As visitors walk across the mat, the piezo sensors capture and convert mechanical energy into electrical energy, powering embedded LED displays that illuminate personalized greetings or messages. The seamless integration of technology with a common household item like a welcome mat offers a unique blend of functionality and aesthetics, making it an intriguing addition to smart homes and sustainable living spaces.

Keywords:-Power, Inverter

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-021

Buck Converter with Soft-Switching Cells for PV Panel Applications

*K. Keerthana[1], M. Sandhya Reddy[2], V. Vamshi Reddy[3], Advait Joshi
[1,2,3,4]U.G.Scholar, Department of EEE
St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: keerthanakummari1611@gmail.com

ABSTRACT

In power conversion of photovoltaic (PV) energy, a hard-switching buck converter always generates some disadvantages. For example, serious electromagnetic interference (EMI), high switching losses, and stresses on an active switch (metal-oxide-semiconductor-field-effect-transistor, MOSFET), and high reverse-recovery losses of a freewheeling diode result in low conversion efficiency. To release these disadvantages, a buck converter with soft-switching cells for PV panel applications is proposed. To create zero-voltage-switching (ZVS) features of the active switches, a simple active soft-switching cell with an inductor, a capacitor, and a MOSFET is incorporated into the proposed buck converter. Therefore, the switching losses and stresses of the active switches and EMI can be reduced significantly. To reduce reverse-recovery losses of a freewheeling diode, a simple passive soft-switching cell with a capacitor and two diodes is implemented. To verify the performance and the feasibility of the proposed buck converter with soft-switching cells for PV panel applications, a prototype soft-switching buck converter is built and implemented by using a maximum-power-point-tracking (MPPT) method. Simulated and experimental results are presented from a 100 W soft-switching buck converter for PV panel applications.

Keywords: hard-switching; soft-switching; electromagnetic interference (EMI); metal-oxide semiconductor-field effect-transistor (MOSFET); zero-voltage-switching (ZVS); maximum-power point-tracking (MPPT).

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-022

Dual Power Generation Solar Plus Windmill Generator

*Jakkula Manohar[1], Megavath Nikhil[2], Monegari Sampath[3], Padala Raju[4]
[1,2,3,4]U.G.Scholar, Department of EEE
St. Martin's Engineering College , Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: manoharbarath9515@gmail.com

ABSTRACT

Renewable energy has been on an increasing demand in the recent due to over stress on non-renewable resources and their increasing cost. Thus, producing electricity with the use of renewable resources like Wind and Solar has been taken up in this project. A Windmill, which rotates when there is enough wind, generates electricity owing to magnetic coupling between the rotating and stationary coil. Solar Panel is being used in this project to generate electricity. Dual Power Generation Solar + Windmill System harnesses both the Solar and Windmill i.e., Wind Turbine Generator to charge a 12V Battery. The System is based on Atmega328 microcontroller which smartly senses and charges the battery while displaying the voltage on the LCD. The Windmill, when in enough wind to drive it, generates power enough to charge a battery. Similarly, the Solar Panel which is mounted on a rotating panel which sets itself to maximum exposure of the daylight to generate energy enough to charge the battery. Since both of them simultaneously can work in favourable natural conditions, both can charge the battery at a faster pace than they would have individually. Thus, this project is an example how natural resources can be efficiently harnessed to produce electricity at a faster pace and cheaper rate

Keywords : Shunt Compensation, Power Quality, Under Voltage, Power Factor, Power Flow, PSAF

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-023

Weapon Detection Using Artificial Intelligence and Deep Learning for Security Applications

*P. Sampath Reddy[1], L. Rahul[2], S. Nithin[3], E. Sai Vardhan[4]
[1,2,3,4]U.G.Scholar, Department of EEE,
St. Martin's Engineering College , Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: sampathjaya6666@gmail.com

ABSTRACT

Weapon detection is a critical aspect of modern security systems aimed at safeguarding public spaces and sensitive areas. Artificial Intelligence (AI) and Deep Learning (DL) technologies have emerged as powerful tools in automating this process with remarkable accuracy and efficiency. The proposed project is to detect automatic gun (or) weapon using a convolution neural network (CNN) based on SSD and Faster RCNN algorithms. The Proposed implementation uses two types of datasets. One dataset, which had pre-labelled images and the other one is a set of images, which were labelled manually. Results are tabulated and the weapon will be detected.

Keywords: Harmonics, Multilevel Inverter, Optimization Algorithm, Power System, Total Harmonic Distortion

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-024

Ultra Sonic Radar

[*]A.Shashank Nayak[1], B. Satya Narayana[2], B. Pavan[3], E. Rohit[4]
[1,2,3,4] U.G. Scholars, Department of EEE
St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: bhukyashashanknayak@gmail.com

ABSTRACT

A rangefinder is a device that measures the distance from the target to the observer, for the purposes of surveying, determining focus in photography, or accurately aiming a weapon. In this project, we make a simple radar system using the ultrasonic sensor, this radar works by measuring a range from 3 cm to 40 cm as non-contact distance, with angle range between 15 and 165.The movement of the sensor is controlled by using a small servo motor Information received from the sensor will be used by Processing Development Environment" software to illustrate the result on screen. The application of radio detection and ranging in different places such as military installation, commercial use is done with the help of RADAR SYSTEM which uses electromagnetic waves for detection of different physical components such as distance, speed, position, range, direction, size etc which can be either fixed or be in motion. Use of radar system has been developed greatly specially in field of navigation. In this research we study about existing navigation technologies and proposed an Arduino based radar system. It has advantage over other radar system as kit reduces power consumption and connect programmer to wide range or Arduino programmers and open source code. The system consist a basic ultrasonic sensor placed upon a servo motor which rotates at a certain angle and speed. This ultrasonic sensor is connected to Arduino digital input output pins and servo motor also connected to digital input output pins.

Keywords:- Transformer, Solar, Wind, Power quality

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-025

DTMF Based Load Control System

*P. Sunni Raj[1], D. Sai Kiran Reddy[2], K. Saketh[3], Y. Bharath Kumar[4]
[1,2,3,4] U.G. Scholars, Department of EEE
St. Martin's Engineering College , Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: sunnypuppala41@gmail.com

ABSTRACT

The aim of this project is to develop a home automation system that can be controlled remotely using mobile phone. The home automation is one of the most emerging trends in modernization of home appliance control. Presently, conventional wall switches are located in different parts of the house and one has to physically go near them and press them to turn the loads on/off. It becomes very difficult for the elderly or physically handicapped people to do so. The Another advantage of this project is that, some time we forget to switch off the home appliances and by this DTMF based home automation system we can switch on or off from any part of the world. This system is designed to provide control of home appliances through mobile phone by dialing the designated number. Dialing can be done from the home phone or a call made to the number from outside. This system is designed by ARDUINO NANO but is based on digital logic using DTMF technology (Dual Tone multiple frequency) which receives the command from the phone to develop digital output. This digital signal is further processed to actuate switching mechanism through relay driver to turn on/off the loads/appliances. It can be used to switch appliances from anywhere, overcoming the limited range of other infrared and radio frequency type controls. This proposed system gives a new direction to the development of home automation.

Keywords: Fuel cell, Multiport, input, Dual Output, single , Dc- Dc Converter.

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-026

IOT Based E-Bicycle Locking and Break Alerting System

SK. MD. Uzair[1], K. Udaydathu[2], *SK. Shareef[3], SK. Sohel[4]
[1,2,3,4] U.G. Scholars, Department of EEE
St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: skmduzair786@gmail.com

ABSTRACT

Owning a bicycle is comes with a risk of it getting stolen away. Thus a system which can help prevent the theft is required for theft avoidance. This project does this task with very few components and a smart strategy that helps expose the burglary at the time it is happening through the help of a siren .E-Bicycle locking project works with the help of an Arduino having a switch which acts as the key to the bicycle lock and also using app, we will lock the bicycle. A metal wire is connected to the system in such a way that the wire goes from in between the tyre spikes and into the system. So if someone wants to steal the bicycle, the wire has to be broken first then only the bicycle will move. And if the wire lock is broken it is sensed by the system to raise a siren alert. Hearing the siren the owner can get alert and try to avoid theft from happening and also this information will send to the app. In this project, we are adding extra future is break alert system by using Arduino. When the breaks failures or break get damaged at that time IR sensor senses then signal gives to Arduino controller then buzzer on and also this information will send to the app.

Keywords: Locking system, IOT, Alerting system, IR Sensor

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-027

Forest Fire alerting system with GPS Co-ordinates using IOT

[*]Dr. N. Ramchnadra[1]
[1]Professor & HOD, Department of EEE
St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

*** Corresponding Author**
E-mail: hodeee@smec.ac.in

ABSTRACT

In the advancing world, it is very crucial to protect our environment. Many incidents of man-made and natural disasters were happening around the world. Forest fires are one such catastrophe for environment. Once the fire inside deep forest starts, it burns and destroys everything and spreads everywhere within the forest. Such forest fires disasters should be curbed in order to protect fauna and flora habitats in the forest. The objective of this work is to design and implement an IOT based system which is self-sustaining and would predict and detect the forest fires, Temperature, gas and sends the exact location to concerned officials which would help firefighting personnel to extinguish the fire in the location where it starts slowly. And automatically on the water pump for stop the fire.

Keywords: Fire alerting system, IOT, Global positioning system (GPS).

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-028

Electric Vehicles Charging Management Considering Vehicle to Vehicle Strategy

[*]Daniel Manoj Nethala[1]
[1]Assistant Professor, Department of EEE
St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: manojeee@smec.ac.in

ABSTRACT

The integration of electric vehicles (EVs) into the grid has become an important topic by the widespread usage of EVs. The possible increase in demand due to EVs has become a concern. However, recent studies have shown that EVs may be beneficial in terms of grid reliability and flexibility by using charging models such as vehicle-to-grid (V2G) energy transfer, vehicle-to-home (V2H) energy transfer and vehicle-to-vehicle (V2V) energy transfer. On the other hand, these models may cause the comfort violation of EVs' owners. In this study, the effect of energy transfer between vehicles on the comfort of EV owners have been investigated. The results show that the negative effects of vehicle-to-grid energy transfer and power limit limitation applications on user comfort are reduced with the assistance of the energy transfer charging model between vehicles.

***Keywords**:* Vehicle-to-grid, Electric vehicle, Charging, Vehicle to Vehicle

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-029

Design of Large-Scale Integration of Photo Voltaic System to the Power Grid

[*]S. Sunanda Kumari[1], Dr. M. Lakshmi Swarupa [2]
[1,2]Assistant Professor, Department of EEE
[1]St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India
[2]CVR College of Engineering, Hyderabad, Telangana, India

* Corresponding Author
E-mail: ssunandaeee@smec.ac.in

ABSTRACT

This Renewable Energy Sources Now-a-days have an alternative source with environmentally friendly to meet load demand which is increasing day by day in nature. Photo Voltaic (PV) source is one of the Renewable Energy Sources. Solar energy is gaining more importance for obtaining maximum Power Point Tracking Technique. The technique will extract power maximum from Photo Voltaic (PV) Array. The power quality issues are predominant with bulk or huge amount of power grid which has active or reactive power flow problems. The FACTS devices are used for improvement of quality problems like series, shunt and series-shunt compensators namely STATCOM, SSSC and UPFC. In this paper a novel control technique is proposed for the power flow with power quality problems when photo-voltaic array either connected in series or parallel which is integrated with grid. This paper with individual Sources including system model simulated in MATLAB/ SIMULINK environment.

Keywords- FACTS devices: UPFC, STATCOM, SSSC, MATLAB-SIMULINK, OPF power flow method

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-030

An Intelligent Scheme for Vehicle Theft

*T. V. Sai Kalyani[1], K. V. Govardhan Rao[2]
[1,2] Assistant Professor, Department of EEE
St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

*** Corresponding Author**
E-mail: kalyanieee@smec.ac.in

ABSTRACT

At present day scenario, there is a rise in the number of vehicle thefts exponentially. All today's widespread issues related to vehicles theft are increasing on a daily basis and affecting the society in many adverse ways. Accidental problems, transportation and vehicle stolen causes a major challenge to all. Almost all people have their own vehicles and wanted a secure domain for them. Raising awareness about this major challenge, we need to make an enable innovative idea implemented on anti-theft system. Criminals are becoming smarter day by day and have reached the stage of applications present against the existing vehicle safety system. Vehicle theft has become a major issue which should be traced and prevented. The proposed system overcomes most of the limitations and the cost effectiveness and also reducing complications. In proposed method we have the extension for controlling mechanisms which remotely locks the vehicle engine and prevents the theft. This system includes the existing technologies (GPS and GSM) which increase the security rate by providing information and location about vehicles in timely manner. The stolen activities of unauthorized person are firstly alert the message to real owner of vehicle through GSM which has an interaction with microcontroller (which provide monitoring to ignition system of vehicles). After finding alert notification, owner sends back a message to GSM which is again interact with microcontroller to deactivate the system. With instant messaging, lower communication cost, unlimited access of location and generating good feedback of a speedy progress etc., all the factors make it cost effective and efficient anti-theft vehicle system.

Keywords: - GSM, GPS Module, Vehicle theft

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-031

Street Light Controlling and Monitoring System with Microcontroller

Kambhampati Venkata Govardhan Rao[1]*, Mopuri Samanth Reddy[2], Seelaboina Karthik[3], Pallati Deepak[4]
Department of Electrical and Electronics Engineering
St. Martin's Engineering College, Secunderabad, Telangana, India-500100

* Corresponding Author
E-mail: govardhaneee@smec.ac.in

ABSTRACT

The purpose of this study is to design and implement an advanced development in embedded systems for the purpose of reducing the amount of energy that street lighting consume. These days, people are so busy that they are unable to find the time to do even the simplest things, like turning off the lights in areas where it is not required. The current system is designed in such a way that the street lights are turned on in the evening, just before the sun goes down, and they are turned off the following morning, once there is sufficient light on the roads. This article presents the most effective answers to the problem of wasted electrical power. The lighting system no longer requires any manual operation, which is another significant improvement. Both photoelectric sensors and light-dependent resistor (LDR) sensors are utilised in this study. The LDR sensor is used to determine whether it is day or night, while the photoelectric sensors are utilised to detect activity on the street. C is the programming language that is utilised in the process of generating software for the microcontroller, which is the microcontroller PIC16F877A. This microcontroller serves as the brain that controls the street light system. After much effort, the system has finally been successfully constructed and put into operation as a prototype system.

Keywords: Street light, LDR, photoelectric sensor, microcontroller, energy saving and circuit design.

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-032

Testing of Artificial Intelligence in Software

*V. Vishnuvardhan[1], Abdul Sohail[2] , G. Pranay[3], A.Vinuthna[4], A.Kavya[5], Shaik Afaq[6]
[1]Assistant Professor , [2,3,4,5,6] UG scholar in Department of Computer Science and Engineering
[1]Department of EEE
St. Martin's Engineering College , Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: vishnuvardhaneee@smec.ac.in

ABSTRACT

Artificial intelligence (AI) is having a big impact on a lot of different fields, like the legal, medical, military, industrial, and artistic fields. AI can manage smart factories, drive autonomous cars, make accurate weather forecasts, detect cancer, and be a personal assistant, among other things. The process of evaluating software to look for anomalous behavior is known as software testing. The process of software testing is arduous, time-consuming, and unpleasant. In order to improve quality and delivery timeliness, automation solutions have been developed to assist in automating certain testing process operations. Automation technologies are losing effectiveness over time as a result of the continuous integration and delivery (CI/CD) pipeline. Because AI can review code for faults and bugs faster than humans and without human interaction, the testing community is looking to AI to fill the void. Our goal in this research is to identify how different aspects of the Software Testing Life Cycle (STLC) are affected by AI technology. The study also seeks to identify and elucidate some of the most significant obstacles that software testers encounter when utilizing AI in testing. Additionally, the report makes some significant predictions about how AI will advance software testing in the future.

Keywords: Artificial Intelligence, Machine Learning, Deep Learning, Software Testing, Software Testing Activities

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-033

SMART Power Flow Controller for Smarter Grid Applications

[*]Ms. Chelumala.Nirosha[1]
[1]Assistant Professor , Department of EEE
[1]St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

*** Corresponding Author**
E-mail: chniroshaeee@smec.ac.in

ABSTRACT

A SMART Power Flow Controller (SPFC) enhances the controllability in an electric power grid by using functional requirements and cost-effective solutions. Utilities that are looking for ways to enhance the controllability in their power grid by voltage regulation, phase angle regulation, line impedance regulation, fault-current limitation, and much more can be fit from using a SPFC, the heart of which is a Sen Transformer (ST) that is a new family of impedance regulating transformers. The ST is manufactured with time-tested components, such as a transformer and Load Tap Changers that offer high reliability, high efficiency, low carbon foot-print, low-cost, component non obsolescence, high power density, interoperability and small physical foot-print, which makes it portable.

Keywords: Smart power flow controller, Smarter Grid, Sen Transformer.

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-034

Unveiling the Power of Machine Learning and Deep Learning: A Comprehensive Overview

*Ms. P. Priyanka[1], A. Abhishek[2], B. Srinath[3]
[1]Assistant Professor, Department of EEE,
[2,3] U.G. Scholar, Department of CSE
St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

*** Corresponding Author**
E-mail: ppriyankaeee@smec.ac.in

ABSTRACT

Now-a-days artificial intelligence has become an asset for engineering and experimental studies, just like statistics and calculus. Data science is a growing field for researchers and artificial intelligence, machine learning and deep learning are roots of it. This paper describes the relation between these roots of data science. There is a need of machine learning if any kind of analysis is to be performed. This study describes machine learning from the scratch. It also focuses on Deep Learning. Deep learning can also be known as new trend of machine learning. This paper gives a light on basic architecture of Deep learning. A comparative study of machine learning and deep learning is also given in the paper and allows researcher to have a broad view on these techniques so that they can understand which one will be preferable solution for a particular problem.

Keywords : Machine Learning, Deep learning, Artificial Intelligence, shallow learning.

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-035

A Smart Way of Duck Egg Hatching System In Cultivation

*V.Kiranmayee[1]
[1]Assistant Professor, Department of EEE
[1]St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: ykiranmayeeeee@smec.ac.in

ABSTRACT

The purpose of this project is to design and develop a Smart Egg Incubator System (SEIS). The SEIS will fill with the temperature and humidity sensor. In this project, lamps are used as heaters to give suitable heat temperature for the eggs. The health of eggs is very important for the development of embryos within the eggs. By using water and controlling fan, it can make sure the humidity and ventilation are in good condition. The status condition in the SIES will appear on the LCD screen display. The entire element will be controlled using Arduino UNO. The Arduino UNO is a type of microcontroller that can process data from sensor and will execute the control system to change the condition of SEIS. In this project, the heating coil is used to give the egg the right temperature. Using water and checking the fan, you can ensure that the humidity and ventilation are in good condition. The status condition in the SIES will be displayed on the LCD screen. To make sure that the entire part of the egg has been heated with a lamp, the synchronous motor is very useful for rotating the iron mounted on the underside and automatically changing the position of the egg. The whole element will be controlled by a microcontroller (Arduino ATMEGA 328). This type of microcontroller can process sensor data and execute the control element to change the status of SEIS. This project will be an easy to-use product as the SEIS can move to another location. The user will be guaranteed to enter the password before activating the system.

Keywords: Cultivation, Arduino, Egg Hatching, SEIS

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-036

Intelligent System For Air Pollution Finding In Vehicles

[*]G. Balachandraiah[1]
[1]Assistant Professor, Department of EEE
St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: gbalachandraiaheee@smec.ac.in

ABSTRACT

Air and sound pollution is a growing issue these days. It is necessary to monitor air quality and keep it under control for a better future and healthy living for all. Here we propose an air quality as well as sound pollution monitoring system that allows us to monitor and check live air quality as well as sound pollution in a particular areas through IOT. System uses air sensors to sense presence of harmful gases/compounds in the air and constantly transmit this data to microcontroller. Also system keeps measuring sound level and reports it to the online server over IOT. The sensors interact with microcontroller which processes this data and transmits it over internet. This allows authorities to monitor air pollution in different areas and take action against it. Also authorities can keep a watch on the noise pollution near schools, hospitals and no honking areas, and if system detects air quality and noise issues it alerts authorities so they can take measures to control the issue.

Keywords : Air pollution, IOT, Sound Pollution.

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-037

Vehicle Movement Based Street Light Control System

[*]K. Haritha[1]
[1]Assistant Professor, Department of EEE
St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: kharithaeee@smec.ac.in

ABSTRACT

This paper proposes a smart street lighting system based on Arduino and Wi-Fi, which uses vehicle movement detection to control street light illumination. The system is designed to conserve energy by automatically turning off lights in areas with no vehicle or pedestrian activity, and turning them back on when needed. Additionally, the system includes anti-theft measures to prevent unauthorized removal of the streetlights, as well as accident detection capabilities using a mercury vibration sensor. The proposed system is composed of two main components: the street light controller and the anti-theft and accident detection module. The street light controller uses a Wi-Fi module to receive vehicle movement data from nearby sensors, and turns the lights on or off accordingly. The anti-theft and accident detection module consists of a vibration sensor that detects any tampering or damage to the street light pole. If the sensor detects any abnormal activity, an alarm is triggered and the authorities are notified. The proposed system has several advantages over traditional street lighting systems, including energy efficiency, anti-theft measures, and accident detection capabilities. The system can be easily implemented and customized to suit the needs of different environments, making it a cost-effective and sustainable solution for modern street lighting.

Keywords : Smart street lighting, Arduino, Illumination.

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-038

Automatic Pothole Detection And Alert System With Speed Reduction Features To Aid Drivers

*V. Usha Rani[1]
[1]Assistant Professor, Department of EEE
St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: vusharanieee@smec.ac.in

ABSTRACT

With an increase in vehicular traffic, safety on roads becomes a critical issue. A survey shows that around 3000 deaths occur each year in India due to potholes on roads. This loss of life needs to be avoided. Also well- maintained roads will strengthen our economy. In the proposed scheme there will be automatic detection of potholes using ultrasonic sensors, reduction in the speed of the vehicle using a motor driver to avoid accidents or damage to the vehicle. The GPS receiver will be used to capture the location coordinates of the potholes and the same will be conveyed to register mobile SIM via GSM modem. The android device acting as a server will be inserted with this mobile SIM card. The sent messages will include information about the depth and height of the pothole and hump respectively and also its location coordinates.

Keywords : Pothole detection, GPS receiver, GSM Module.

ISBN : 978 -93-91420-99-4

Paper ID: ICAEEE-23-039

Accurate Speed Control of Electric Car

[*]K. Shravani[1]
[1]Assistant Professor, Department of EEE
St. Martin's Engineering College, Secunderabad, - 500100, Telangana, India

* Corresponding Author
E-mail: kshravanieee@smec.ac.in

ABSTRACT

Safety is concerned to reduce the occurrence of accidents through worldwide it minimizes the loss of property and life of a person. An accident near the restricted zones have increased tremendously, mainly reasons for accidents are of because to reach the targeted place soon. As far as automobiles are concerned, safety is very important to reduce the occurrence of accidents. In order to avoid these accidents we implemented a project prototype named as Accurate Speed control of Electric car. This prototype is powered by Raspberry Pi (PICO), which is a controller. Through commands i,e Voice modulation we are controlling the vehicle speed. Here attaching one vibration sensor for the stop the vehicle when the accident occurs.

Keywords : Speed Control, Electric Car, Raspberry Pi.

ABOUT CONFERENCE

The International Conference on Advances in Electrical and Electronics Engineering (ICAEEE), for its enormous impact on the next generation and advanced technology focused on research and deployment venture which paved way for inter-disciplinary research in electrical, electronics, computer, instrumentation, automation, and communication engineering, ICAEEE aims to bring together researchers, scientists, engineers, and scholar students to exchange and share their experiences, new ideas, and research results about all aspects and discuss the practical challenges encountered and the solutions adopted. Expert talks are planned for exchange of ideas and sharing expertise. The conference serves to be better platform to enrich research activities.

Governor Award (four times)

Ranked Institute

ARIIA

ATAL RANKING OF INSTITUTIONS ON INNOVATION ACHIEVEMENTS

St. MARTIN'S Engineering College

UGC AUTONOMOUS

ACCREDITED WITH GRADE A+ NAAC

A NON MINORITY COLLEGE, AFFILIATED TO JNTUH, APPROVED BY AICTE,
ACCREDITED BY NBA & NAAC A+, ISO 9001:2008 CERTIFIED
SIRO RECOGNITION BY MINISTRY OF SCIENCE & TECHNOLOGY, GOVT.OF INDIA.
Dhulapally, Near Kompally, Secunderabad - 500 100, T.S. www.smec.ac.in

ISBN:
978-93-91420-99-4

Editor in chief
Dr.P.Santosh Kumar Patra