3rd International Conference on Engineering Science and Technology and Management (ICESTM-2022)

Exact Dates: 24.06.2022 to 25.06.2022

Important Dates

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Editor:

Dr. Gangineni Dhananjhay

Dr. Akhib Khan Bahaman

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PREFACE

Narayana Engineering College was established in the year 1998 under the chairmanship of Dr P Narayana. This is one of the most prestigious institutions sponsored by Narayana Educational Society, across India. Within a short period, the college has witnessed significant growth and established itself as one of the premier private unaided Engineering Colleges in Andhra Pradesh today and in recent times our college was ranked as 'A' Grade by the Govt. of AP.

The Institute offers a 4-year B Tech Programme in six branches at UG level (EEE, ECE, CSE, EIE, ME, CE) and seven courses at PG level (M.Tech EPE, EPS, VLSI, DSCE, CSE; MBA & MCA) with a total intake around 2500. All the Labs are well established with State-of-the Art facilities and are periodically updated with latest equipment. The Institution has got 9 well furnished Computer centres with the latest licensed software. In addition to disciplined education, the college consists of an Air Conditioned Central Library with more than 45,000 volumes and a Digital Library with 24-hour Internet facility. A full-fledged Training and Placement Cell facilitates the aspiring professionals in acquiring corporate skills towards grabbing placements in MNCs.

3rd International Conference on Engineering Science and Technology and Management (ICESTM-2022) was held at Narayana Engineering College. Nellore, AP, India from 24.06.2022 to 25.06.2022. Nellore is going to be a hub for a large number of power projects. As of May 2015, the total installed capacity in Nellore district is around 3,000 MW and capacity to the tune of 10,000 MW will be connected to the grid shortly. Nellore is also the place where one of the largest power dispatch stations is located. The objective of the 3rd International Conference on Engineering Science and Technology and Management (ICESTM-2022) was to provide a platform for academicians, research scholars and technocrats to exhibit their research findings and developmental activities in the broad area of Electrical and Power Engineering. This conference has provided an opportunity for the delegates to exchange innovative ideas and their experience to find out dealings for future collaborations. The conference is recognized as one of the major conferences in Electrical Engineering. Firstly, papers were undergoing the peer review system of the conference committee, and accepted papers were published into conference proceedings with ISBN of after presentation.

The following are the different tracks in this conference:

Track 1:

Electronics and Communication Engineering

Topics of interest but are not limited to the following:

1. Nano electronics and microelectronics
2. Power and Applied electronics
3. Microprocessor and Microcontroller
4. Very Large Scale Integration(VLSI)
5. Micro scale fabrication
6. Electro technologies
7. High Voltage and Insulation Technologies
8. Power Electronics and Drive Systems

Track 2:

Computer Science and Engineering

Topics of interest but are not limited to the following:

9. Computer Networks.
10. Data Communications.
11. Data Encryption.
12. Data Mining.
13. Database Systems.
14. Programming Languages.
15. Image processing and Pattern recognition
16. CAD-CAM.

Track 3:

Electrical and Electronics Engineering

Topics of interest but are not limited to the following:

17. Instrumentation
18. Electric Power Generation
19. Electrical Machines and Drive Systems
20. Electromagnetic Transients Programs
21. Digital Signal Processing
22. Microprocessor based Technologies
23. Economic aspects of power quality and cost of supply
24. Reliability and continuity of supply.

Track 4:

Mechanical Engineering

1. Industrial Planning
2. Maintenance Engineering
3. Intelligent Mechatronics
4. Robotics
5. Automation, and Control Systems
6. Intelligent System
7. Fault diagnosis
8. Engines and Heat exchangers

Track 5:

Civil Engineering

1. Advanced Concrete Technology
2. Concrete Science and Technology
3. Construction Planning, Scheduling, and Control
4. Geology
5. Mechanics of Solids and Fluids
6. Monitoring of Structures & Buildings
7. Architecture and Town Planning

TRACK 6:

MATHAMATICS

- Probability & Statistics
- Number Theory & Linear Algebra
- Mathematical Modeling and Simulation
- Graph Theory
- Geometry Analysis and Fluid Mechanics
- Computational Methods in Fluid Dynamics

TRACK 7:

PHYSCIS AND CHEMISTRY

- Thin Film & Characterization
- Single Crystals & Applications
- Semiconductor Devices
- Polymers, Glasses & Ceramics

- Photonic Materials
- Graphene & Novel Materials
- Nano Chemistry
- Metal Alloys & Composite Structures
- Green Chemistry
- Electroplating
- Catalysis
- Biomedical Applications of Polymers

TRACK 8:
Emerging Trends in Business & Commerce

- Creative and Innovation in Business
- Finance, Economics and Insurance
- Accounting and Banking
- Internet Banking and Marketing Management
- Entrepreneurship and Sustainable Development
- Supply Chain Management
- Hospitality and Tourism Management
- Stress Management Quality Control and Product Development
- Environmental Protection and Disaster Management

TRACK 9:
Emerging Trends in Economics & Statistics

- Pedagogy of Economics
- Innovative Practices of Economic
- Interface between Economics and Mathematics
- Key issues in Gender Economics
- Nature of Economics
- Modern Technique in Statistical Methods , Qualitative & Quantitative

REGISTRATION PROCESS

➤ Send the paper to icestm2022@gmail.com

➤ After the acceptance mail received, complete the payment process.

➤ The registration fee is payable through crossed Demand Draft (DD) in the favour of "Principal Narayana Engineering College, Nellore", Payable at Nellore.

GUIDELINES FOR AUTHORS

➤ All submissions will be peer reviewed by experts in the field based on originality, significance, quality and clarity and it should be result oriented.

➤ All contributions must be original, should not have been published and should not be intended to be under review elsewhere during the review period.

➤ At least one author must register and present his/her accepted manuscript in the conference. Registration fee includes proceedings, Conference kit, Lunch, Tea& Certificate.

➤ Prior to submission, the paper should be checked for Plagiarism from licenced plagiarism software like Turnitin / iThenticate. The similarity content should not exceed 20% in any case (either self-contents or others) .

➤ All the accepted manuscripts have an opportunity to be published in UGC CARE and Scopus indexed journal. Additional publication charges are applicable as per journal norms

CONTACT DETAILS

Dr. Gangineni Dhananjhay

Dean &Professor

MBA Department

Narayana Engineering College, Nellore.

Mobile Number: +91-9391319721

Dr. Akhib Khan Bahamani

Professor, Department of EEE

Narayana Engineering College, Nellore

Mobile Number: +91-8885673514

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Advisor & Professor

MBA Department

Narayana Engineering College, Nellore.

Mobile Number: +91-9391319721

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Dr. Akhib Khan Bahamani

Dr.Akhib Khan Bahamani

Professor, Department of EEE

Narayana Engineering College, Nellore

SPSR (Dt), Andhra Pradesh – 524 004.

Email Id: akhib71@gmail.com

Mobile Number/WhatsApp Number: 8885673514/ 9886251824

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About Narayana Engineering College

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MAJOR ACHIEVEMENTS OF COLLEGE

- Accredited with NAAC A+ Grade in Andhra Pradesh, No.3 In India wide
- Permanent Affiliation with JNTUA, Anantapuramu
- Best Engineering College in Co-Curricular Activities
- Recognized by UGC under 2(f) & 12(B).
- Rated as College with Grade-A by Govt. of AP.
- Authorized Training Partner to NSDC,New Delhi as PMKVY-TI Center
- Authorized Nodal Centre from IIT-Bombay
- Offering consultancy services to Major Government and Private Organizations – Testing / Evaluation / Design

ABOUT THE CONFERENCE

3rd International Conference on Engineering Science Technology and Management, will be held at Narayana Engineering College, Nellore, Andhra Pradesh on 24th to 25th June 2022. In this era of knowledge, the higher education institutes are not restricted just to knowledge transfer from teachers to students, but are also involved in knowledge assimilation, knowledge generation, and knowledge dissemination. The prime objective of ICESTM-2022 is to bring experts, researchers and innovators from academia, R&D and industry in the related fields together and provide them a forum for knowing what is happening in the research arena, identify and conceptualize new ideas and sharing their valuable findings and thoughts. The conference also aims to create research interest in the minds of young graduates to pursue research as their career. ICESTM-2022 will facilitate and promote interdisciplinary research among researchers and help in reducing the gaps between different disciplines.

Message from founder

This is a matter of enormous pride that Narayana Engineering College, Nellore is conducting an 3rd International Conference on Engineering Science Technology and Management from 24th to 25th June 2022.

Research being the indispensable tradition of any reputed academic institution. I am glad to announce NECN embarked up on important task of engaging in research culture as part of our academic responsibilities and bring out the knowledge to the world. This conference would provide a forum for interaction between scientists at R&D, Academicians at Universities and technocrats at industry level to sharpen their skills and bridge the gaps in application of technology.

I congratulate and take this opportunity to convey my best wishes to the organizers and participants and wish the event a grand success.

Dr. P. Narayana

Founder, Narayana Group of Educational Institution

Message from Chairmen

I am very glad that Narayana Engineering College, Nellore is organizing 3rd International Conference on Engineering Science Technology and Management from 24th to 25th June 2022. Its great pleasure in welcoming academicians, research scholars and other participants in the 2 day international conference.

The ICETEST-22 will provide a platform for academicians, researchers and other participants to interact each other and future collaborations. It is also a golden opportunities to the students of this institution to enhance their knowledge.

I wish the conference a grand success and congratulate the organizers for the fruitful effort.

Sri. Puneeth

Chairmen, Narayana Group of Educational Institution

Message from Registrar

It gives me enormous pleasure and privilege to welcome you to the 3rd International Conference on Engineering Science Technology and Management from 24th to 25th June 2022 organizing by Narayana Engineering College, Nellore. This conference would be able to address the challenges face by the researchers professionals and student to share the innovative ideas, recent trends and future directions in the field of Engineering, Science and Technology.

I expect that this conference will pen novel windows in the thriving areas of innovative problem domains and interaction of scholars and intellectuals at this conference will definitely yields new solutions to untapped ideas in Engineering, Science and Technology.

Sri R Samba Siva Rao

Registrar, Narayana Group of Educational Institution

Message from Director

It gives me an immense happiness that Narayana Engineering College, Nellore is conducting 2nd International Conference on Engineering Science Technology and Management from 24th to 25th June 2022.

I am confident that this conference will bring opportunities among the academicians, corporate delegates, and research scholars to present their innovative ideas, most up to date findings and technical proficiency in the various fields of research trends in Engineering Science and technology.

I welcome all the academicians and researchers to the conference and assure that it would be a great experience and wish the conference all the success.

Dr. A.V.S. Prasad

Director, Narayana Group of Educational Institution

Message from Principal, NEC::Nellore

It is indeed hearting to know that Narayana Engineering College, Nellore is organizing the 3rd International Conference on Engineering Science Technology and Management from 24th to 25th June 2022. Aiming at providing a good platform for meeting researcher's academicians and industrial experts to interact. When global interdependence and competition are up on us, we must offer quality education and training to our youngster to keep up and keep face with the best and the brightest in the world. With this view in mind Narayana Engineering College has the tradition of offering the best possible technical education. It is really inspiring to know that over a span of two decades Narayana Engineering College has become one of the premier engineering college not only in the state but also in India. But the path towards excellence is never ending. Therefore, our collective efforts should be directed towards all round improvement of Narayana Engineering College in all frontiers of modern technical education. We should also see that the technologies advances and research output should be beneficial to all human beings and to the society.

I convey my blessings and good wishes to one and all members of Narayana Engineering College. I also congratulate the members of organizing committee of ICETEST 2022.

Dr. G. Srinivasulu Reddy

Principal, Narayan Engineering College, Nellore

Message from the General chair- ICESTM 2022, NEC::Nellore

Dear Participant,

It is a great pleasure for me to welcome all the delegates to the 3rd International Conference on Engineering Science Technology and Management from 24th to 25th June 2022. here in Narayana Engineering College, Nellore. It is routine practice in our college in conducting various activities like workshops, symposiums, seminars, conferences etc. to develop overall performance in students.

On behalf of the organizing committee, we are pleased to welcome you all to ICESTM-2022. We extend our heartiest greetings to all delegates, experts from industry and academia to the 3rd International Conference on Engineering Science Technology and Management from 24th to 25th June 2022. It gives us real honour and privilege to serve as the General Chair for this conference.

I look forward to welcoming all of you at ICESTM-2022

Dr. G. Dhanunjhay

Professor&Dean,

General Chair-ICESTM-2022

Message from the Convener chair- ICESTM 2022, NEC::Nellore

Dear Professors and Researchers.

It is my privilege and honor to welcome you all to the 3rd International Conference on Engineering Science Technology and Management at Narayana Engineering College, Nellore from 24th to 25th June 2022.

The main goal of organizing this conference is to share and enhance the knowledge of each and every individual in this fast-moving Information Era. We have given a good opportunity for those who have a thirst in knowing the present technological developments and also share their ideas. Additionally, this conference will also facilitate the participants to expose and share various novel ideas. The conference aims to bridge the researchers working in academia and other professionals through research presentations and keynote addresses in current technological trends .i.e. on Industry. It reflects the growing importance of Intelligent Computing systems as a field of research and practice for contribution and better opportunities in industry. You will get ample opportunities to widen your knowledge and network. Outside of the conference, I hope that you will enjoy some of the many attractions found in and around our beautiful campus at Narayana Engineering College Nellore. I want to thank in advance the conference committee for extending their valuable time in organizing the program and all the authors, reviewers, and other contributors for their sparkling efforts and their belief in the excellence of ICESTM-2022. I cordially invite all the enthusiasts to participate with full vigor in this celebrated event which can give immense exposure and global opportunities to all.

Dr. Akhib Khan Bahamani

Convener-ICESTM-2022

Message from HOD, Electrical and Electronics Engineering, NEC::Nellore

It gives me an enormous pleasure in penning down this foreword for the proceedings of 3rd International Conference on Engineering Science Technology and Management from 24th to 25th June 2022 organizing by Narayana Engineering College, Nellore. The actual definition of an engineer is "term applied to the profession in which knowledge of the mathematical and natural sciences, gained by study, experience, and practice is applied to the efficient use of materials and forces of nature".

Research is the embellishment of this innovation and I am glad to announce that NECN embarked upon important task of engaging in research culture as part of our academic responsibilities and bring in the knowledge to the world. This conference would provide a forum for interaction between scientist at R&D organizations, Academician Universities and technocrats at industry to sharpen their skills and bridge the gaps in the application of technology.

I take this opportunity to convey my best wishes to the participants and wish the event a grand success.

Dr. G. Venkateswarlu

HOD EEE, Narayana Engineering College, Nellore

Message from HOD, Computer Science and Engineering, NEC::Nellore

I am pleased to have honor of acting as coordinator for the 3rd International Conference on Engineering Science Technology and Management from 24th to 25th June 2022 organizing by Narayana Engineering College, Nellore . I congratulate all the participants or submitting their papers for the conference. I hope that deliberations of the key notes and presentation will be fruitful to you.

Dr. C. Rajendra

HOD, CSE, Narayana Engineering College, Nellore

Message from HOD Electronics and Communication Engineering, NEC::Nellore

In any Engineering College, It is customary to conduct extracurricular activities like both technical and cultural activities. As a conference chair of this conference, I would be grateful in organizing such an important event 3rd International Conference on Engineering Science Technology and Management from 24th to 25th June 2022 organizing by Narayana Engineering College, Nellore. I congratulate all the participant and wish you all the best.

Dr. K. Murali

HOD, ECE, Narayana Engineering College, Nellore

Message from HOD Civil Engineering, NEC::Nellore

This 3rd International Conference on Engineering Science Technology and Management from 24th to 25th June 2022 organizing by Narayana Engineering College, Nellore is an attempt to focus the attention of all concerned professionals to discuss at length concerned with the Emerging trends in engineering& technology, to seek solutions wherever possible and identify areas where further research is needed.

Information provided in various papers are reproduced in the proceedings is aimed at benefiting the Engineers and professionals. It is expected that the purpose would be served in a satisfactory manner through in-depth discussion and interaction among participants during the conference. I take this opportunity to record my heartfelt appreciation and gratitude to all the authors, delegates, conference chairman and all others participating.

Prof. K. Venkatalakshmi

HOD, CE, Narayana Engineering College, Nellore

Message from HOD Mechanical Engineering, NEC::Nellore

3rd International Conference on Engineering Science Technology and Management from 24th to 25th June 2022 organizing by Narayana Engineering College, Nellore to provide an opportunity to research scholars, delegates and students to interact and share their experience and knowledge in technology application. ICETEST-22 will provide an excellent international forum for sharing knowledge and results in Recent Challenges in Engineering Technology. The aim of the Conference is to provide a platform to the researchers and practitioners from both academia as well as industry to meet and share cutting-edge development in the field. I congratulate all the participant and wish you all the best.

Dr. A. V. S. Sridhar Kumar

HOD, ME, Narayana Engineering College, Nellore

IOT ENABLED OXYGEN LEVEL MONITORING AND CONTROLLING FOR QUARANTINE PEOPLE

G.Sindhura Bhargavi*, P Khyathi**, B D Salomi**, K Sadhvika**, V Tanmai**, N A Jyothi**

*Assistant Professor, ******UG Student

Department of ECE, Narayana Engineering College, Nellore, Andhra

Pradesh, INDIA.

(sindhura98@gmail.com)

ABSTRACT

During the ongoing COVID-19 pandemic, Internet of Things- (IoT-) based health monitoring systems are potentially immensely beneficial for COVID-19 patients. This study presents an IoT-based system that is a real-time health monitoring system utilizing the measured values of body temperature, pulse rate, and oxygen saturation of the patients, which are the most important measurements required for critical care. This system has a liquid crystal display (LCD) that shows the measured temperature and oxygen saturation level and can be easily synchronized with a mobile application for instant access. The use of the IoT protocol on medical equipment is expected to provide protection for medical personnel in dealing with Covid-19 patients, especially when medical personnel are monitoring and setting up equipment. IoT-based tools may potentially be valuable during the COVID-19 pandemic for saving people's lives. In this system we can monitor CO2 levels and maintain proper co2 levels. Nowadays, sensor node networks are designed and increasingly used in various fields and sectors, such as in military (examples Battlefield surveillance, nuclear, biological and chemical attack detection reconnaissance), in health (examples Tele-monitoring of human physiological data, monitoring patients and doctors inside a hospital), in environment (examples Forest fire detection, flood detection) and in other various applications. However, the power sources and supply of the nodes remains as challenge. Therefore, energy conservation plays an important role for this network. Usually the battery powered is used as power sources for sensor nodes, but energy harvesting offers an alternative, although it not able to avoid from the problem. In this paper, an analysis is performed to compares the use of batteries powered against solar cells powered.

Keywords: Internet of Things(IoT), Health, Ventilator, Monitoring, Covid-19, Arduino UNO, SpO2, ESP8266, Temperature, CSS, HTML, MongoDB, Express, Arduino IDE, Google Sheets.

SMART RATION CARD SYSTEM USING RFID AND IOT

K.SelvaKumarasamy[1], G.Hamal[2], D.V.S.Dineshkumar[3], A.Kalyankumar[4], K.Prasad[5] ,A.Aakash[6]

[1]Professor, Department of ECE, Narayana Engineering College, Nellore, Andhra Pradesh, India

[2,3,4,5,6] Student, Department of Electronics and Communication Engineering, Narayana Engineering College, Nellore, AP, India.

ABSTRACT

Public Distribution System i.e PDS is the important factor in India which provides the human commodities. Ration cards are an official documents which is provided by the government of India to poor people who is below the poverty level. All the eligible people having ration cards to purchase the materials from ration shop. But in this existing system, there are some drawbacks occurs that the one is the weight of the material may be inaccurate due to human mistakes and the second is if material is not purchase by customer till the ended of the month shopkeeper will misuse and sellto others or in market without the hint of government and the customer. The proposed system smart rationcard system using RFID overcome the drawbacks by using RFID i.e., Radio Frequency Identification which isact as a ration card.

Keywords: RFID card, RFID reader ,gsm,otp,ration card.

IMPLEMENTATION OF WALLACETREE MULTIPLIER USING MODIFIED FULL ADDER

S. Girish Gandhi[1], CH. Sai Teja[2], G. HemaGuru Sai[3], P. Bhanu Prakash[4], G. Vishnu Teja Yadav[5]

[1]Associate Professor, Dept of ECE, NECN, Nellore, AP, India.

[2,3,4,5]Student, Dept of ECE, NECN, Nellore, AP, India

ABSTRACT

Multipliers play a significant task in digital signal processing applications and application-specific integrated circuits. Wallace tree multipliers provide a high-speed multiplication process with an area-efficient strategy. It is realized in hardware using full adders and half adders. The optimization of adders can further improve the performance of multipliers. Wallace tree multiplier with modified full adder using NAND gate is proposed to achieve reduced silicon area, high speed and low power consumption. The conventional full adder implemented by XOR, AND, OR gates is replaced by the modified full adder realized using NAND gate. The proposed Wallace tree multiplier includes 544 transistors, while the conventional Wallace tree multiplier has 584 transistors for 4-bit multiplication.

Keywords: Wallace tree multiplier, application - specific integrated circuits, area-efficient strategy, transistors.

DESIGN AND IMPLEMENTATION OF ARITHMETIC AND LOGIC UNIT (ALU) USING NOVEL REVERSIBLE GATES

Athika Sultana Mtech[1], B.V.Bhargav[2],K.Pranay[3],A.Ganesh[4]

[1]Associate Professor, Dept of ECE, Narayana Engg Clg, AP, India

[23456] Student, Dept of ECE, NECN, Nellore, AP, India

ABSTRACT

In the current scenario, power Consumption, speed, size and heat dissipation are the huge challenge in the semiconductor industries. When the size of the single computing element is reduced then the speed can be improved and also if the power dissipation is reduced then the heat dissipation will be less. The possible solution for these two problems is the Reversible Logic and Quantum Cellular Automata (QCA). The Reversible Logic is considered to be the promising technology to the future Quantum computer technologies. The Reversible Logic gates prune the power dissipation to a larger extent. In this paper Novel Reversible Gates are proposed with Reversibility and Universality. The Arithmetic and Logic Unit (ALU) is designed with the proposed Reversible Gates in Reversible Logic. The designed Arithmetic and Logic unit is evaluated in QCA with the required specifications. The Arithmetic and Logic Unit is designed by setting the control inputs for each unit. The parameters taken into account are Quantum Cost (QC), Garbage Outputs (GO), Constant Inputs (CI), Area, Number of Cells and Simulation Time. The proposed ALU adopting Novel gates finds utilizationin low power applications. Also it can be used as the module in the Quantum computers due to its reduced Quantum Cost and Garbage outputs. The Proposed design extends its applications over Quantum Computing, Optical Computing, Nanotechnology and DNA mapping.

Keywords: Reversible Logic, Quantum Cost and Garbage Outputs.

A HIGH ACCURACY SOLVER FOR RTE IN UNDERWATER OPTICAL COMMUNICATION PATH LOSS PREDICTION

K. Murali[1] Shaik Thaseen[2], Udatha Tejaswi[3], Vennapusa Kalyani[4], M Munimeghasri[5], Syed Rubiya[6]

[1]Professor&Head, Dept of ECE, Narayana Engg Clg,AP,India

[23456]UG Scholar, Dept of ECE, NECN, Nellore,AP,India

ABSTRACT— In this paper, we present a new improved numerical framework to evaluate the time-dependent radiative transfer equation (RTE) for underwater optical wireless communication (UOWC) systems. The RTE predicts the optical path-loss of light in an underwater channel, as a function of the inherent optical properties (IOPs) related to the water type, namely the absorption and scattering coefficients as well as the phase scattering function (PSF). We reach the simulation performance based on an improvement of the finite difference scheme proposed in [1] as well as an enhancement of the quadrature method aiming to calculate the integral term of the RTE [2]. Additionally, we evaluate the received power at the receiver plane in three dimensions by considering a given receiver aperture and a field of view (FOV). Finally, we evaluate the UOWC system's bit error rate performance metric as a function of the propagation distance, and time.

Keywords— Radiative transfer equation, underwater optical wireless communication, Inherent optical properties, phase scattering function, finite difference, quadrature method, bit error rate.

FIRE DETECTION USING IMAGE PROCESSING

K. Murali[1], K S Sagar Reddy[2], Selvakumarasamy K[2]

[1]Professor and Head, Department of Electronics and Communication Engineering, Narayana Engineering College, Nellore

[2&3]Professor, Department of Electronics and Communication Engineering, Narayana Engineering College, Nellore

ABSTRACT

The project aimed to detect fire by using the image processing technology that will alert people by early detection of fire. The project is implemented by using Open CV, image processing processing and to the webcam as hardware (or) in-built cam. Webcam is taken as an input source, which captures the video feed from the surrounding and feeds. The entire code is written in pure python language using the open CV library for image processing.

Keywords: Fire Detection, Web camera, Open CV, Video Processing, Visual based Approach, Alarm, E-mail Notification system etc.

REDUCTION OF PAPR WITHOUT SIDE INFORMATION FOR SFBC MIMO- OFDM SYSTEMS

K.S. Sagar reddy[1], D.Jyothsna[2], K.Nithika[3], A.Misritha[4], M.Sowmya[5], Sk.Ayesha[6]

[1] (Professor, Department of ECE, Narayana engineering college, Nellore, A.P, India)

[2,3,4,5,6](UG Scholars, Department of ECE, Narayana engineering college, Nellore, A.P, India)

ABSTRACT: A novel peak-to-average power ratio (PAPR) reduction scheme designated as extended selected mapping (eSLM) is proposed for space-frequency block coding (SFBC) multi input multi-output orthogonal frequency division multiplexing systems. In the eSLM method, extension matrices comprising amplitude extensions and phase rotations are constructed to indicate the selected signal index without the need for side information and to minimize the PAPR, respectively. To reduce the computational complexity incurred by the inverse discrete Fourier transform operation in generating the candidate signals, a low complexity eSLM scheme (LC-eSLM) is developed by constructing equivalent candidate signals in the time domain. Notably, the extension matrices in both schemes preserve the orthogonality of the SFBC code, thereby facilitating low complexity decoding. The simulation results show that the proposed eSLM scheme not only outperforms existing blind SLM-based methods. Compared with the costly ordinary SLM scheme, the eSLM scheme has a lower computational complexity with a performance loss of less than 0.3 dB and requires no side information. Furthermore, the computational complexity of the LCeSLM scheme is around 40%–50% lower than that of the eSLM scheme with only a marginal degradation in the PAPR reduction performance

Keywords: Extended selective mapping (eSLM) ,Low-complexity extended selective mapping(LC-eSLM), peak-to- average power ratio (PAPR)

ANTI-SMUGGLING SYSTEM FOR TREES IN FOREST USING GSM TECHNOLOGY

Chandni P, Honitha S, Swetha Vardhini G, Amrutha Bhavani P,

Manaswini V

UG Scholars, Department of ECE, Narayana Engineering College, Nellore-524004

ABSTRACT

Our life is dependent upon trees. There is a long association of man and trees. Since the hoary past man and trees have been the two major creations of Nature. For many days we are reading in newspaper about smuggling of trees like Sandal, Sagwan etc. These trees are very costly as well as less available in the world. In India. The jungles of Karnataka and Tamilnadu, the notorious smuggler "Virrappan did the smuggling of such trees for many years. To restrict such smuggling of and save the forests around the globe some preventive measures need to be developed. Because of huge amount of money involved in selling of such trees lot of incidents are happening of cutting of trees. In this context we are supposed to provide a protection to the trees which can be used to restrict this smuggling. The purpose of this project is to save valuable trees which have high demand in market like teak, sandalwood, etc.

Keywords: Arduino UNO, GSM module, MEMS Accelerometer sensor, Sound sensor, Temperature sensor, LCD.

AUTOMATIC DETECTION OF RETINAL LESIONS FOR SCREENING OF DIABETIC RETINOPATHY

Selvakumarasamy K[1], Sumanika[2], Ch Ramya Sree[3], G.Durga bhavani[4], G.C.S.Pavani[5], P.Maheswari[6]

[1]Professor, [2,3,4,5,6]UG Student

Department of Electronics and Communication Engineering,

Narayana Engineering College, Nellore-524004.

ABSTRACT

Diabetic Retinopathy (DR) is characterized by the progressive deterioration of retina with the appearance of different types of lesions that include microaneurysms, hemorrhages, exudates etc. Detection of these lesions plays significant role for early diagnosis of DR. To this aim, this paper proposes a novel and automated lesion detection scheme which consists of the four main steps: vessel extraction and optic disc removal, pre-processing, candidate lesion detection and post-processing. The optic disc and the blood vessels are suppressed first to facilitate further processing. Curvelet based edge enhancement is done to separate out the dark lesions from the poorly illuminated retinal background while the contrast between the bright lesions and the background is enhanced through an optimally designed wideband bandpass filter. The mutual information of the maximum matched filter response and the maximum Laplacian of Gaussian response are then jointly maximized. Differential Evolution algorithm is used to determine the optimal values for the parameters of the fuzzy functions that determine the thresholds of segmenting the candidate regions. Morphology based post- processing is finally applied to exclude the falsely detected candidate pixels.Diabetic Retinopathy (DR) is a progressive microvascular complication of diabetes. It is asymptomatic in its initial stage.

Keywords*:* Diabetic Retinopathy (DR), microaneurysms (MAs), hemorrhages (HEMs)

AQUACULTURE MONITORING SYSTEM

A. Siva Sai Kumar * B. Swetha, A. Sai Sravya**, T. Venkata Meghana**, J. Kalyani**, A. Sai Supriya****

*Assistant Professor,

**UG Student Department of ECE, Narayana Engineering College, Nellore, Andhra Pradesh,

INDIA.

ABSTRACT

Internet of Things (IoT) is one among the rapidly developing fields for giving social and financial points of interest for rising and creating an economy of the state . Presently IoT field is flourishing in areas like medical, agriculture, transportation, training, etc. This is of most importance due to aquaculture may be a backward region of engineering . Contrasted with other zones like agriculture, consequently, it's essential to work out the problems that are during this area with the help of technology. Aquaculture is that the farming of aquatic organism in natural or controlled marine or freshwater environments. The real-time monitoring of environmental parameters is extremely important for both shrimp aquaculture and paddy farming. Here, an electronic system is proposed for the efficient monitoring and effective control of varied environmental parameters like ph., temperature related to the shrimp aquaculture.

Keyword: IoT, Aquaculture, Ph ,shrimp , temperature .

INDUSTRIAL FAULT MONITORING SYSTEM

Dr. M. Chandra Mohan Reddy*, Ch. Asritha** , K. Aswini**, G. Yasodha**, K. Vandana**

*Associate Professor, Department of ECE, Narayana Engineering College, Nellore, Andhra Pradesh, India

**UG Student, Department of ECE, Narayana Engineering College, Nellore, Andhra Pradesh, India.

ABSTRACT

Now-A-Days, gas leakage is a major issue in the home and as well as industries. The sense of the gas is very lowmeans we can't find it because of human negligence or lack of patience or some other external condition. If the gas level is increased, it causes some disaster. To avoid this disaster in advance, the alternative idea is discussed in this paper. The system is developed with embedded sensors, controllers, and some IoT-based software. In this system, we are monitoring the detection of LPG gas leakages with some alerting features. Some sensors are used to monitor the different parameters like Temperature and humidity sensors (DHT22), gas sensors (MQ- 6), flame sensors (LM 2903), PIR sensors (HC–SR 501), and Wi- Fi module (ESPZ8266). The sensors all are collect their information in their respective field and send data to the Wi-Fimodule and it will perform.

Key Words: Wi-Fi module, sensors

DESIGN OF LOW POWER HIGH SPEED MULTIPLEXERS USING REVERSIBLE LOGIC GATES

I. Divya[1] ,K. Sushmanth Reddy[2], Shaik Rufiq[3], T. Narasimha[4], T. Sai Nikhilesh[5], Sd. Musharaf Ahmed[6], R. Naresh Raju[7]

[1]Asst.Professor, Electronics and Communications Engineering Department, Narayana Engineering College, Nellore

Emails: [2]sushmenthreddy@gmail.com, [3]sk.khadarrufik@gmail.com, [4]thirakalanarasimha@gmail.com, [5]nikilesh.nikhil1234@gmail.com, [6]musharafsd623@gmail.com, [7]nrnareshrajub4@gmail.com

ABSTRACT

Designing of reversible circuit has become the promising area for researchers. The designing of digital circuits using reversible logic should have zero power loss in ideal conditions. However in practical aspect, it does not occur. This paper illustrates an optimized 8:1 multiplexer circuit grounded on reversible logic using a combination of available reversible logic gates. The multiplexer is optimized on the basis of two parameters namely total number of reversible gates used in the design of the circuits and total garbage outputs generated. This circuit is more advantageous for further designing of any digital circuit with low power loss. The devices designed through this circuit would have better performance as compared to the existing circuits.

Keywords : Reversible circuit design, Basic reversible gates, Multiplexer circuit.

EFFICIENT MULTIPLIER LESS ARCHITECTURES FOR FOLDED PIPELINED COMPLEX FFT CORE

I. **Divya*, J Bharadwaj Pemmaraju**, Tamatam Giridhar Reddy**, Pagadala sai kalyan**, M Chethan krishna Reddy** , Pagadala venkat sai****

*Assistant Professor, **UG Student,

Department of Electronics and Communication Engineering,

Narayana engineering college , Nellore .

ABSTRACT

Fast Fourier transform (FFT) has become ubiquitous in many engineering applications. FFT is one of the most employed blocks in many communication and signal processing systems. Efficient algorithms are being designed to improve the architecture of FFT. Higher radix FFT algorithms have the traditional advantage of using less number of computational elements and are more suitable for calculating FFT of long data sequence. Among the different proposed algorithms, the split-radix FFT has shown considerable improvement in terms of reducing hardware complexity of the architecture compared to radix-2 and radix-4 FFT algorithms. Here radix-4, radix-8, and split-radix algorithms have been used in the design of different proposed complex FFT cores. The next two architectures compute 512-points complex Fast Fourier Transform (FFT) using radix-4 and radix-8 algorithm respectively. The proposed architectures have been implemented using Quartus. A comparison has been done for the proposed architectures in terms of area, speed, power, and device utilization. The results show the improvements of proposed designs compared to other existing designs. Finally, the architecture for a 512-point complex FFT core using radix-4 algorithm has been proposed.

Keywords— FFT , Split radix FFT , Radix-2 FFT , Radix-4 FFT , NEDA , FPGA , DFT , IDFT .

DESIGN OF PHOTOVOLTAIC BASED POWER BANK FOR WIRELESS CHARGING OF ELECTRONIC GADGETS

Dr. S. S. Sarma, Associate Professor & HoD, EEE Department, Ramachandra College of Engineering, Eluru

Dr. J. Ranga, Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. T prathap, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. B. Ashok Kumar, Associate Professor, EEE Department, Ramachandra College of Engineering, Eluru

ABSTRACT

In today's fast-paced society, everyone is in constant need of handheld technology. The most common problem facing consumers is power; where and how can we charge all our devices. To alleviate the anxiety and the need to slow down and plug in, wireless charging offers the possibility to provide power to all our devices without being tethered by cords, and potentially without even thinking about it. This project involves the design and implementation of a versatile charging system that implements solar charging and wireless power transfer (WPT) in the form of inductive coupling. During this project the team designed and developed a fully-functioning product through a two stage design plan. This prototype was designed and developed by our team based on product and performance criteria detailed in the methodology. The design uses only a few components, making the cost system minimal and highly portable. The results from the simulation and the experiment show the design's sufficient feasibility for practical implementation.

DESIGN OF SOLAR POWEREDMULTI-TONE ULTRASONIC RODENT REPELLER ROBOT

Dr. J. Ranga, Professor, EEE Department, Ramachandra College of Engineering, Eluru

Dr. S. S. Sarma, Associate Professor&HoD, EEE Department, Ramachandra College of Engineering, Eluru

Dr. K R Vadivelu, Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. ChPhani Prasad, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

ABSTRACT

The increasing demand for energy, the continuous reduction in existing sources of fossil fuels and the growing concern regarding environment pollution, have pushed mankind to explore new technologies for the production of electrical energy using clean, renewable sources, such as solar energy, wind energy, etc. Renewable energy is considered safe and sustainable way to get clean energy and reduce dependence on traditional energy sources. Solar energy is gaining increasing importance; especially in India because of the vast areas and large periods of brightness, making it contributes a large share of the energies used. The objective of this project is to design and construct a modern bird and animal repellant prototype robot that is automatic and plays sounds/signals of distress to scare away animals and birds. This project scares off birds and animals from fields hence reducing on the physical damage the birds would cause to the crops. And thus increasing on the quantity and quality of the harvest as well as increasing the monetary gains to the farmers. The device saves the large scale commercial farmers on money they would spend annually on the labor of the bird scarers. And also it is environmentally friendly compared to the lethal technique used by some farmers such as treatment of field with avicides hence making it a more desirable technique of bird rice damage control.

IOT BASED SMART MONITORING AND CONTROL SYSTEM FOR DIGITAL ENERGY METER

Mr. B. Ashok Kumar, Associate Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mrs. Ch.Sunanda, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. P. Devadass, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. A.V.N.S.L. Narayana, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

ABSTRACT

This paper aims at developing a smart and secured system which helps in monitoring the readings from an energy meter and controlling the switching of energy meter. This system also has tamper switch, which helps in illegal removing of energy meter cabinet and alerts the authorities in the form of text message. This also sends data to webpage in real time with tamper alert status too. The controlling device is a Microcontroller. IOT modem, Relay, LCD, tamper switch and energy meter are interfaced to Microcontroller. The microcontroller is programmed such that it sends the energy readings to the authorities by sending simple SMS to the system. It helps controlling the energy meter along with tampering proof facility. The readings are displayed on LCD. The Microcontroller is loaded with intelligent program written using Embedded 'C' language. The modules in the project are: IOT modem for establishing communication between system at house and electricity department, Energy meter which continuously gives usage details, LCD to display current reading of meter, Relay to disconnect the power in case of nonpayment of bill.

SOLAR POWERED REMOTE CONTROLLED MULTI NOZZLE PESTICIDE SPRAYER ROBOT

Mr. Ch.S.K.B. Pradeep Kumar, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mrs. Ch. Sabitha, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Ms. Ch K.T.S.R. Kowstubha, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Ms. D Saiprasanthi, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

ABSTRACT

Manual spraying of pesticides and herbicides to crops and weed inhibitors onto the field are quite laborious work to humans. Manual trimming of selected unwanted plants or harvested crops from the field is also difficult. Our project proposes a multipurpose solar powered, flexible, Remote Controlled, semi-automated spraying robot with 4 Degrees of Freedom (DoF) in spatial movement, with an additional plant mowing equipment. The robot is designed to spray pesticide/insecticide directly onto individual lesions minimizing wastage or excess chemical spraying, hence making the system cost effective and also environment friendly. It is designed to cut down undesired plants selectively by remotely controlling the start and stop of the mowing system. Alternatively, it also serves the purpose of maintaining lawns and sports field made of grass. The same system can be used for water spraying and mowing the grass to desired levels, leading to proper maintenance of the field. The robot is designed to move at 1.4m/s, with an effective spraying area of 0.98 sq. m. by the nozzle and an effective cutting area of 0.3 sq. m. by the mower, when stationary. The prototype has a battery back-up of 7.2hrs under minimum load conditions. The usage of solar panel is for Battery charging because the Robot works within the field, the rays of the sun may be used for solar energy generation. To reduce the dependence on grid power, the solar energy is employed and therefore a battery is placed to store the energy and can be used whenever required.

FLOATING SOLAR SYSTEM WITH AUTO TRACKING MECHANISM FOR NON-INTERRUPTED POWER SUPPLY

Mr. K Rajendra, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. R Naveen Kumar, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. V N S R Murthy, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. B Narendra, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

ABSTRACT

This project is an automated system where Solar Panel direction is controlled based on the time by using Real Time Clock (RTC). This project uses a couple of RTC block, which will be detecting time. These sensors are connected besides the Solar Panels. These panels will be fixed on DC Servo motors. The DC motors will move towards the direction of maximum sun energy. The signals from the light sensing device will be processed by the microcontroller and the microcontroller drives the DC Servo motor in the desired direction. A prototype of solar panel system with a real time clock (RTC) based automated solar tracker has been developed for its use in urban residential areas. The panels will be fitted with the solar tracker to track the sun to maximize the energy collection. Experimental result shows that the developed system can harness about 20-23% more energy while occupying 33% less area than that by the conventional fixed panel system of same size. An 8-bit the ARDUINO microcontroller is used for this purpose. The programing of this microcontroller is done using Embedded C programs and to cross compile the .c file into hex. The programing of hex file into microcontroller done using ARDUINO IDE programmer. The Rotating Solar Panel Using Arduino project aims at charging a 12VDC Battery with the help of a Solar Panel mounted on platform which can rotate with the help of a servo motor. The position which has the highest energy capacity is chosen to charge the Battery.

DESIGN OF IOT BASED SOLAR AGRIBOT FOR AGRICULTURE APPLICATIONS

Mr. V.N.S.R. Murthy, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. B. Narendra, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. K. Rajendra, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. R. Naveen Kumar, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

ABSTRACT

Agriculture contributes to a major portion of India's GDP. Two major issues in modern agriculture are water scarcity and high labour costs. These issues can be resolved using agriculture task automation, which encourages precision agriculture. In the field of agriculture, use of proper method of irrigation is important because the main reason is the lack of rains & scarcity of land reservoir water. Considering abundance of sunlight in India, this paper discusses the design and development of an IoT based solar powered Agribot that automates irrigation task and enables remote farm monitoring. The Agribot is developed using an Arduino microcontroller. It harvests solar power when not performing irrigation. While executing the task of irrigation, it moves along a pre-determined path of a given farm, and senses soil moisture content and temperature at regular points. At each sensing point, data acquired from multiple sensors is processed locally to decide the necessity of irrigation and accordingly farm is watered. Further, Agribot can be controlled by a Bluetooth device and continuous extraction of water from earth is reduced. Another very important reason of this is due to unplanned use of water due to which a significant amount of water goes waste. For this purpose; this automatic plant irrigation system is a preferable solution. The system derives power from solar energy through photo-voltaic cells. Hence, dependency on commercial power is not required.

DESIGN OF VOLTAGE MULTIPLIER CIRCUIT FOR STEP UP VOLTAGE BASED ON OZONISED AIR PURIFICATION SYSTEM

Mr. B. Narendra, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. V.N.S.R. Murthy, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. J. Suresh, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Ms. Ch.K.T.S.R. Kowstubha, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

ABSTRACT

The aim of this project is designed to develop a voltage multiplier circuit for step up of voltage from a supply source of 230V AC based on ozonized air purification system. The indoor environment is affected by pollutants, such as gases and particles. Pollutants can be removed from the indoor environment in various ways. Air-cleaning devices are commonly marketed as benefiting the removal of air pollutants and, consequently, improving indoor air quality. So this project is used for air pollution control particularly for removing particles from waste gases at industrial facilities and power-generating stations

High voltage DC is indispensable for testing of dielectric strength of different electrical appliances and equipment's. In this project, single phase AC to high voltage DC generation circuit is developed. Ladder network of capacitors and diodes on the basics of Cockcroft–Walton circuit is used for generation of high DC voltage. Temperature and short circuit current protection feature is added to the designed circuit. Therefore, if the high voltage generation circuit exceeds a temperature range or occur a short circuit then the system will disconnect the input source and save from possible damage to the system. Consequently, the designed circuit will be reliable and safe.

ZIGBEE BASED CONTROL STRATEGY FOR SPEED SYNCHRONIZATION OF MULTIPLE MOTORS

Mr. J. Suresh, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mrs. B. Patrisamma, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. Ch.S.K.B. Pradeep Kumar, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mrs. Ch. Sabitha, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

ABSTRACT

With the advancement of computer technology and digital systems, wireless control systems or Wireless Networked Control Systems (WNCS) are becoming increasingly popular among the scientific community as well as the industry due to their flexibility, convenience & ease of operation. In this project, a closed-loop discrete time system for speed control of a permanent magnet DC motor with discrete PI controller is implemented in embedded platform. The design & analysis of the system is based on the mathematical model of the DC motor obtained by system identification technique. After that the closed loop system is distributed through a wireless network created by means of Bluetooth without any change in the discrete controller. The network connects the controller on one side with the sensor, actuator & the plant on the other side. In this project, optimal synchronization speed control of multiple DC motors is developed by using leader follower based approach. One of the DC motor is considered as a leader motor and it tracks its desired speed trajectory. The other DC motor is controlled through a leader-follower based optimal formation controller developed in this work. If the leader DC motor slows down or speeds up for some reason, the follower DC motor synchronize its speed according to the leader without having any knowledge about the desired trajectory. By doing so, the multiple DC motors will be able to work together in a synchronized manner. The experimental and simulation results are given at the end of the paper to verify the proposed theoretical claims.

DESIGN OF IOT BASED SMART MONITORING AND CONTROL SYSTEM FOR ELECTRICAL APPLIANCES

Ms. Ch.K.T.S.R. Kowstubha, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Ms. D. Saiprasanthi, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mrs. B. Patrisamma, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mrs. Ch. Sabitha, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

ABSTRACT

This project presents the application of "Implementation of IoT-based Home Control and Monitoring System using Raspberry Pi and NodeMCUs". The purpose of the presented application is an efficient implementation for IoT (Internet of Things) used for monitoring and controlling the home appliances via World Wide Web. Home automation system uses the portable end devices as a user interface. They can communicate with home automation network through an Internet gateway, by means of low power communication protocols like MQTT, Wi-Fi etc. The system is running with Raspberry Pi (Credit-card size computer) as a server and NodeMCU as a client node. User can easily control many appliances like light switches, electronic devices and door locks, and also can monitor home environment through a friendly web-based user interface through browser (Firefox, Chrome, Internet Explorer, etc.) from end devices. To protect from the aspect of fireplace accidents this system contains flame-detected fire alarm function which detects the flame within the event of fireplace and inform the status of event to the user as messages, e-mails and notifications. The server is directly connected with relay-hardware circuits to control the home appliances and webcam for monitoring the home environment. This system makes easier by implementing automation and security along with the Internet of Things to create a system which will enable someone to remotely monitor and control some areas of a house remotely and securely from anywhere with minimum cost.

DESIGN OF SOLAR POWERED HYBRID INVERTER WITH BATTERY CHARGING

Ms. D. Saiprasanthi, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mrs. B. Patrisamma, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. K. Rajendra, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Ms. Ch.S.K.B. Pradeep Kumar, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

ABSTRACT

The daily uses of electricity is increasing rapidly which results in frequents power cut offs. The disruption in supply of power may cause great problems in important places like hospital, industries, etc. The proposed Hybrid inverter system can play a vital role in solving those problems. In this project, solar and grid power, are chosen as two power sources and automatic switching system to select the power source to supply uninterrupted power to the load is designed. Also, solar energy and wind which is abundantly available in earth's surface which makes the availability of energy source easy. Battery charger circuit is designed to charge the battery from solar or grid and supply power to the load whenever required. The switching algorithm connects the load to solar or battery during peak time and connects it to grid during off peak time. The switching algorithm is designed to supply uninterrupted power to the load by connecting it to available source when any one of the source failure occurs. Hybrid Solar Inverter utilizes three inputs AC mains, wind energy and solar energy to charge battery. The DC current generated from solar panels is used to charge the battery and if solar panels stops generating current then battery is charged by AC mains. Usually, the load operates on main supply but if there is no presence of AC mains then Inverter uses the power from battery to operate the loads. The designed system is tested in MATLAB simulation software. The designed system is economically feasible and efficient in supplying uninterrupted power to the load.

IOT BASED RASPBERRY PI CONTROLLED AUTOMATIC ATTENDANCE MANAGEMENT SYSTEM

Mrs. Ch. Sabitha, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Ms. Ch.K.T.S.R. Kowstubha, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Ms. D. Saiprasanthi, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. Ch.S.K.B. Pradeep Kumar, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

ABSTRACT

Everything is possible in this present era with internet and automatic procedures. The main objective of this project is to design an automatic attendance management system. This automatic attendance management system replaces the manual method of marking attendance and reduces the time to mark attendance and avoid proxy. There are many methods developed in automatic attendance management system. They are Biometric attendance management system, DNA matching system, Iris recognition, Voice recognition, by tracking of devices by their MAC address and Facial recognition method. The best methods for automatic attendance management system are Face recognition method and Biometric attendance management system. The automatic attendance management system combined with both Face recognition method and Biometric method. This Face recognition method is obtained by Local Binary Histogram Algorithm. Many universities, colleges, and schools follow the conventional face to face attendance marking. This traditional method requires a lot of time, sometimes students may not respond to their respective numbers and it involves errors during the manual calculation of attendance. So to overcome these problems there is a necessity for an automatic attendance monitoring system. This automatic attendance monitoring system involves biometric processes. One of the biometric methods is fingerprint identification. In this method, the fingerprints of each student is collected and are stored in the database. When the thumb is placed on the fingerprint sensor it compares it with the database and takes attendance. But the disadvantage in this method is the students should wait in the queue to give their prints so it is a time taking process.

The best biometric method to take attendance is face recognition. In this method, each student's face is collected and stored in the database. When the student is in front of the camera it takes images, compares those images with the database and marks the attendance. This method requires less time and provides accurate results, improves security levels and low fraud rate. This face recognition method can widely be used in various sectors like health care, banking, advertising, retail, universities, and corporate offices.

DESIGN OF SOLAR OWER BASED HIGH SPEED PESTICIDE SPRINKLER MACHINE

Mrs. B. Patrisamma, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mrs. P. Phani, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. K. Rajendra, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. J. Suresh, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

ABSTRACT

Today we are depending on Non-renewable sources of energy in excess mount for our needs. As this type of minerals like coal etc. are exhausting so we have to depend on the renewable sources of energy like solar, wind, etc. For smaller application it is better to use renewable energy. As this projectis based on water pump and required AC supply. So for this particular application we are using solar panels to charge the DC battery and the power from the battery can be used for this application. This project is an innovative solution to operate a machine / motor / liquid pumps fora small duration. If a machine is to be operated for ten minutes, and should be switched off after the duration, it is too difficult and many times we forget to switch it off the system after the prescribed time. In order to protect food and fiber crops against insects, disease and weed pests used agricultural chemicals such as insecticides, fungicides herbicides. With classical methods more chemical than theoretically needed is often applied due to the variability in field conditions and the need to ensure complete. In this case, 95% of the chemical applied can be wasted to the ground, for soil pollution, or at most 50% of mass transfer onto the desired plant. The project shows that electrostatic spraying can offers a possible solution to those environmental problems by reducing spray drift and improving coverage of chemical to target plant .In this project are presented principle of Electrostatic Spraying, the equipment, technological aspects and application. This system is available in large scale but we can implement in small scale also. The performance of a solar water pumping system is discussed in this paper;the system consists of a photovoltaic(PV) array, a permanent magnet (PM) DC motor an d a helical rotor pump. The operation of the PV array is analysed using PSPICE. The efficiency of the system is improved with a maximum power point tracker (MPPT) and a sun-tracker. Simulation and field test results are presented.

DESIGN OF DC POWER GRID USING HYBRID RESOURCES FOR DOMESTIC APPLICATIONS

Mr. R. Naveen Kumar, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. V.N.S.R. Murthy, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. J. Suresh, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. B. Narendra, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

ABSTRACT

Energy is the most important of all resources, while sustainability concept is focuses on the long-term survival of communities. Energy need of the world is growing day by day because of consumption of energy at a larger extent with the population growth. Energy resource mainly decides the development of any nation. Hence, we need to look at various different means of power generation. This project is about generating power by using grid with combination of wind and a new method for human power conversion based on children's play on playground equipment (SWING), which is used by children for playing that will produce electricity when being used. In such a way that when it swings the mechanical energy is generated and it is converted into electrical energy by a commutator and is stored in a battery. The construction is such a way that, the swinging action makes the horizontal beam rotating through an angle. This shaft is connected to a sprocket to transfer the motion to the free wheel which rotates proportionally with respect to the angle of motion of the swing. The angular movement is converted into a complete rotation with the help of a chain drive connecting both sprocket and free wheel. The free wheel is connected to a shaft which in turn rotates the spur gear and dynamo arrangement to generate electricity.

IOT BASED SMART WIRELESS SYSTEM FORSPEED AND DIRECTION CONTROL OF BLDC MOTOR

Mr. P. Victor Babu, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. R. Naveen Kumar, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. B. Ashok Kumar, Associate Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mrs. G. HariPriya, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

ABSTRACT

IoT (Internet of Things) based smart system to control, measure, and monitor the bidirectional speed control through remotely. The motors are turned ON and OFF by a specific relay operation. To achieve the desired motor speed, the stator voltage control method has been applied by using Pulse Width Modulation (PWM) technique. For reversing the motor direction of rotation, the stator magnetic field is reversed by swapping the contacts of auxiliary winding by relay operation. Whenever the desired value is submitted for a specific operation from a specially designed website, the desired control signal is generated from a programmed microcontroller according to the user's command via a web server using GSM communication. Motor status data is measured using an IR sensor and observed remotely on the monitoring panel integrated with a web application. Also, the speed of the DC motor can be seen on LCD display. The IoT-based smart motorcontrol system can be used in this modern age to continuously track, control, and monitor machines, goods, plants, etc. for versatility in multi-purpose applications. The experimental and simulation results are given at the end of the thesis to verify the proposed theoretical claims.

PV POWERED BATTERY BUFFERED E-BICYCLE

Dr. S. S. Sarma, Associate Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. G Mahesh, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Dr. J. Ranga, Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. P Victor Babu, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

ABSTRACT

Solar photo-voltaic (PV) panels provide a convenient and cost-effective way to produce electricity. In some countries, electricity is still very expensive, and making use of solar radiations, PV panels provide almost free electricity. A major source of pollution in modern cities is transportation which emit huge amount of smoke and carbon. In this project, a hybrid (electric and manual) bicycle is built which is powered by the solar energy while having a certain storage potential to store the excessive energy and at the same time providing a pollution free means of transportation. In addition, according to some statistics, "nearly 2 billion individuals worldwide classified as being overweight and 650 million as having obesity". Hence, the solar bicycle will encourage people to commute using bicycles leading to a healthy life, especially when they use the bicycle in manual mode. In this proposed project, the bicycle contain a battery that is charged by solar panels installed on the front part of the bicycle and the battery will drive a motor to produce torque that will drive the bicycle. Therefore, the bicycle will have two operating modes, manual and electric. If the cyclist is riding in manual mode for a long distance and gets tired on the way, He/she can change to electric mode. A sophisticated control and monitoring system is implemented to control the bicycle speed, and breaks are added for safety of the rider. The bicycle's battery can be charged with a 230 V AC charger to charge it from an AC power outlet, which will be useful for charging the battery during night time and in inconvenient weather conditions.

DESIGN OF LOW COST IOT BASED ENERGYSAVING AND AUTOMATION CIRCUIT

Dr. S. S. Sarma, Associate Professor & HoD, EEE Department, Ramachandra College of Engineering, Eluru

Mr. P Victor Babu, Assistant Professor, EEE Department, Ramachandra College of Engineering, Eluru

Mr. B. Ashok Kumar, Associate Professor, EEE Department, Ramachandra College of Engineering, Eluru

Dr. J. Ranga, Professor, EEE Department, Ramachandra College of Engineering, Eluru

ABSTRACT

This project aims to develop a smart controlling system which would minimize the wastage of electricity, which is one of the main problems which we are facing nowadays due to our negligence and forgetfulness. This project was designed to avoid all such situations and can be deployed in normal household and industrial applications. This project works on three modules; Digital Visitor Counter (DVC), Automatic Room Light Controller (ARLC) and Temperature Sensing (TS), which are controlled by Microprocessor. Module DVC counts the number of persons entering or leaving any room like conference hall, cinema hall, etc. This function is implemented using a pair of Infrared sensor. Module ARLC turns light ON and OFF using relay interface. When a person enters, a room light is turned ON but remains OFF if light in the room is sufficient or number of persons inside room is zero. The project conserves more electric power as it collaborates the knowledge of electric and digital study. The design of the system was modified several times which include a changing from using Ethernet to Wi-Fi. The objective of this project is to make a controller based model to count number of persons visiting particular room and display on the IOT. This project uses IR sensors to detect the presence of a person in the room. Whenever IR rays are interrupted by a person entering into room during first sensor the count up timer is started. This count value is displayed on the IOT; if it is obtained at second sensor then the count will be decreased depending upon the crowd, in this manner load in the room will be turned on or off.

DESIGNARDUINO CONTROLLED MATERIAL HANDLING SYSTEM

[1]Dr.A.V Sreedhar Kumar, [2]Mrs G.Nagamani

[1]Professor and Head, Department of Mechanical Engineering, Narayana Engineering College Nellore

[2]Associate Professor, Department of Mechanical Engineering, Narayana Engineering College Nellore

ABSTRACT

Bottle filling and capping is a vital task for many industries. When this process is automated, industries require minimum human effort to complete the job in the least possible times. This paper aims to design a simple and economical system which can fill and cap bottle automatically with readily available apparatus. Accordingly, the system reduces costs and increases productions in small industries. Unlike PLC, used in many industries, Arduino is extensively cheap, and it has the capability of multitasking. With this feature of embedded concurrent execution, this research facilitates the filling of one bottle and the capping of another bottle simultaneously; consequently, the production becomes faster. Therefore, the proposed bottle filling and capping system, accompanying low-cost rapid bottling, could be augmentation in automation to the existing small-scale industries such as juice shops, coffeehouses and other beverage manufacturing.

Keywords: Bottle Filling and Capping, Economical Automation, Embedded Multitasking

DESIGN AND DEVELOPMENT OF REMOTELY CONTROLLED MULTIPURPOSE DRONE

[1]I.V.S.Yeswnath, [2]P.Niranjan

[1]Assistant Professor, Department of Mechanical Engineering, Narayana Engineering College Nellore

[2]Assistant Professor, Department of Mechanical Engineering, Narayana Engineering College Nellore

ABSTRACT

Drones are also known as unmanned aerial vehicle (UAV). The drone is "unmanned" because it does not need a pilot on board to fly it. Drones are available different sizes and shapes. Many drones have cameras that it captures videos and pictures and used for rescue operations. Drones can be helpful. Farmers use them to check on crops and fields, they can be used for surveillance as well as by civilians for recreations. some companies think drones could help grow their business. Drones can deliver goods in minutes. The U.S. military has used for drones since the mid-1990s.Since early 2013,many people have started flying drones .so many people own the drones that the government had to create rules for flying them.

Keywords: Motors, Propellers, ESC (Electronic Speed Control), Controller, Calibration.

FABRICATION OF SOLAR POWER OPERATED SEAWATER DESALINATION AND PURIFYING MACHINE

[1]T Varaprasad, [2]R Chaitanya

[1]Assistant Professor, Department of Mechanical Engineering, Narayana Engineering College Nellore

[2]Assistant Professor, Department of Mechanical Engineering, Narayana Engineering College Nellore

ABSTRACT

Desalination, also known as desalting is the technique of removing salts, contaminants or other minerals from seawater. By this process the seawater gets converted into usable or drinkable water. Over 97% of the water on earth is unsuitable for human consumption due to its salinity. But, purification of this saline water holds the promise of nearly unlimited water resources for human civilizations in coastal regions. However, purification of seawater is slightly expensive, but the technological advancements continue to decrease the economic and environmental costs of desalination.

Keywords: Purifier, filters, pumps, desalination.

DESIGN, SIMULATION AND FABRICATION OF HEADLIGHT MOVING MECHANISM WITH STEERING

[1]G. Ajithkuma, [2]V Ravi

[1]Assistant Professor, Department of Mechanical Engineering, Narayana Engineering College Nellore

[2]Assistant Professor, Department of Mechanical Engineering, Narayana Engineering College Nellore

ABSTRACT

Now a day's automobiles don't have effective lighting system. Due to this many accidents are taking place during night times especially in ghat sections while taking deep turns. The system can be adopted in any type of four-wheel vehicle/trucks etc. Without being an economic burden on the end user. So, we felt that need of developing a mechanism that incorporates few simple components like linkages, connecting etc. And it can be readily fitted into any steering column without much of design variation. when the steering wheel is rotated, the rotary motion is converted to translator motion through the links. When the front wheels are steered, the headlights follows the same path and the light is focused on more divergent area. By this project the visibility around curves and over hills to the driver is increased.

Keywords: Automobiles, Lighting system, Linkages, Headlights etc.

DESIGN AND FABRICATION OF REMOTELY OPERATED PIPELINE INSPECTION ROBOT

[1]G. Nagamani [2]Y. Venkata subbiah

[1]Associate Professor, Department of Mechanical Engineering, Narayana Engineering College Nellore

[2]Assistant Professor, Department of Mechanical Engineering, Narayana Engineering College Nellore

ABSTRACT

Many robots are used in global wide to inspect the pipes. Every robot has their own Ability, characteristics and their tasks for which they are made. In industries, pipelines are to be maintenance checked for their continuous uninterrupted working and avoid any type of damages. So, regular inspection has to be done for those pipelines. For that, many methods and modes are available. The methods which are already being used of pipeline inspection are Ultrasound inspection, Radiography inspection, Thermography inspection etc for manufacturing pipelines and web camera used inspection, wired robot inspection etc for operating pipelines. These methods while having their own advantage also have disadvantage in cost perspective and rage of inspection. So, a new development or a new design has to be made to make inspection easier in every perspective. In the project the design and fabrication of a robot which can overcome the disadvantages of previous models are discussed.

Keywords: Pipeline Inspection robot, Robots, Unpiggable Pipes, Remotely operated.

FABRICATION OF SEMI AUTOMATIC PESTICIDE SPRAYING MACHINE

[1]R Chaitanya [2]T Varaprasad

[1]Assistant Professor, Department of Mechanical Engineering, Narayana Engineering College Nellore

[1]Assistant Professor, Department of Mechanical Engineering, Narayana Engineering College Nellore

ABSTRACT

In India nearly 70% of people are depending upon agriculture. The growth in agriculture is expanding day to day since the population is rising. It is very important for a farmer to protect the farm from pests, which is done by spraying pesticides. At present, farmers uses a sprayer which is generally carried over the shoulders and then spraying is done manually by pumping process. But, this type of spraying requires more time. So, here we have another process of spraying by a machine which is semi-automated. This machine is operated by a mobile for spraying pesticides which reduces the effort of a farmer. Finally, the design and fabrication of a spraying machine which can overcome the disadvantages of previous methods.

DESIGN, FABRICATION AND STUDY OF PLA BASED BOLTS AND NUTS BY FUSED DEPOSITION MODELLING

[1]Mrs G.Nagamani, [2]Dr.A.V Sreedhar Kumar,

[1]Associate Professor, Department of Mechanical Engineering, Narayana Engineering College Nellore

[2]Professor and Head, Department of Mechanical Engineering, Narayana Engineering College Nellore

ABSTRACT

Many studies have described the use of 3d printed models such as gears, rotor blades etc., in practical applications. One of the goals of making PLA based bolts and nuts made of 3d printing for replacing the bolts and nuts made of different metals like steels, brass, aluminum etc., made from traditional methods. The mentioned literature and the present study tells that use of 3D printing in-house can quickly save significant time and costs compared to outsourcing or using traditional manufacturing methods. Today manufacturing has become one of the essential necessities for survival of humans. As technologies rise, complex machines and problems in manufacturing also rise. To overcome, new methods in manufacturing are used. One such technology is Additive Manufacturing (or) 3D Printing. In this project, we are going to view about comparison study of Poly Lactic Acid (PLA) in Additive Manufacturing. In further, a product of PLA is Additive Manufactured and implied for tests. The results are cross-checked with standard data of PLA and compared with the products of mild steel.

Keywords: Additive manufacturing, Fused deposition modeling, 3d printing, Poly Lactic Acid (PLA,) Rockwell hardness test.

DESIGN AND FABRICATION OF REMOTELY OPERATED SOLAR POWERED AGRICULTURE ROBOTIC VEHICLE

[1]I.V.S.Yeswnath, [2]P.Niranjan

[1]Assistant Professor, Department of Mechanical Engineering, Narayana Engineering College Nellore

[2]Assistant Professor, Department of Mechanical Engineering, Narayana Engineering College Nellore

ABSTRACT

The paper presents about the multiple agricultural tasks done by the single robot. To develop the efficiency of the agricultural tasks we have to find the new ways. This project deals with a novel approach for cultivating lands in very efficient way. At present in our country all agricultural machines are working manually or by petrol engine or tractor. Humans can't work for long time manually. Now a day, precision agriculture by agriculture robots is the newly emerging technology in agriculture sector to save the time and energy that is wasted in repetitive farming tasks. Automation in farming process is quite helpful. The distinctiveness of this agriculture robot system is it is multitasking abilities which can perform ploughing, seed sowing, mud leveling, water spraying and also it can check soil moisture level. The aim of project is to design, development and fabrication of the robot which performs multiple functions as ploughing, seed sowing, mud leveling, water spraying, and also measuring soil moisture level. The whole system of the robot works with the battery charged with the help of solar panel. The vehicle is controlled through Wi-Fi module and remotely operated.

Keywords: Agriculture Robot, ploughing, seed sowing, mud leveling, water spraying, soil moisture, Wi-Fi module, Remotely operated.

DESIGN AND DEVELOPMENT OF LOW COST EMERGENCY MECHANICAL VENTILATOR

[1]Dr. A.V. Sreedhar Kumar, [2]Y. Venkata Subbiah

[1]Professor and Head, Department of Mechanical Engineering, Narayana Engineering College Nellore

[2]Assistant Professor, Department of Mechanical Engineering, Narayana Engineering College Nellore

ABSTRACT

This project shows the construction of a low-cost, open-source mechanical ventilator. The motivation for constructing this kind of ventilator comes from the worldwide shortage of mechanical ventilators for treating COVID-19 patients the COVID-19 pandemic has been striking hard in some regions, especially the deprived ones. Constructing a low-cost, open-source mechanical ventilator aims to mitigate the effects of this shortage on those regions. The equipment documented here employs commercial spare parts only. This project also shows a numerical method for monitoring the patients' pulmonary condition. The method considers pressure measurements from the inspiratory limb and alerts clinicians in real-time whether the patient is under a healthy or unhealthy situation. Experiments carried out in the laboratory that had emulated healthy and unhealthy patients illustrate the potential benefits of the derived mechanical ventilator.

SUSTAINABLE ECO FRIENDLY BRICKS USING CDW AND RECYCLED PLASTIC

I. Bhuvana Rekha[1] , Dr. A.V.S. Prasad[2]

[1]Assistant Professor, Department of Civil Engineering, Narayana Engineering College Nellore

[2]Professor, Department of Civil Engineering, Narayana Engineering College Nellore

ABSTRACT

With the development of urbanization, massive crushed demolished construction wastes (CDW) 26,622.1 million have been generated in 2021, leading to environmental and disposal problems. The plastic utilization in our daily life from 2015 – 15.87 lakh tons to 2021- 38 lakh tons has been increased significantly as it being very useful and popular material in all over the world. The recyclable properties of plastic waste can be utilized to recycle this waste and produce a new product having lesser negative impact on the environment. One of the options to recycle plastic waste is to form bricks of plastic by mixing plastics with CDW, gypsum, and glass powder with different percentages, which can be used to replace traditional bricks. In this study CDW and recycled plastic material contains 95% of brick, that ratios 60:40, 50:50 and 40:60. Remaining 5% material of brick contains gypsum and glass powder. Using various testing method such as compression test, water absorption, apparent porosity test, soundness test, efflorescence test and analysed to enrich the strength, quality and durability of these masonry bricks.

Keywords: Crushed demolished wastes, recycled plastic, Water absorption, Efflorescence test, Soundness test, porosity test, compression test etc

EXPERIMENTAL STUDY ON FIBERS USING CONCRETE BLOCKS

Mrs K. L. Venkata Lakshmi[1], Mr. Syed Mushtaq Ahamed[2]

[1]Assistant Professor and Head, Department of Civil Engineering, Narayana Engineering College Nellore

[2]Assistant Professor, Department of Civil Engineering, Narayana Engineering College Nellore

ABSTRACT

This project deals with influence of different fibres (steel &glass fibres) length on a strengthened reinforced concrete column. Considering concrete grade of M40, replacing with a partial amount of fine aggregates with steel and glass fibres in the ratio of (5%,10%,15%,20%) of its total volume of concrete. Depending on the type of work of each percentage of fibre and fibre length. By using glass fibre environmental damage will be decreased and increase load bearing capacity. By using steel fibre crack resistance can be increased. Steel fibres of 25mm are being used . Due to the increase in the effective bonding area of fibres at crack surfaces, the increase in the length of steel fibre provides advantages in terms of ultimate load. Along with the glass fibre of length 12mm are used to increase the strength of concrete. The strength properties of the concrete is determined by doing compressive. However fibre used concrete posses more strength than the conventional concrete. Concluding and comparing the strength of glass and steel fibre with different fibre length reinforced concrete with conventional concrete (M40)

Keywords: Fibre Concrete, Steel & Glass Fibres, Strengthening Column & Numerical Analysis.

PARTIAL REPLACEMENT OF CEMENT WITH ALCCOFINE-1203

Mr. Syed Mushtaq Ahamed[1], Mr. G. Tamilanban[2]

[1]Assistant Professor, Department of Civil Engineering, Narayana Engineering College Nellore

[2]Assistant Professor, Department of Civil Engineering, Narayana Engineering College Nellore

ABSTRACT

Cement industry is one of the primary produces of corbon dioxides, which is a primary green house gas is can be reduces to some extent by replacing cement with alccofine- 1203. Alccofine-1203 is a specially processed product based on slag of high glass content with high reactivity obtain through the processes of controlled granulation. Alccofine- 1203 is easy to use and it can be directly added to cement. Concrete attains high strength at a early age due to presence of alccofine material. Cement is partially replaced with 5%, 10%, 15% & 20% of alccofine. The mechanical properties studied here are compressive strength and split tensile strength of cubes and cylinders respectively after 7,14&28 days of curing. M30 grade of concrete is used and standard mix properties are followed. The optimum percentage of replacement cement with alccofine is found as 15%.

Keywords: Alccofine- 1203, Workability, Durability, slump cone, Compaction Factor, Compression test, split tensile test.

INFLUENCE OF MARBLE DUST AS PARTIAL REPLACEMENT OF CEMENT IN CONCRETE

Mr.D. Pavan Kumar[1], Ms.K Sunanda[2]

[1]Assistant Professor, Department of Civil Engineering, Narayana Engineering College Nellore

[2]Assistant Professor, Department of Civil Engineering, Narayana Engineering College Nellore

ABSTRACT

In this project, explained about the behavior of concrete with partial replacement of cement with added percentage values of marble powder and attain required strength. In Marble industry inevitably produces wastes in manufacturing processes of the marble industry, about 35 to 40% production waste is produced These wastes create many environmental dust problems in now a day to day society. In order to achieve sustainable development. Marble Dust used as partial replacement of cement in M30 concrete, to modify the properties of concrete i.e.. Increase in Compressive strength and workability of concrete. Marble Dust Powder (MDP) is any such developing composite material in an effort to allow the concrete enterprise to optimize constituent use, generate financial advantages and build systems so as to be sturdy Marble dust powder is also obtained from method of quarrying from the parent marble rock which contains high silica and calcium oxide content . Four concrete mixtures containing 5%, 10%,15% and 20% marble dust powder as cement alternative on the basis of weight has been organized in all the concrete mixes. determined that there may be tremendous increase in strength up to 15% replacement of marble dust powder and from 20% alternative of marble dust powder (MDP) the strength of concrete decreases.

SOIL STABILIZATION BY USING FLY ASH & JUTE FIBER

Mr. D. Pavan Kumar[1],   Mr. Syed Mushtaq Ahamed[2]

[1]Assistant Professor, Department of Civil Engineering, Narayana Engineering College Nellore

[2]Assistant Professor, Department of Civil Engineering, Narayana Engineering College Nellore

ABSTRACT

Most of the land in India is covered with expansive soils (mainly black cotton soil). The property of these expansive soils, in general is that they are hard when in dry state, but they lose all of their strength in wet condition. So due this property of black cotton soils, geotechnical engineers have to overcome many problems. Soil stabilization is one of the important aspects to increase the engineering properties of soil. Fly ash is collected from thermal power plants as a waste material, there is also a problem of disposing fly ash into environmental causes hazardous effects. On other hand, jute fiber extracted from coconut shells and from other sources is also a waste material available in abundant quantity in India. Fly ash is collected from thermal power plants. In this study, fly ash & jute fiber used in combination to stabilize the black cotton soil. Fly ash is added into the soil by different percentage of weight are 5%, 10% and 20% respectively. Then the liquid & plastic limits, optimum moisture content (OMC) and maximum dry density (MDD) are determined for different percentages of fly ash . After that the jute fiber of 1.5 cm length in different ratios i.e., 1% 1.5 % & 2% respectively was added to the sample containing the optimum moisture content of fly ash then OMC, MDD and CBR values evaluated for these samples .These reduces the cost of construction and shows noticeable changes in engineering properties of black cotton soil.

Keywords:- Atterberg's limit , max.dry density, optimum moisture content, California bearing ratio.

INCORPERATING STEEL SLAG AND FLYASH IN CONCRETE

Mr. G. Tamilanban[1], Ms. I Bhuvana Rekha[2]

[1]Assistant Professor, Department of Civil Engineering, Narayana Engineering College Nellore

[2]Assistant Professor, Department of Civil Engineering, Narayana Engineering College Nellore

ABSTRACT

Steel slag is a type of solid waste collected through the steel smelting process from steel plants and fly ash is also another waste collected from thermal power plants, steel slag can be utilized in concrete as a fine aggregate partial replacement and fly ash can be used in concrete as partial replacement to the cement. In this paper, we are attempting partial replacement of steel slag at different proportions from 5%, 10%, 15% & 20% and in the view of IS 3812 grade 1, We are attempting 25% partial replacement of fly ash to the cement in all the cases. We are using M30 grade of concrete to test the specimen at different proportions as stated and it is tested for 7, 14, and 28 days after curing. The tests to be done on specimen are compression test, tensile test, slump test, permeability test, and workability test. Steel slag has ideal properties similar to river sand and fly ash has natural binding nature to it, which on compressive strength, and also durability.

Keywords: Partial replacement, industrial wastes, steel slag & flyash

ANALYSIS AND DESIGN OF PRE-ENGINEERING BUILDING

Ms.K Sunanda[1] Mr.D. Pavan Kumar[2]

[1]Assistant Professor, Department of Civil Engineering, Narayana Engineering College Nellore

[2]Assistant Professor, Department of Civil Engineering, Narayana Engineering College Nellore

ABSTRACT

Pre-Engineered Building (PEB) is a technological advancement in the field of structural engineering. PEB concept provides optimum design, good aesthetic view, fast rate of construction and reduction in erection time. PEB satisfies a broad range of custom design needs and applications. This methodology is adaptable not only because of its high-quality pre-designing and prefabrication, but also of its flexibility. In the current study, the comparison has been made on the structural performance of a simple structure in different locations having different wind and seismic zones respectively [Locations: Nellore, Delhi and Darbhanga]. Analysis and design have been carried out using STAAD Pro software. The structural performance of pre-engineered building has been assessed through the shear force (SF) and bending moment (BM) magnitudes. Based on the output of SF and BM of pre-engineered components through STAAD Pro analysis, the geometrical properties of pre-engineered sections have been decided. Results conclude structure weight located in Darbhanga is comparatively more than that of the structure constructed in the other locations of Nellore and Delhi.

Keywords: Pre-Engineered building, wind zones, seismic zones, shear force, bending moments, STAAD Pro

STUDY ON LATERAL EFFECT OF BUILDING WITH AND WITHOUT SHEAR WALL USING E-TABS

Ms.K Sunanda[1] Mrs. K.L Venkata Lakshmi

[1]Assistant Professor, Department of Civil Engineering, Narayana Engineering College Nellore

[2]Assistant Professor and Head, Department of Civil Engineering, Narayana Engineering College Nellore

ABSTRACT

Earthquakes are most volatile and distressing of all natural disasters. Amongst all methods applied for earthquake resistant multi-storied structures shear walls are the most adopted. The shear wall is one of the best lateral load resisting systems which is widely used in construction to enhance earthquake and wind loads. Shear wall is a vertical member of a system that is designed to resist in plane lateral forces, typically wind and seismic loads. Shear walls are typically light framed or braced wooden walls with shear panels, reinforced concrete walls, reinforced masonry walls, or steel plates. The taller the building, the greater the need for internal shear walls. The shape and plan position of the shear wall is in the behaviour of the structure considerably. The main aim of the project is to design a multi-storied building of G+20 with and without shear wall using E-TABS. The responses such as lateral stiffness, lateral displacements and story drift due to lateral loads because of time histories of different earthquakes and wind forces are compared.

Keywords: Shear wall, Lateral Displacement, Storey Drift, Base Shear, Lateral Stiffness, E-TABS.

BIDIRECTIONAL VISITOR COUNTER WITH SECURITY SYSTEM AND AUTOMATED AREA LIGHT CONTROLLER

D. Venkata Brahmanaidu[1], Mrs C.Rubini[2]

[1]Assistant Professor, Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

[2]Assistant Professor Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

ABSTRACT

The main intention of a Bidirectional Visitor Counter with automatic light and fan control for room is to 1. Design a system wherein the number of persons entering or leaving a room is kept track of and displayed on a LCD. 2.To turn on and turn off light and fan according to human presence in room with respect to light intensity & room temperature. When a person enters the room, count would be increased, whereas on leaving, the count would decrease. IR sensing mechanism is used to sense the entry & exit of visitors and the whole counting operation is done by a microcontroller. The system will have preset value of Light intensity & temperature, if human is present in room and temperature of room increases above set temperature then fan would be turned on otherwise remain off. Also if intensity of light decreases below set value then lights would be turned on otherwise remain off to save electricity.

KEYWORDS: Arduino Uno,Automated, LED, counting, IR Sensor, obstruction.

WIRELESS CHARGING TECHNOLOGY FOR ELECTRICAL VEHICLES

Dr. G. Venkatesarlu[1], Mrs S.Sunitha[2]

[1]Professor & Head, Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

[2]Assistant Professor Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

ABSTRACT

The paper describes the design, construction and working of the wireless charging station for electrical vehicles. Now a days many people are using vehicles which runs on petrol or diesel .But those vehicles cause lot of damage to the environment .Due to this many people are shifting towards electrical vehicles. Now a days these electrical vehicles are charged by plug in technology. But charging of EV's with wires is not convenient and hazardous due electrical shocks. These problems can be solved by charging of electrical vehicles without any need of wires. This wireless charging technology reduces the size of the battery in electrical vehicles.

Keywords: Electrical vehicle, inductive charging, Arduino, IR sensor

POWER QUALITY OF HYBRID POWER SYSTEM INTEGRATION WITH PV AND BATTERY USING UPFC

Dr. Akhib Khan Bahamani[1,] Mr.B Suresh[2]

[1]Professor, Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

[2]Assistant Professor Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

ABSTRACT

UPFC is a popular device to improve voltage of weak buses in two bus systems. This work deals with modelling and simulation of open loop controlled. Three Phase voltage source inverter based UPFC in three phase system. Open loop system with compared Existing UPFC and Modified hybrid UPFC grid connected three phase system. The comparison is done in term of real power reactive power and output voltage with and without UPFC. The UPFC with FOPID is observed to be faster than PI controlled system.

Keywords: UPFC-Unified Power flow controller.

TURNING WATER PIPES INTO ELECTRIC GENERATOR

Mr. K.V Kishore[1,] Mr. K. Kumar[2]

[1]Associate Professor, Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

[2]Associate Professor Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

ABSTRACT

Almost every day, we are introduced to a new concept for how to effectively generate energy in a sustainable and effective manner. There is more urgency than ever to develop efficient energy harvesting techniques in light of the growing climate change crises in order to save our future. The concepts, which range from windmills to solar panels on roads and roofs, frequently make use of things that are already present in our daily lives or are merely simple to install. Simply expressed, the plan is to replace our current water pipe systems with pipes that incorporate turbines. By utilizing pipes to produce energy that we can use in our daily lives and other areas of our society. The energy that would otherwise be lost is being captured. In this project, we'd want to demonstrate how a water turbine inside a water pipe can produce electricity by being propelled by the water pressure inside the pipe. Battery sources will be used to store the generated energy for later usage as well as to meet domestic needs.

Keywords- sustainable, efficient energy, turbines, water pipe, Battery

TURNING TRASH INTO ELECTRICITY

Mr. K.V. Kishore[1,] Mr. O. Sreekanth[2]

[1]Associate Professor, Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

[2]Assistant Professor Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

ABSTRACT

The waste materials that are produced daily from different sources can be used to produce electrical energy from which we can get electricity. While there is an obvious need to reuse and recycle some of them, the technologies for recovery of energy from wastes can play a vital role in mitigating the problem. Besides, with the increasing price and scarcity of conventional fuel in the country, this alternative energy source can be very lucrative. This project discusses waste materials as a renewable energy source. Also, the process of generating energy in the form of electricity, or heat from the primary treatment of waste, or the processing of waste into a fuel source.

Keywords: Battery, Firebox, Heating panels, Heating sensor.

SMART SOLAR ENERGY MONITORING SYSTEM

Dr. G. Srinivasulu[1,] Mrs. M. Bhargavi[2]

[1] Professor, Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

[2] Assistant Professor Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

ABSTRACT

The overall energy demand of the world is growing rapidly year by year. But electricity is still mainly generated by utilizing fossil fuels such as natural gas and coal. The emissions from combustion of fossil fuels have led to serious environmental and climatic problems. Implementation of renewable energy sources could solve these problems. Solar radiation is one of the renewable energy sources which have been utilized to produce electrical energy. How ever due to the low efficiency and high cost of solar panels and intermittent nature of the solar irradiance, it is not considered as a most reliable way to produce electricity. That is why a reliable monitoring system is required to solve the issues. This project intends to develop are liable solar energy generating performance monitoring system. This paper highlights the types of solar panels available in the market and compares their efficiency and reliability. Also, it analyzes the components of the solar electricity generating system. The methodology to be used in this project includes identification of the parameter affecting the performance of solar panels. Moreover, meteorological and environmental factors which influence the efficiency of PV panels are investigated. By implementing the findings of experiments, the electrical components needed to build the hardware circuit are identified and programmed. Software part of the system is designed and implemented. Eventually, complete monitoring system is designed and tested.

Keywords: PV-Photo Voltaic, Internet of Things, Mobile Application, Online Monitoring.

THE IOT IN POWER SECTOR

Dr. G. Venkatesarlu [1,] Mr. N. Krishna Mohan[2]

[1]Professor & Head, Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

[2]Associate Professor Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

ABSTRACT

This paper presents a brief overview about the design, benefits, risk, and environmental impact of a sea wave power plant. The intention of this accomplishment is to serve society without hampering environmental ecology. This task is based on the renewable sea wave energy. Burning fossil fuel causes global warming. Again, wastes of nuclear power plant are very hazardous. Accident of this plant yields great turn of human lives. The power generation from sea wave has growth a huge potentiality. The price of fossil fuel is rising day by day because of its scarcity in nature. As the operating cost of sea wave power plant is low and uses a renewable source of energy, it is possible to produce power at low price. Existing hydrostatic power plant needs dam. This is very harmful for environmental ecology and lives diversity. But this proposed plant does not require any dam or any other hazardous construction and this also reduces the installation cost. However, it is reliable, sustainable, environmentally friendly power extraction procedure from sea wave.In this project, we are generating power from sea waves and solar panel and also continuously monitoring the voltage using IOT

Keywords: Solar panel, sea wave mechanism, LCD, Arduino, voltage sensor, esp8266wifi.

SUPERFAST ELECTRONICS CIRCUIT BREAKER

Mrs. M Suneetha [1,] Mr T.V Subba Rao[2]

[1]Associate Professor, Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

[2]Assistant Professor Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

ABSTRACT

The electrical power usage is mandatory in residential & commercial & industrial purpose because of, this areas mostly we are all use electrical & electronics equipments To protect this type of electrical & electronics equipments we use normal circuit breakers like (MCB), but major drawback of mcb are it will take some time to trip the circuit , during this time period electrical equipments will damage .At the same time ones it will turn of cannot be turn on automatically To reduce this drawback we use the Ultra Fast Acting Electronic Circuit Breaker ,it will operated within micro seconds of time duration ,at the same time automatically turn on ones it will be turn off When ever over load is existing circuit breaker will be activated ones load becomes normal position automatically.

Keywords: circuit breaker, drawback, equipments, acting, MCB.

MODELLING OF AUTOMATIC MATERIAL HANDLING SYSTEM USING PLC

Dr. Akhib Khan Bahamani[1,] Mr.ANVK Naveen[2]

[1]Professor, Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

[2]Assistant Professor Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

ABSTRACT

In this Arduino project we design a prototype for Automatic Bottle Filling and Capping Machine using Arduino Uno, conveyor belt, solenoid valve, IR sensor, and Stepper motor. Belt conveyor is driven by a stepper motor at a constant preset speed. The stepper motor will keep driving the belt until an IR sensor detects the presence of a bottle on the belt. We used the IR sensor as an external trigger. So whenever the IR sensor goes high it sends a trigger to Arduino to stop the motor and turn on the solenoid valve. A preset required delay is already entered in the code for bottle filling. The Arduino will keep the solenoid valve on and stepper motor off until that specified time. After that time, the solenoid valve turns off the filling, and the conveyor starts moving so that the next bottle can be filled and capping will be done by particular mechanism.

Keywords: Arduino, IR sensor, PLC, SCADA, Sensor

HYBRID AUTOMATIC DUAL AXIS SOLAR TRACKING SYSTEM ALONG WITH WIND POWER

Dr. G. Venkatesarlu [1,] Mr. C. Pavan Kumar[2]

[1]Professor & Head, Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

[2]Assistant Professor Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

ABSTRACT

With increasing concern of global warming and the depletion of fossil fuel reserves, many are looking at sustainable energy solutions to preserve the earth for the future generations. Other than hydro power, wind and photovoltaic energy holds the most potential to meet our energy demands. Alone, wind energy is capable of supplying large amounts of power but its presence is highly unpredictable. Similarly, solar energy is present throughout the day but the solar irradiation levels vary due to sun intensity and unpredictable shadows cast by clouds, birds, trees, etc. The common inherent drawback of wind and photovoltaic systems are their intermittent natures that make them unreliable. This problem can overcome by implementing hybrid power generation system using dual axis solar and wind energy system along with monitoring the weather parameters through internet of things (IOT). Hybrid systems have proved to be the best option to deliver "high quality" power.

UNINTERRUPTED POWER SUPPLY FOR EMERGENCY ALERT SYSTEMS USING 3-DIFFERENT DC SOURCES WITH PROTEUS DESIGNED PCB

Mrs.N.Yamini[1], Dr.M.V Ramesh[2]

[1]Assistant Professor, Department of Electrical & Electronics Engineering, Narayana Engineering College, Nellore

[2]Professor, Department of Electrical & Electronics Engineering, Narayana Engineering College, Nellore

ABSTRACT

Renewable energy is an alternative solution for power generation in the day today life. Power generation from conventional energy is having a drastic effect to the environment and the ecological life of humans. The project aims to develop uninterrupted power supply for emergency services like fire and gas alarm devices to protect the industrial equipment from accidents. To development this project here we are developing a customized PCB using proteus software for uninterrupted power for emergency services. The entire system is automated by using the smart technology.

Keywords: Node mcu, Fire sensor, Gas sensor, Blynk app

COIN BASED CELL PHONE CHARGER WITH SOLAR TRACKING SYSTEM

Dr. G. Srinivasulu[1], Mrs. M. Bhargavi[2]

[1] Professor, Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

[2]Assistant Professor Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

ABSTRACT

In our project Mobile phones are phenomenal in recent years for communication as well as in day-to-day life. Hence, charging the mobile phones has become the greater task. we are trying to design a mobile battery charger on coin insertion. As uses of mobile phones are increasing day by day it need battery life all the time, so in order to use them public charging is needed which would be useful for mobile users. This system will charge the mobile phone for a particular time-period. When the valid coin is recognized, it will start giving power supply to the cell phone through one of the adapters. We will be using a global charging adapter that would be suitable for all mobile phones. This system is mainly implemented in rural areas where continuous power supply is not available. The mentioned system can be implemented in public places like railway stations, bus stops, hospitals, malls, etc. to avail the services.

Keywords: NodeMCU, IR sensor, Buzzer, Relay, Solar panel, Charging ports.

IOT BASED SMART GEYSER

Ms. M.Leela Mounika[1,] Ms.L.Nagalakshmi[2]

[1] Assistant Professor, Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

[2]Assistant Professor, Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

ABSTRACT

It is quite important to know the best way to save electricity in-order to avoid huge electricity bills. Besides it also helps to reduce the number of harmful fumes emitted by power plants, save natural resources, and preserve wildlife. In which geyser is probably the most energy-consuming appliance and accounts for a large portion of our electricity consumption in our home. On average, it is represented that geyser consumes in between 25% and 40% of the total amount of our electricity bill. So, it's important to know how much quantity of hot water you use at a particular point in time and also how much temperature you want them to be at. Thus, I decided to build a prototype where we can boil required amount of water according to our convenience including turning on and off the geyser. This all can be performed with the help of sensors, NodeMcu, motor and UART Protocols. Therefore, this project is carried out by connecting the geyser to IOT technology and using the blynk application to run the geyser and set the threshold point for the required volume of water to be heated at a temperature based on the user's requirements.

Keywords:: IOT, Blynk, NodeMcu, UART.

SOLDIER TRACKING SYSTEM USING GPS AND GSM MODEM

Mr. D.V. Brahma Naidu[1,] Dr. S. Prabhuraj[2]

[1] Assistant Professor, Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

[2] Professor, Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

ABSTRACT

Nowadays all nations keep its security at high priority. Wars are being fought for land, water and acquiring the position of most powerful nation. A country's arm forces consist of three professional uniformed services: the army, the navy, and the air force. Soldiers being the backbone of any armed force usually lose their lives due to lack of medical help when in emergency, also soldiers who are involved in missions or in special operations get straggled on war fields and lose contact with the authorities. To overcome this concerns we had build this project which, using wireless body area sensor network such as temperature sensor, heartbeat sensor etc. will monitor the health status of the soldier whenever required. Also using GPS we can track the soldier's exact location whenever required. The communication is established between the soldiers and authorities via GSM. Any abnormalities in the readings of wireless body area sensor network is considered as a trigger for GSM to establish the connection between the soldier and base unit and send current location and health status to the receiver. By using all this equipments we had tried to implement the basic guarding system for the soldier in low cost, light weighted, portable and precise device.

Keywords: Arduino Uno, Arduino IDE, GPS, GSM, LM35, Pulse senor.

HAZARDS IDENTIFICATION AND RISK ASSESSMENT IN THERMAL POWER PLANT

Ms. L. Nagalakshmi[1], Mr. A. Prasad[2]

[1] Assistant Professor, Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

[2] Assistant Professor, Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

ABSTRACT

The paper describes the design, construction and working of the smart boiler. Internet of Things (IoT) is a rapidly increasing technology. IoT is the network of physical objects or things embedded with electronic software, sensors, and network connectivity which enables these objects to collect and exchange data IoT then deals with bringing control of physical devices over the internet. In this project, we are developing a system that will automatically monitor the industrial applications and generate Alerts/Alarms or make intelligent decisions using the concept of IoT. A number of sensors are deployed in our project to monitor industrial parameters like Temperature, Smoke, Boilers level,. These parameters were carefully selected on the basis of the potential hazards they can cause to the normal working of the industry machine.

Keywords: component, sensors, boiler, arduino

THREE PHASE GRID CONNECTED SYSTEM WITH PV AND BATTERY SYSTEM

Dr. Akhib Khan Bahamani[1,] Ms. L. Nagalakshmi[2], Mr. A. Prasad[3]

[1]Professor, Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

[2&3]Assistant Professor Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

ABSTRACT

This paper aims on improving the dynamic time response of a SPV and BESS energy conversion system in closed-loop boost hysteretic controlled grid connected system. This paper deals with modeling and simulation of open loop and closed loop system based BESS. Active filter is a popular device within the family of power quality device. The active filter is implemented with voltage source inverter (VSI) and the switching pulses are generated using SM controller. The active filter is used for attenuation of current harmonics. The simulation results are presented to find the effect of active filter using PI and SMC. The simulation results with PI and SMC based SPV and BESS grid connected system is compared and the corresponding time-domain parameters and reduced voltage and current harmonics are presented. The results indicate that SM Controller system has better response than PI controlled system.

Keywords: SMC: Sliding mode controller, PI: Proportional Integral, VSI: Voltage source Inverter

IOT BASED TOUCH SCREEN CONTROLLER FOR ELECTRICAL APPLIANCES

Mrs. N. Santhi Kumari[1], Mr. K.L. Ganesh[2]

[1]Assistant Professor, Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

[2]Assistant Professor Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

ABSTRACT

The project aims in designing a system which helps in increasing or decreasing lamp intensity as required with simple touch on screen in smart mobile. As the world gets more and more technologically advanced, we find new technology coming in deeper and deeper into our personal lives even at home. Home automation is becoming more and more popular around the world and is becoming a common practice. The process of home automation works by making everything in the house automatically controlled using sensor technology to control and do the jobs that we would normally do manually. No need to have any push buttons for this operation. Users can control thelamp intensity with gentle finger touch. For implementing this project here we are using the latest technology called IoT for controlling and monitoring the lamp status from remote areas. This project consists of a Microcontroller that takes input from smart mobile screen over wireless and processes the request.

Keywords: Nodemcu, Relay, LDR, Servomotor.

IOT BASED DUSTBIN MONITORING SYSTEM USING NODE MCU

Mr. K.L. Ganesh[1], Dr. S. Prabhuraj[2], Dr. M. Ramesh

[1]Assistant Professor, Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

[2&3] Professor Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

ABSTRACT

This paper presents a novel approach to provide illustrative model of the waste management systems using IoT. waste management system. India as the world's second populated country faces the undaunted task of building creditable and sustainable waste systems that can operate on its own, with or less human intervention. Waste segregation, accumulation, and disposal of the same and disposal all forms the crux of the waste management system. Technology infusion into real world problems and solutions to the problems creates a sustainable system and that is being implemented in this project. The problem of waste generation and management has became a serious issue of concern to many scholars in environmental studies. This paper critically Examine the attitude of urban dwellers to waste disposal and management. one hundred fifty copies of questionnaire were administered to residents in the area. Information such as the various classes of waste, frequency of waste disposal and methods of waste evacuation were obtained from the questionnaire. Finding revealed that family size has great influence on waste disposal and generation which was evidence in the hypothesis with a calculated value of 7.32 greater than the critical value of 2.43 at 0.05 level of significance. Besides, environmental enlightenment has changed people's attitude towards waste generation and management in the area. This was affirmed in the calculated f-value of 3.18 greater the critical value of 1.97 at 0.05 level of significance. However, this results indicate that effective environmental enlightenment would help avert the attitude of urban dwellers to waste disposal and management in the area.

Keywords: sensors, solar panel, Arduino UNO, motor.

REAL-TIME FINGERPRINT BASED VOTING SYSTEM

Mr. K.L. Ganesh[1], Mrs. M. Bhargvi[2], Ms. L. Nagalakshmi[3]

[1]Assistant Professor, Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

[2&3] Assistant Professor Department of Electrical & Electronics Engineering, Narayana Engineering College Nellore

ABSTRACT

The election procedure has undergone many changes, from manual voting through ballot papers to the present EVM's (Electronic Voting Machine).There are still many challenges being faced during voting. Rigging is the most serious issue being faced during elections today. The manual voter ID verification is still being faced during voting. Rigging is the most serious issue being faced during elections today. The manual voter ID verification is still being used to verify the voter's identity before voting. Since, the Right to Vote is one of the fundamental rights of the citizen, it is necessary to ensure transparency during polling and avoid any illegal means of casting a vote. This project is an attempt to find a solution to rigging during elections. The idea of this project is to use the fingerprint of the voter to verify voter identity .The manual verification of voter's ID is replaced by the unique fingerprint authentication ID of the voter. This provides a more secure and more reliable voting environment to the voters to cast their vote and ensures that each voter gets to vote only once.

Keywords: Fingerprint, Rigging, Arduino UNO, Smart voting.

A NOVEL KNN BASED QUERY EXPANSION TO GENERATE EORD FROM LOCAL WORD EMBEDDING IN MICROBLOG RETRIEVAL

Y. RajaSekhar[1], P. Aparna[2], N. TejaSwaroopa[3], Sk. Jaheera[4], B. Greeshma[5], P. Sushma[6]

Assistant Professor 1, UG Scholar [2, 3, 4, 5,6]

[1, 2,3,4,5,6] Department of CSE, Narayana Engineering College,

Nellore, Andhra Pradesh.

ABSTRACT

Since the length of microblog texts, such as tweets, is strictly limited to 140 characters, traditional Information Retrieval techniques suffer from the vocabulary mismatch problem severely and cannot yield good performance in the context of microblogo sphere. To address this critical challenge, we focus on the use of local conceptual word embeddings for enhance microblog retrieval effectiveness. In particular, we propose a novel k-Nearest Neighbor (kNN) based Query Expansion (QE) algorithm to generate words from local word embeddings to expand the original query, which leads to better understanding of the information need. Besides, in order to further satisfy users' real-time information need, we incorporate temporal evidences into the expansion algorithm, which can boost recent tweets in the retrieval results with respect to a given topic. Experimental results on the official TREC Twitter corpora demonstrate the significant superiority of our approach over baseline methods.

Keywords: Microblog Retrieval, Pseudo-Relevance Feedback, Query Expansion, Word Embeddings

CLASSIFICATION OF NEWS DATA USING DEEP LEARNING WITH DOC2VEC MODEL

Dr. Y. Pavan Kumar Reddy*, Mrs.CH. Vanaja**, A. Asritha, I. Tejaswi, D. Hema, K. Sneha Sai, G. Sushma Priya***

* Professor, Department of CSE, Narayana Engineering College, Nellore, Andhra Pradesh, India.

**Assistant Professor, Department of CSE, Narayana Engineering College, Nellore, Andhra Pradesh, India.

*** UG.Scholar, Department of CSE, Narayana Engineering College, Nellore, Andhra Pradesh, India.

ABSTRACT

The main objective of this paper is text classification and train a model such that it should place an unseen text into correct category. In this study, text classification was performed using the Doc2vec word embedding method on the Turkish Text Classification 3600 (TTC-3600) dataset consisting of Turkish news texts and the BBC-News dataset consisting of English news texts. In this work we are using various classification methods such as, deep learning-based CNN and traditional machine learning classification methods Gauss Naive Bayes (GNB), Random Forest (RF), Naive Bayes (NB) and Support Vector Machine (SVM) and finally results obtained from various methos are compared.

Keyword: Doc2vec, Naive Bayes, Random Forest, GNB

DESIGN AND DEVELOPING REVOCABLE MA-ABE SCHEME FOR FINE-GRAINED ACCESS CONTROL IN CLOUD STORAGE

Dr. K.M. Vara Pradsad[1], N. Harini[2], S. Pallavi Gayatri[3], M. Sai Sindhuja[4], N. Divya Suchi Priya[5]

Associate Professor [1,] UG Scholar [2, 3, 4, 5,]

[1, 2,3,4,5] Department of CSE, Narayana Engineering College, Nellore, Andhra Pradesh.

ABSTRACT

Since we are outsourcing the crucial and sensitive data to the untrusted cloud servers, ensuring data security in the cloud has become paramount importance. Due to data outsourcing and untrusted cloud servers, the data access control becomes a challenging issue in cloud storage systems. Ciphertext-Policy Attribute-based Encryption (CP-ABE) is regarded as one of the most suitable technologies for data access control in cloud storage, because it gives data owners more direct control on access policies. However, it is difficult to directly apply existing CP-ABE schemes to data access control for cloud storage systems because of the attribute revocation problem. In this paper, we design an expressive, efficient and revocable data access control scheme for multi-authority cloud storage systems, where there are multiple authorities co-exist and each authority is able to issue attributes independently. Specifically, we propose a revocable multi-authority CP-ABE scheme, and apply it as the underlying techniques to design the data access control scheme. Our attribute revocation method can efficiently achieve both forward security and backward security. The analysis and simulation results show that our proposed data access control scheme is secure in the random oracle model and is more efficient than previous works.

Keywords: Access control, multi-authority, MA-ABE, attribute revocation, cloud storage.

ENDEMIC PREDICTION USING RANDOM FOREST

K. Sukeerthi[1], K. Sai Bhargav Ram[2], M.P. Sree Vinay Kumar Reddy[3], M. Sivananda[4], J. Sravan[5]

Assistant Professor1, UG Scholar2, 3, 4, 5

1, 2, 3, 4, 5 Department of CSE, Narayana Engineering College, Nellore,

Andhra Pradesh.

ABSTRACT

In this digital world, most of the people are prone to diseases, due to lack of healthy food, proper sleep and daily exercise. It is very crucial to know if we are suffering from a disease, at an early stage rather than discovering it at a later stage. Hence disease prediction system plays an important role as It predicts patient or user illness based on information or symptoms they incorporate into the system and provides accurate results based on the information. If the patient is doesn't have very serious health issues and the they just wants to know what kind of disease they are treating or suffering from. It is a program that provides the user with points and tricks to maintain a user's health system and provides a way to diagnose the disease using this prediction in early stage of disease. According to a study 40% of people ignore the common disease that leads to serious illness. The main reason for indifference is laziness to see a doctor and anxiety when people are working so hard that they do not have time to see a doctor. later it leads to life-threatening diseases. In India they suffer from common ailments and 25 percent are at risk of dying from premature ejaculation. These people can simply use it and have control. This disease prediction system uses Machine Learning algorithm named Random Forest. This System also suggests precautions that are most commonly used to cure the disease.

Keywords: Endemic, Machine Learning, Random Forest.

IMAGE AND VIDEO CARTOONIFYING USING OPEN CV

Mrs. K. Sukeerthi[1], S. Srikanth Babu[2], O. Sai Harshith[3], V. Akhil[4], S. Nikhil[5]

[1]Assistant Professor, Department of CSE, Narayana Engineering College, Nellore, Andhra Pradesh, India.

[2345] UG.Scholar, Department of CSE, Narayana Engineering College, Nellore, Andhra Pradesh, India.

ABSTRACT

To cartoonize images and different objects and blend them accordingly as we require. Our aim is to create a cartoon which doesn't look like a filter applied on an image but, is actually a cartoonic view of an input image. In order to get the basic cartoon effect, we just need the bilateral filter and some edge detection mechanism. We can access this cartoon images through an application where you can also save them and make changes. Even the basics of image processing if done properly can be handy which otherwise would require a machine learning model. This project is one of such inspiration which cartoonizes images and videos using only core open cv filters and functions. It also uses K-means clustering algorithm to compress the image. This clustering gives it the basic cartoonish tinge it requires. The method of image processing is used to do some processes on a picture like an image enhancement or to remove some functional data from the image. Cartooning of an image is an interesting project under image processing where it takes an input image, processes it and produces an output as a cartoon. Automation technology is booming nowadays. Human effort is reduced to the minimum; with a set of programs doing our job for us, animation technology has taken a considerable leap. Our job is to make those programs. So, this is the project which converts regular camera clicked images into carbonized form, created using Python language and relative libraries. In times like today, where technology is taking giant leaps with great minds improving them day by day

INTELLIGENT CROP RECOMMENDATION SYSTEM USING MACHINE LEARNING

Mrs. K. Sukeerthi[1], Mr. D. Rajesh[2], B. Jyothika[3], CH. Roshini[4], K. Sowmya[5], M. Chandana[6]

[1] Assistant Professor, Department of CSE, Narayana Engineering College, Nellore, Andhra Pradesh, India.

[2] Assistant Professor, Department of CSE, Narayana Engineering College, Nellore, Andhra Pradesh, India.

[3456] UG.Scholar, Department of CSE, Narayana Engineering College, Nellore, Andhra Pradesh, India.

ABSTRACT

Agriculture is a major contributor to the Indian economy. The common problem existing among the Indian farmers are they don't choose the right crop based on their soil requirements. Due to this they face a serious setback in productivity. This problem of the farmers has been addressed through precision agriculture. Precision agriculture is a modern farming technique that uses research data of soil characteristics, soil types, crop yield data collection and suggests the farmers the right crop based on their site-specific parameters. This reduces the wrong choice on a crop and increases the productivity. In this project, we are building an intelligent system, which intends to assist the Indian farmers in making an informed decision about which crop to grow depending on the sowing season, his farm's geographical location and soil characteristics. Further the system will also provide the farmer, the yield prediction if he plants the recommended crop.

Keyword: Precision agriculture, yield prediction, intelligent system.

MALICIOUS URL DETECTION USING MULTI-LAYER PERCEPTRON

M. Sowndarya[1], P. Jagadeesh[2], N. Tarun Kumar[3], E. Daniel Rohith[4]

Assistant Professor[1], UG Scholar[2, 3, 4]

Department of CSE, Narayana Engineering College, Nellore, Andhra Pradesh.

ABSTRACT

Now-a-days, Internet has become an important part of our lives for education, communication, gaming, office works, entertainment, banking. It is very easy to access any information online by surfing web. Everything that has pros also has cons. Likewise Internet usage has many risks of attacks, Malicious URL is one of them. The speculation here states that Neural Network algorithms inclusive of multi-layer perceptron (mlp) have better accuracy in differentiating Malicious and semi-based phishing urls. Compared to classical machine learning algorithms which include logistic regression and multinomial naïve Bayes, the classical algorithms depend closely on Significant corpus data training and ML Experts' domain to carry out complex Feature engineering. MLP may perform non-linear Separable multi-classes classification and focus less on Corpus feature training. Further, backpropagation Weight adjustment should study which features are more Critical in differentiating phishing from different attack types.

Keywords: Phishing, Malicious URLs, Multi-layer Perceptron, Neural Network, Machine Learning, Deep Learning, Detection, Classification, Feature Selection.

SECURE CLOUD STORAGE AUDITING SCHEME FOR SHARING DATA

Mrs. D. Sujitha[1], S. Manjula[2], S.k. Leena[3], N. Rajya Lakshmi[4], V. Sathwika[5], Sk. Shaheen[6]

Assistant Professor [1], UG Scholar [2, 3, 4, 5,6]

[1, 2,3,4,5,6] Department of CSE, Narayana Engineering College, Nellore, Andhra Pradesh.

ABSTRACT

Sharing data is one of the most important service provided by cloud storage. In order to share the data conveniently and securely by the use of sanitizable signature to hide information which is case sensitive? It may cause unauthorized access. In cloud storage as anyone can access data. The purpose of secure cloud storage auditing scheme for sharing data is here only authorized users can access data. Secure cloud storage auditing scheme for sharing data adopts Diffie-Hellman protocol is used to avoid secure channel between data owner and sanitizer. Therefore, the security analysis and experimental results proves that security and efficiency of secure cloud storage auditing scheme for sharing data is accepted.

Keywords: Authorized access, Cloud Storage, Integrity, Auditing, Sensitive Information Hiding.

SECURE NOTARIZING AND TRANSFER OF PROPERTY WITH BLOCK CHAIN MODEL

Dr. P.Penchalaiah[1], A.V. Sai Charan[2], Ch. Poorna Chandu Reddy[3], K. Sai Sarath[4], L. Preetham Chand[5]

Professor[1] , UG Scholar [2, 3, 4, 5]

[1,2, 3,4, 5]Department of CSE, Narayana Engineering College, Nellore, Andhra Pradesh.

ABSTRACT

Block chain has built-in data security; all applications that require a high level of security are migrating to it. All existing methods are incapable of determining whether data stored on a decentralized server is intact or changed. To ensure that data is not corrupted, we can use Block chain technology to store land registration details. This technology uses a tree to store each transaction (any data stored will be considered a transaction), and while storing new data, it checks for corruption. If data is not altered or hacked, the same hash code will be generated, verification will be successful, and a new block will be added. If data is changed, a different hash code will be generated, and verification will fail, indicating that the data has been tampered. Using the benefits of block chain, we created a land registration system that is more secure and robust than traditional methods.

Keyword: Block chain, Land, Decentralized, Hash

A HAND GESTURE RECOGNITION TO TEXT CONVERSION FOR DEAF AND DUMB USING DEEP LEARNING

Dr. K. M. Vara Prasad[1], Dr.CH RAjendra[2], Dr. P. Penchalaiah[3], Dr. B. Sunil Kumar[4]

Professor [1,3&4] , Department of CSE, Narayana Engineering College, Nellore

[2]Professor & Head, Department of CSE, Narayana Engineering College, Nellore

ABSTRACT

The primary means of communication between individuals is communication. Due to birth defects, accidents, and oral infections, there has been a sharp rise in the number of people who are deaf and dumb in recent years. Deaf and dumb persons must rely on some form of visual communication because they are unable to communicate with normal people. Around the world, many different languages are spoken and translated. The term "Special Persons" refers to people who have difficulties hearing and speaking. "The Dumb" and "The Deaf" people, respectively, have difficulty understanding what the other person is attempting to say. For dumb to interact with everyday people, sign language is crucial. It is quite challenging for silent persons to communicate with non-mute people. because hand sign language is not taught to the general public. It is quite difficult for them to communicate during an emergency. The conversion of sign language into understandable text is the answer to this issue. There are many effective methods for detecting hand motion or gestures, such as using CNN and SVM algorithms to turn the voiced information into text. We are using deep learning Convolution Neural Network to train hand gesture photos and then this trained model can be used to predict those trained hand gesture from webcam.

Keywords: Sign language, Hand gesture, Feature extraction, Gesture recognition.

AN EFFICIENT IMAGE TRANSFER REALITY AND BACKGROUND NOISE REMOVAL BY USING AUGMENTED REALITY AND ARTIFICIAL INTELLIGENCE

Dr. P. Penchalaiah[1], Mr. R. NavaTeja Reddy[2], Mr. P. Sreenivasulu[3], Mr. T. Sai Prasad Reddy[4]

Professor [1,] Department of CSE, Narayana Engineering College, Nellore

[2,3&4]Associate Professor, Department of CSE, Narayana Engineering College, Nellore

ABSTRACT

The massive technological advancements around the world have created significant challenging competition among companies where each of the companies tries to attract the customers using different techniques. One of the recent techniques is Augmented Reality (AR). The AR is a new technology which is capable of presenting possibilities that are difficult for other technologies to offer and meet. Nowadays, numerous augmented reality applications have been used in the industry of different kinds and disseminated all over the world. AR will really alter the way individuals view the world. The AR is yet in its initial phases of research and development at different colleges and high-tech institutes. Augment Reality tool that can capture images of real- world objects and add them to a computer program in a few seconds. AR Copy Paste allows users to take a photo of an object in the real world and drop the image into a desktop computer program with a few simple actions on their smart phone. The app uses augmented reality (AR) and machine learning technology to detect objects in the real world and isolate the image so that the background is automatically removed. Users then move the smart phone over their computer screen to paste the object image into a compatible computer program, such as Photoshop or In Design.

Keywords: Augmented Reality, Drag and Drop, Mobile, Expo app , BASNET , U2 Net , Photoshop.

AN EYEBALL CURSOR TRACKING FOR PHYSICALLY CHALLENGED PEOPLE

Dr. C. Rajendra[1], Mrs. D. Saritha[2], Mr. Ch. Rama Mohan[3], Mr. A. Sunil kumar[4]

Professor&Head[1], Department of CSE, Narayana Engineering College, Nellore

[2,3]Associate Professor, Department of CSE, Narayana Engineering College, Nellore

[4]Assistant Professor, Department of CSE, Narayana Engineering College, Nellore

ABSTRACT

Universal input devices for computers like desktops and laptops around the world are a mouse and keyboard. With most of the operating systems being based on Graphical User Interface, mouse is the only input device needed most of the time. But, people with physical disabilities especially people with no hands and paralyzed people cannot use a computer because of this. If there are any voice assistants for computers they are not nearly as good as voice assistants for mobiles and they haven't improved since a decade. So, that's why to solve this problem a new way to move control the mouse cursor on the screen is made. A way that uses the computer's web camera to see and track the movements of the user's head and moves the cursor accordingly and tracks blinking of the either of the eye to execute respective clicks of the mouse to perform left click and right click. With this, a way is successfully implemented to control the mouse pointer without using hands. This creates a new way for those people to operate a computer. This system is built by making use of open- source resources like the haar cascade pre-built machine learning models and libraries like Open CV to identify and track the head movements and pyautogui to move the mouse cursor. This project is Operating System independent and can work on any OS in the world that is capable of executing a python file.

Keywords: Graphical User Interface, Haar Cascade , Machine Learning, Open CV, Pyautogui.

IMPLEMENTATION OF FOOD QUALITY AND SAFETY TRACEABILITY USING MACHINE LEARNING

Mr. D. Sujitha[1], Mr. D. Rajesh[2], Mrs. Sk. Fareeda[3], Mrs. Sk. Sofia[4]

[1,2,3&4]Assistant Professor, Department of CSE, Narayana Engineering College, Nellore

ABSTRACT

In the context of epidemic prevention and control, food safety monitoring, data analysis and food safety traceability have become more important. At the same time, the most important reason for food safety issues is incomplete, opaque, and asymmetric information. The most fundamental way to solve these problems is to do a good job of traceability, and establish a reasonable and reliable food safety traceability system. The traceability system is currently an important means to ensure food quality and safety and solve the crisis of trust between consumers and the market. Research on food safety traceability systems based on Machine learning ideas and methods to solve the problems of low credibility and difficult data storage in the application of traditional traceability systems. Machine learning holds potential in leveraging large, emerging data sets to improve the safety of food quality and mitigate the impact of food safety incidents. This is an effective solution for enhancing the credibility of traceability information, ensuring the integrity of information, and optimizing the data storage structure. The main goal here, is to get insights on food quality prediction and to identify the review of food.

Keywords: Machine learning, Support Vector Machine, Random forest, Food Quality prediction

SLEEPY DRIVER ALERT WITH SOS SYSTEM

Mrs. Ch. Vanaja[1], Mr.K. Mahesh Kumar[2], J. Mahesh Babu[3], Mr. T. Chaitanya[4]

[1,2,3&4]Assistant Professor, Department of CSE, Narayana Engineering College, Nellore

ABSTRACT

Recently, the number of road accidents has been increasing rapidly and in particular cargo trucks and high-speed bus accidents emerged as a critical problem. From the statistics made, above 30% accidents occur due to drowsiness of a driver and it is important to save the lives of people. Although there are few models available that detect the drowsiness, they are not such accurate in saving the life and also it is very complicated to use by a driver. So, in order to improve the results, the proposed methodology focusses on the image processing techniques where the driver is continuously monitored through a webcam that extracts the person face through Open CV and predicts the eye blinking using eye blink detection. As a result, if it seems to cause an accident the driver is alerted through an alarm sound and in case of accident, current location is transferred to the emergency contacts in the form of S.O.S.

Keywords: Drowsiness, image processing, Open CV, eye blink detection, S.O.S

INTERNET FINANCIAL FRAUD DETECTION USING MACHINE LEARNING MODELS WITH NODE2VEC

Mrs. A. Kokila[1], Mrs. T. Lakshmi Prasanna[2], Mrs. M. Sowndarya[3], Mrs. A. Sukeerthi[4]

[1,2,3&4]Assistant Professor, Department of CSE, Narayana Engineering College, Nellore

ABSTRACT

The paper describes the design, construction and working of an intelligent approach for Internet financial fraud detections n this paper wes proposed to implement graph embedding algorithm Node2Vec to learn and represent the topological features in the financial network graph into low-dimensional dense vectors, so as to intelligently and efficiently classify and predict the data samples of the large-scale dataset with the deep neural network. The approach is distributedly performed on the clusters of Apache Spark GraphX and Hadoop to process the large dataset in parallel. The groups of experimental results demonstrate that the proposed approach can improve the efficiency of Internet financial fraud detections with better precision rate, recall rate, F1-Score and F2-Score.

Keywords: component; formatting; style; styling; insert

GESTURE CONTROLLED AI VIRTUAL MOUSE SYSTEM USING COMPUTER VISION

V. Chaitanya[1], Y. Rajasekhar[2], D. Niroopa[3], J. Chaitanya[4]

[1,2,3&4]Assistant Professor, Department of CSE, Narayana Engineering College, Nellore

ABSTRACT

In our daily life, the devices are becoming dominant in the form of wireless technologies, The mouse is of the major inventions of human-computer interaction technology. Nowadays, Bluetooth mouse or wireless mouse still used devices. These wireless or Bluetooth devices are not free of hardware, since it uses battery for power and a dongle to connect it to the pc. In the proposed gesture controlled virtual mouse system, the limitation can be controlled by using the webcam or a built-in camera for tracking the hand gestures and hand tips using computer vision. the algorithm used in system makes use of the machine learning. Based on the hand gestures the mouse pointer in computer can be controlled virtually and perform right click, left click, double click, scrolling function, drag and drop function without any use of physical mouse. So virtual mouse avoids the human interference and dependency of physical devices to control the computer

Keywords: Human-computer interaction, dongle, machine learning, computer vision, hand gestures.

ANAYSIS OF ISLANDING DETECTION USING FUZZY LOGIC CONTROLLER AND AUTOGROUND SYSTEM

Dr. I. Kumaraswamy[1], A. Saipriya[2]

[1]Associate Professor Dept. of EEE,Kumaraswamy.i@vidyanikethan.edu,

[2]M.Tech, Dept. of EEE,

[1,2,] Sree Vidyanikethan Engineering College.

Abstract

The main challenging issue on stability is due to rapid raise of load. As the demand of power increases, there is lack of generation capacity which causes stability issues in power system. In the past decades power systems have been operated under anxious conditions. The environmental pressures on transmission system and expansion increased consumption of electricity in large scale industrial areas (uneconomical to construct new plant), are the factors which are responsible for this stressed conditions due to this a power network can reveal unstable nature and it is characterized by slow or sudden voltage fall, sometimes even leads to collapse or blackout.In order to uphold the voltage profiles and also in order to meet the increasing load demand of future electricity grids, integration of Distributed Generators (DGs) is necessary.A major advantage of DG is generation of power closer to the consumers demand and main drawback is island issues.In order to detect and analyze the islanding issues, islanding detection methods are used which includes Active, passive and Hybrid methods. In proposed work, simulink model is going to be implemented. The fuzzy logic controller is adopted for islanding detection with less delay time and the auto-ground system is adopted for grounding the high current floe during islanding situation.

Keywords: Fuzzy Logic Controller(FLC), Auto-ground system and Neutral conductor, Photovoltaic system

SMART CITY APPLICATION OF IOT ENABLED SMART BIN ALERTING SYSTEM

Dr. V. Vijaya Kishore, Professor, Dept of ECE, Sree Vidyanikethan Engineering College, Tirupati.

vijayakishore.v@vidyanikethan.edu.

Mrs. V. Kalpana, Assistant Professor, Dept of ECE, Sree Vidyanikethan Engineering College, Tirupati.

kalpana.v@vidyanikethan.edu.

Dr. I. Kumaraswamy, Asso. Professor, Dept of EEE, Sree Vidyanikethan Engineering College, Tirupati.

Kumaraswamy.i@vidyanikethan.edu.

Abstract

Waste management and segregation is one of the most important processes, that needs to be done in metropolitan cities and urban areas in order to decrease the increasing landfills and dumping yards all over. In India, the amount of garbage produced is too large and it needs to be processed. Basically, segregation means separating the wet and dry wastes. This helps in recycling the waste effectively. This can be done by using a smart bin. Here smart bin with features of separating the wet and dry waste along with an alert after the bin level is filled to ninety percent is designed using IOT technologies. An Arduino Uno board is programmed in such a way that moisture sensor will automatically detect the wet and dry waste based on moisture content present in it. The stepper motor will operate the lid based on moisture content and drop the trash into respective bins. A level sensor mounted on top of respective bins will monitor the level of bins and based on bin levels an SMS alert will be sent to the sanitary inspector.

A SURVEY PAPER ON BIG DATA AND DIFFERENT SUBSPACE CLUSTERING APPROACHES

Mrs. V. Kalpana, Assistant Professor, Dept of ECE, Sree Vidyanikethan Engineering College, Tirupati.

kalpana.v@vidyanikethan.edu.

Dr. V. Vijaya Kishore, Professor, Dept of ECE, Sree Vidyanikethan Engineering College, Tirupati.

vijayakishore.v@vidyanikethan.edu.

Abstract

In this age of information technology, information holds the key to development in different paradigms. This information has to be extracted from huge treasure trove of database. With advent of superior computing platforms, increased storage spaces and shift towards e- platforms have generated huge volume of data that has to analyzed and interpreted. This advent of big data has thrown in challenges that have to be surmounted through improved clustering and analysis approaches. In this work a detailed review about big data, its attributes and significance of Subspace clustering algorithm is presented. The primary contribution of this paper is in sifting through literature and bringing about a detailed presentation about how different authors have classified Subspace clustering approaches. Important algorithms that can serve as benchmark for any future development have also been briefly explained.

Keywords: Big Data, Clustering, Subspace, Classification, Review of literature.

IOT BASED DISTRIBUTION TRANSFORMER HEALTH MONITORING SYSTEM USING ARDUINO, NODEMCU

[1]S.Suneetha [2]S.Sai Krishna [3]Sk. Ashik [4]M. Lohith Narayana [5]Ch. Vamsi Krishna

[1]Assistant Professor, EEE Department, Narayana Engineering College, Nellore

[2,3,4,5] Students from EEE Department, Narayana Engineering College, Nellore

Abstract:

Transformers are the main building block in a power system. Any damages in transformers adversely affects the balance of a power system. The damages are mainly occurring due to overloading and inefficient cooling. The main objective of the is real time monitoring of the health conditions of the distribution transformer using IOT technology. The parameters such as temperature, voltage and current of a transformer are monitored, processed and recorded in servers. For this purpose, we use three sensors interfaced with Arduino. The recorded data can be send using Wi-Fi module and accessed from anywhere around the world using IOT technology using HTTP protocol. This helps in identifying without human dependency. This helps in identifying and solving a problem before a failure without human dependency and also here we are monitoring the Transformers oil level monitoring and Automatic circuit breaker depends on the load current in our system we are sending the alerts automatically.

Keywords—IoT technology, cloud, server, Arduino, Wi-Fi module

CLASSIFICATION AND COMPARISON OF KIDNEY CT- IMAGES USING VARIOUS MACHINE LEARNING CLASSIFIERS

M.Venkatanaresh, Assistant Professor, Dept of ECE, Sree Vidyanikethan Engineering College, Tirupati. nareshmvenkat@gmail.com

Dr. I. Kullayamma, Associate Professor, Dept of ECE, S.V.U College of Engineering ,S.V.University, Tirupati. ikusuma96@gmail.com

Abstract

These days, we are seeing that kidney disease is the most critical healthcare condition for people of all different ages and demographics. This disease may progress through a number of stages before reaching an acute or chronic level in the kidneys. On the other hand, kidney issues can also emerge all of a sudden (in an acute form) or grow gradually over time (chronic)In this study, we categorize renal diseases and evaluate the accuracy of a variety of classification methods, including Bayesian, fine tree, fine gaussian support vector machine, and fine KNN. When you have renal disease, your kidneys get damaged and are unable to filter blood as effectively as they should. If you have diabetes or high blood pressure, your likelihood of developing kidney disease is significantly increased. Dialysis and kidney transplantation are both therapy options if you are diagnosed with kidney failure. Acute renal damage, kidney cysts, kidney stones, and kidney infections are some of the other disorders that can affect the kidneys. For the sake of this implementation, an aberrant kidney represents a sign of Negative, whereas a normal kidney represents a sign of Positive.The accuracy of a number of different classifiers is estimated so that the effectiveness of classifiers may be evaluated.

A MULTI-LEVEL APPROACH OF AUDIO-STEGANOGRAPHY AND CRYPTOGRAPHY

Ms. P. G. Mamatha, Assistant Professor, Dept of ECE, Sree Vidyanikethan Engineering College, Tirupati.

Email: mamatha.pg@vidyanikethan.edu

ABSTRACT

After a rapid growth of cyber revolution, developing a secret communication is a major task of security that has gained increasing importance. Cryptography and steganography are the best methods for introducing hidden communication. Current technology allows steganography applications to hide any digital file inside of any other digital file. Due to the existence of their redundancies, audio and video files are much suitable for the purpose of hiding. Audio steganography is a challenging subject because human auditory system (HAS) is more sensitive than human visual system (HVS). It requires a text or audio secret message to embed within a carrier audio file. Several basic audio Steganographic methods like LSB method, parity coding etc., are in existence, but the proposed LSB with XORing method gives high security which undergoes cryptographic randomized algorithm too. By performing two level encryption, capacity and robustness will be increased.