PROCEEDINGS OF AICTE SPONSORED

Two-day International e-Conference

On

Cutting Edge Technologies in Electrical, Communication, Embedded System and Soft Computing Techniques (ICECES'20)

(5th & 6th November 2020)

Organized by

Department of Electrical and Electronics Engineering

(Accredited by NBA) &

Department of Electronics and Communication Engineering

(Accredited by NBA)

SARANATHAN COLLEGE OF ENGINEERING

Venkateswara Nagar, Panjappur,

Tiruchirappalli – 620012, Tamilnadu, India

PROCEEDINGS OF AICTE SPONSORED

Two-day International e-Conference

On

Cutting Edge Technologies in Electrical, Communication, Embedded System and Soft Computing Techniques (ICECES-20)

(5th & 6th November'2020)

Organized by

Department of Electrical and Electronics Engineering &

(Accredited by NBA)

Department of Electronics and Communication Engineering

(Accredited by NBA)

SARANATHAN COLLEGE OF ENGINEERING

Venkateswara Nagar, Panjappur,

Tiruchirappalli – 620012

Shri. S. Ravindran
Secretary

I am given to understand that the Departments of ECE and EEE are jointly organizing an International e- Conference titled “Cutting Edge Technologies in Electrical, Communication Embedded System and Soft Computing Techniques” and that it is being organized on 5th and 6th of November 2020. Post Covid the focus of the Government is likely to be on their slogan - “Be Vocal, Buy Local”. In light of this the organization of such an e-conference assumes enormous importance. As “buying local” increases the need for manufacturing will also exponentially increase. Newer and better methods of manufacturing of products that meet international quality expectations will have to be found. That would mean innovations have to happen in the fields of Electrical and Electronic Engineering coupled with soft computing techniques.

The necessary raw materials by way of men, materials and money are all available. What needs to be done is, addition of another essential raw material in the form of management to create the right environment for innovation. Given the right environment, the young minds of India WILL come up with socially relevant optimal usage of technology.

It is very gratifying to be briefed that quite a few researchers from different premier institutes across the globe have contributed their papers to this conference. An open and objective brainstorming on those papers would surely result in development of disruptive technological solutions.

I take this opportunity to welcome all the participants to this e-conference and to wish the participants, organizers and committee members all success in their endeavor.

All the best! May God Bless you all!

Prof. Dr. Y. Venkataramani
Dean (R&D)

I am pleased to offer my felicitations to the organisers of the e-conference for having conducted with great success, the first e-conference in Saranathan College of Engineering. The conference provided a forum for researchers, in various areas, to highlight their research work and also understand the work being done by other researchers. I am sure, the interaction among the delegates, will lead to lot of new collaborative projects. My congratulations to the EEE and ECE departments for the meticulous planning and conduct of the Conference

Prof. Dr. D. Valavan

Principal

I'm glad to know that an International e- Conference titled “Cutting Edge Technologies in Electrical, Communication and Soft Computing Techniques” isbeing jointly organized on 5th and 6th of November 2020 by the Departments of ECE and EEE. The theme of the Conference is very appropriate to the current times. With the focus on local manufacturing under “Atmanirbharta Abhiyan” any discussion on research and innovation in any field has assumed immense importance – in the fields of Electrical and Electronics Engineering more so.

"Change is a certainty and Innovation is the best way to address that change"

Innovation is learning to do tasks differently but more efficiently. Since it is essentially doing a task it will have to be only hands-on. Given the right challenging ambience, young minds will come up with new and disruptive technological ideas. This platform must serve that purpose and create the right challenging ambience. Any research or innovation can be termed successful ONLY when that innovation brings about social betterment.

I'm glad to know the researchers from different premier institutes across the globe have contributed their papers to this conference. I hope those papers would generate objective interactions that would result in disruptive technological solutions.

I welcome all the participants to this e-conference. Wishing the organizers and committee members Godspeed! Have a great e-conference!!

Prof. Dr. C. Krishna Kumar
HoD / EEE
Convener

I am extremely glad to present the proceedings of the International e-Conference on Cutting Edge Technologies in Electrical, Communication, Embedded systems and Soft Computing Techniques (ICECES '2020) held on 5th& 6th November, 2020. This conference is an accomplishment of the Electrical and Electronics Engineering department& Electronics and Communication Engineering department of Saranathan College of Engineering, Trichy. The conference is organised with the support of All India Council for Technical Education, and diligent efforts from the faculty members and students. The objective of this conference is to bring together research scholars, scientists, engineers, and students to exchange and share their new ideas and research findings about all aspects of main themes and tracks. After the rigorous peer-review process, the submitted papers were selected on the basis of novelty, importance, and clarity for the purpose of the conference. I extend my sincere thanks to all those who have contributed to the success of ICECES '2020, especially all the authors and the participants who responded to our call for papers.

I congratulate the Conference Technical Programme Committee Members for their efforts and dedication, who made this event possible.

Prof. Dr. M. Santhi
HoD / ECE
Convener

It is my great pleasure to welcome you all to our 1st AICTE Sponsored International e-Conference on Cutting Edge Technologies in Electrical, Communication, Embedded Systems and Soft Computing Techniques (ICECES'20), held during 5th and 6th of November, 2020 in Saranathan College of Engineering, Tiruchirappalli. The objective of this e-Conference is to bring all the researchers, Academicians, industrialists and students at one platform, and also to inculcate the research culture among the entire fraternity of Education in the country.

I hope that this conference would certainly induce innovative ideas among the participants, paving way for new inventions and technologies in Electrical, Communication, Embedded Systems and Soft Computing Techniques and related fields. We received 150 papers out of which 143 papers were selected for presentation. I would like to thank AICTE and our management for providing financial support to organize this conference.

I am grateful to our Honorable Secretary Shri. S. Ravindran, for his constant support and encouragement to conduct such a prestigious conference in our college. I thank our respected Principal Dr. D. Valavan for his motivation and support to organize this conference. My sincere gratitude goes to our respected Dean R&D Dr. Y. Venkataramani for his fullest guidance towards this conference. Special thanks to the Keynote Speakers, Dr. Seok-Bum Ko, Professor, University of Saskatchewan, Saskatoon, Canada and, Dr. Y. Venkataramani, Dean (R&D) of our college for sharing their knowledge on current research topics. I would like to thank our vibrant faculty members for their un-tired efforts for the successful conduct of this conference. I hope the deliberations from various distinguished speakers and the paper presentations will benefit the participants to update their knowledge.

I extend my best wishes for great success of the conference.

Keynote Speaker

Prof. Dr. Seokbum Ko

University of Saskatchewan, Canada

Seokbum Ko is currently a Professor at the Department of Electrical and Computer Engineering and the Division of Biomedical Engineering, University of Saskatchewan, Canada. He got his PhD degree from the University of Rhode Island, USA in 2002.

His research interests include computer architecture/arithmetic, efficient hardware implementation of compute-intensive applications, deep learning processor architecture and biomedical engineering.

He is a senior member of IEEE circuits and systems society and associate editors of IEEE TCAS I and IEEE Access.

Keynote Speaker

Prof. Dr. Y. Venkataramani

Dean (R&D), Saranathan College of Engineering

Dr.Y.Venkataramani obtained his B.Tech & M.Tech degree from I.I.T Chennai. He was awarded Ph.D. by I.I.T. Kanpur. He has rich academic experience. He served as a faculty for 34 years and later headed the Dept of Electrical Engineering at NIT, Calicut He served as Principal of Saranathan College of Engineering, Trichy from 2001 to 2009 and from 2011 to 2013.

He has authored a book titled “Linear Integrated circuits and applications”. He has guided more than 15 research scholars in various domains. Eight of our staff members have completed their Ph.D. under his able guidance. He has presented many papers in International conferences and refereed Journals.

He has been invited to give key note address in various International conferences and FDPs. In many NITs, he has delivered guest lecturers. At present he is serving as Dean (R & D) in our institution. His areas of interest include Computer Networks, Signal Processing and Network security.

Saranathan College of Engineering, Trichy -12
AICTE Sponsored two-day Internatioal e-conference (ICECES'20)
Schedule

Date	Time	Track 1	Track 2	Track 3
Day – 1 5th Nov'20	10.00 AM – 10.45 AM	**Keynote Address by Prof. Dr.Seok-Bum Ko, Professor, University of Saskatchewan, Canada**		
	10.45 AM – 11.00 AM	Break		
	11.00 AM – 2.00 PM (Session – 1)	**Judges :** **Dr.A. Nazar Ali,** Associate Professor/EEE, Rajalakshmi Engineering College, Chennai, TN **Prof. C. Pearline kamalini**, Assistant Professor/EEE, Saranathan College of Engineering, Trichy, TN **Prof.R. Vijay**, Assistant Prof/EEE, Saranathan College of Engineering, Trichy, TN	**Judges :** **Dr.J.Manikandan**, Professor, Crucible of Research and Innovation (CORI), PES University, Bangalore, KA **Dr.V.Mohan**, Associate Professor /ECE, Saranathan College of Engineering, Trichy, TN **Dr.M.BarithaBegum**, Assistant Professor, Saranathan College of Engineering, Trichy, TN	**Judges :** **Dr.L.Saikala** Associate Professor/Civil NIT, Trichy, TN **Dr.G. Dhanalakshmi**, Prof & Head/Civil Saranathan College of Engineering, Trichy, TN **Mr.A.Anandraj**, Assistant Professor/Civil Saranathan College of Engineering, Trichy, TN
	1.00PM – 4.00 PM (Session – 2)	**Judges :** Dr.K.Dhayalini, Professor & Head/EEE, K.Ramakrishna College of Engineering, Trichy, TN **Prof. B.Paranthagan**, Associate Professor/EEE, Saranathan College of Engineering, Trichy, TN **Prof.P.Ramesh babu**, Assistant Professor/EEE, Saranathan College of Engineering, Trichy, TN	**Judges :** Dr.K.Swaminathan, Head-FPGA Design Team, Jiva sciences Pvt Ltd, Bangalore, Karnataka. **Dr.M.Santhi**, Professor & HOD/ECE, Saranathan College of Engineering, Trichy, TN **Dr.S.A. Arunmozhi**, Associate Professor / ECE, Saranathan College of Engineering, Trichy, TN	--

Date	Time	Track 1	Track 2	Track 3
Day – 26th Nov'20	10.00 AM – 10.45 AM	**Keynote Address by Prof.Dr.Y.Venkataramani, Dean (R&D), Saranathan College of Engineering, Trichy, Tamilnadu**		
	10.45 AM – 11.00 AM	Break		
	11.00 AM – 2.00 PM (Session – 1)	**Judges :** **Dr.G.Kannan**, Associate Professor/ECE, B.S.Abdur Rahman Crescent Institute of Science & Technology, Chennai, TN **Prof.S.Ramprasath,** Assistant Prof/EEE, Saranathan College of Engineering, Trichy, TN **Prof.R.Venugopal**, Assistant Professor/EEE, Saranathan College of Engineering, Trichy, TN	**Judges :** **Dr.M.Maheswari**, Professor & Head/ECE, K.Ramakrishna College of Engineering, Trichy, TN **Dr.C.Vennila,** Professor /ECE, Saranathan College of Engineering, Trichy, TN **Dr.M.Padmaa,** Prof/ECE, Saranathan College of Engineering, Trichy, TN	**Judges :** **Dr. Jasmine Beulah Gnanadurai**, Professor, Kristu Jayanthi College Bangalore **Dr.V.Punitha** Associate Professor/CES Saranathan College of Engineering, TN **Dr.R.Senthamil selvi** Assistant Prof/CES, Saranathan College of Engineeing, TN
	1.00 PM – 4.00 PM (Session – 2)	**Judges :** **Dr.R.Shenbagalakshmi,** Professor/EEE, SKN Sinhgad Institute of Technology & Science, Lonavala, MH **Dr.S.Vijayalakshmi,** Associate Professor/EEE, Saranathan College of Engineering, Trichy, TN **Prof.M.Marimuthu**, Assistant Professor/EEE, Saranathan College of Engineering, Trichy, TN	**Judges :** **Dr.R.Rajeswari**, Professor/ECE, Rajalakshmi Institute of Technology, Chennai, TN **Dr.S.Rajeswari**, Associate Professor / ECE, Saranathan College of ngineering, Trichy, TN **Dr.P.Shanmugapriya**, Associate Professor /ECE, Saranathan College of ngineering, Trichy, TN	

Index

DESIGN OF MULTISTAGE CASCADED DC-DC BOOST CONVERTER

Ayisha Banu.A.P[1], Marimuthu.M[2]

[1]PG Scholar, [2]Assistant Professor, EEE, Saranathan College of Engineering, Trichy, India

Abstract: Staggered cascaded DC-DC support converter to reap a high voltage gain for applications which are backing by sustainable sources. The nonconventional source like PV yield low yield voltage. This bring the analysis direct consideration on converters to efficient it for high voltage gain. In this, a multilevel cascaded help converter is plotted for a convenient solution. This conjoin the fundamental cascaded and a staggered support converter to depend high voltage gain. The proposed conspire develop with cascaded help converter and voltage multiplier cell which proceed as an addition augmentation cell. The aim of this undertaking is to proffer a converter which has low current pressure and high voltage gain when contrasted and accessible non isolated converters for PV order. The intrigue and tenacious state examination of the proposed converter and mimeograph have been performed using MatLAB/Simulink.

WIRELESS BATTERY MONITORING SYSTEM WITH LIVE TRACKING FOR AN e-VEHICLE

Devi sri.J[1], Indhu.R, Kowsalya.S[2],Madhumita.S[3],S.Ramprasath[4]

[1,2,3]Student, [4]Assistant Professor, Department of Electrical and Electronics Engineering, Saranathan College of Engineering

[1]devikeerthi12@gmail.com

Abstract: In focus towards e-vehicle the major sector to be concentrated is battery. To examine the battery and its related parameters, a flexible and compact system is build. Battery plays a major role in the operation of the e-vehicle, it is essential to govern the battery parameters and expand the life time of a battery. The quest to increase the span of an e-vehicle can be solved by governing the battery parameters related to voltage and current. To process the same, we need an interfacing medium which transmits the information to our smart phone. Blynk is the interfacing app which facilitates interfacing between the Arduino platform and smart phone. This app must be installed in our mobile phone to get the voltage and current parameters along with the live location of our vehicle. In battery monitoring system we are about to implement a

system that monitors the discharging voltage of the battery, current of the battery, live tracking of our car and temperature of our battery. GPS module is implemented to get the live location of our car and thereby executing live tracking. So, the system provides theft protection for our e-vehicle. Sensors are used to sense the parameters like current, voltage and temperature. By monitoring the battery parameters and maintaining it within safe limit. Thus, the battery of the electric vehicle can be protected from the undesired problems and thus its life span can be increased. The most important feature of our system is that we can monitor the battery is under load and also during running and helps the driver to maintain the parameters within the safe limit. As a whole, the life span of the battery can be increased with an added advantage of guiding the people with good platform. Cell balancing, Malfunction indication, status indication can also be maintained.

THE DETERMINATION AND CURING OF VARICOSE VEIN USING RASPBERRY PI

Dr. S.Vijayalakshmi[1], Arulraja K[2], Ganeshkumar V[3], Guhan R[4], Gokulnath A J[5]

[1]Associate Professor, [2,3,4,5]UG Scholar, Department of Electrical and Electronics Engineering, Saranathan College of Engineering

[1]vijayalakshmi-eee@saranathan.ac.in

Abstract: Varicose veins are an early manifestation of chronic venous insufficiency. Although the risk factors associated with varicose veins are well described, the basic pathophysiology leading to venous valvular incompetence, and thus, varicosities are less well known. The idleness becomes major factor that leads to varicose veins in lower part of the body. When the varicose veins clots, it is called as the superficial thrombophlebitis and it is usually very painful. The survey is conducted across all over the world to overcome this disease. The data are collected to programming the dataset algorithm respectively. The positional data of the person is recorded. Raspberry pi using Artificial intelligence decision tree algorithm is used. The preventive action is taken by processor through deep learning. The preventive measures as blood flow are normalized by using the vibration motor and Peltier module. The predetermined data's are analysed and the actions are taken by the processor. The determination process is done using the sensors. The prevention modules are activated by the relays interconnected to the raspberry pi.

DESIGN AND DEVELOPMENT OF THREE LEVEL CONVERTER

J. Anitha[1], M. Monica[2], Dr.S.Vijayalakshmi[3]

[1,2,]Student, [3]Associate Professor, Department of Electrical and Electronics Engineering, Saranathan College of Engineering

Abstract: The first part of this paper introduces a novel three level converter topology. It is shown that a floating capacitor connected across the clamping diodes of a conventional three level converter with PWM schemes. The proposed control scheme is based on a look up table instead of the conventional complex algorithm. In order to improve the power quality in the single phase rectifier, a ROM based control scheme, based on hysteresis current comparator, region detector, and capacitor compensator is used to achieve a sinusoidal line current with low current distortion and high power factor and to reduce the voltage stress of power switches.

DESIGN AND IMPLEMENTATION OF CLOUD BASED DIGITAL ENERGY METER USING ESP8266

P. Ramesh Babu[1], A.Pradeep[2], P. Rajendra prasath[3], R. Rishikesh kumar[4], J.Sharvin[5]

[1]Assistant Professor, [2,3,4,5]UG Scholar, Department of Electrical and Electronics Engineering, Saranathan College of Engineering

[1]ramnira@gmail.com

Abstract: Structured use of energy becomes more pivotal when increase in the cost of energy is observed. Management of energy is required to know the amount of consumed energy in a specific period, utilization of Energy Meters is essential. It is attainable to measure the consumed energy by using a traditional energy meter but sometimes the limited functionality of these meters restrict their area of application, especially in inaccessible areas or in the situations where visibility of the energy meter is poor and the main drawback is the person has to take reading by area by area and take reading of every house and institute make it not possible to use such application. A possible solution is an IOT based Wireless Energy Meter[1] which is able to send its data via wireless communication (cloud computing) to a PC or mobile phones in the form of E-mails and mobile application notification or through web page where surveillance and analysis of the data will be made easily. This computation system is focused to be used in measuring energy related quantities of transformers and high voltage towers at remote locations, industries, domestic area, institutions.

DESIGN AND SIMULATION OF SOLAR POWERED MPPT CONTROL FOR AC OFF GRID

S Kiruthiga[1], P Ramesh Babu[2]

[1]PG Scholar, Dept. of Power Electronics and Drives, [2]Assistant Professor, Electrical and Electronics Engineering, Saranathan College of Engineering, Trichy, India

kiruthigast21@gmail.com[1] , rameshbabu-eee@saranathan.ac.in[2]

Abstract: In this paper, a boost converter is employed for the control of photovoltaic power using Maximum Power Point Tracker (MPPT) control mechanism. The MPPT is used for extracting the utmost possible power from the PV array and fed to the load via boost converter which steps up the voltage to required magnitude. The converters are designed such the boost converter provides an output voltage of 350V DC from 150V PV array and therefore the single phase SPWM inverter provides 350V, pure wave output (230V RMS) applicable to AC Autonomous LED Lighting applications. The designed boost converter is used to run a single-phase full- bridge inverter. The circuit is simulated using the MATLAB Simulink software. The simulation results of designed boost converter is shown which are designed to exchange transformers from conventional inverter circuit to make low-THD, highly efficient and compact transformer-less inverter topology.

INTERLEAVED TOPOLOGY BASED PROFICIENT BUCK-BOOST CONVERTER

A.Srimathi[1], Dr.S.Vijayalakshmi[2]

[1]UG Scholar, [2]Associate Professor, Department of EEE, Saranathan College of Engineering, Panjappur, Tiruchirapalli

[1]srimathi0503@gmail.com , [2]vijayalakshmi-eee@saranathan.ac.in

Abstract: A DC to DC converter is of great importance in the field of sustainable energy. This paper deals with the Buck-Boost converter where the output DC voltage can be higher value (step up) or lower value (step down) than the input DC voltage. But due to various switching losses, conduction losses across the passive elements, the efficiency reduces which worsen the converter performance. Thus, to avoid these disadvantages a Interleaved topology is employed, where two buck-boost converters operate in collateral which reduces the switching stress and reduces the ripple content of the input current as the MOSFET's operate 180o out of phase.

This paper scrutinizes the efficiency and the output voltages of both Buck-Boost and Interleaved Buck-Boost converter.

SMART MONITORING TO BE INCORPORATED IN EXISTING PUBLIC TOILETS – INTELLIGENT TOILETS

Mohamed Ameenullah H[1], Dilip R[2], Gayathri N[3]

[1]UG Scholar, [2]Assistant Professor, Department of EEE, Saranathan College of Engineering

[1]md.ameenullah.h@gmail.com

Abstract: In India, although there are toilets constructed throughout, they become ineffectual overtime. Consequently, we propose an advanced management system to overcome the inefficiency prevailing in the toilet monitoring and maintenance system. Our project helps to comprehensively manage multiple restrooms situated across a city by a single person and shows live status of the restrooms based on parameters like occupancy, time of cleaning, water and energy resource management, smart sanitation, effective use of cleaning personnel, number of persons who used a toilet and the corresponding ratings. So, we propose a system which, with the help of contemporary sensors and IoT will help create an Intelligent Toilet that can be easily integrated with a smart hub.

WIRELESS POWER TRANSFER FOR CHARGING ELECTRIC VEHICLE USING SOLAR

S.Shree Haarrini[1], R. Satheesh[2], A. Sophiya Josephine[3], B. Subashree[4], R. Sundhara Lakshmi[5]

[1,3,4,5]UG Scholar, [2]Assistant Professor, Electrical and Electronics Engineering, Saranathan College of Engineering, Trichy, Tamil Nadu, India

[1]harinishiva99@gmail.com

Abstract: The main challenges of wireless power transfer for Electric vehicle is charging time and power transfer efficiency. It is proffered in this paper to resolve both issues using the transformer induction concept and the adaptive robotic technology. A high efficiency WPT system for charging electric vehicle that carries a receiving coil. A prototype is built and tested to verify the feasibility of the proffered design with unity power factor which can be achieved over an air gap of 8cm and maximum sliding distance of 10cm under various power conditions

and output voltage can be produced up to 15V approximately. It uses solar energy to generate electric voltage.

LOW COST DIGITAL CONTROL STRATEGY FOR FOUR QUADRANT OPERATION OF PMDC MOTOR

K.Subhiksha[1], N. Suganya[2], R. Swetha[3], S. Therasa mettilda[4]

[1,2,3,4]UG Scholar, Department of EEE, Saranathan college of Engineering

[1]sbhikshakumar99@gmail.com

Abstract: Speed control of a machine is the most vital and important part in any industrial organization. Our paper is designed to develop a four-quadrant speed control system for a PMDC motor using Arduino microcontroller. DC Motors are used extensively in adjustable speed drives and position control applications. The motor is operated in four quadrants viz, clockwise; counter clockwise, instantaneous reverse brake, instantaneous forward brake. Hence, if we control the voltage applied across its terminal, we actually can control its speed. The speed of the motor is proportional to the DC voltage applied across the terminal. This paper proposes a method to control the speed and direction control of a DC motor by using a four quadrant DC-DC chopper. IGBTs are used for the switching operation of the chopper. The advantages made by IGBT is that it offers high power gain. The gates of these IGBTs are given Pulse Width Modulation which provides the four-quadrant operation. This pulse width modulation is generated by programming the controller. The above model is simulated in MATLAB.

DESIGN OF MODIFIED SEPIC CONVERTER BASED ANFIS CONTROLLER FOR POWER FACTOR CORRECTION

A.R Danila Shirly[1], Srinath.G[2], Sidharth Prasad[3], Vignesh.S[4], Viswnathan.M[5]

[1]Assistant Professor, [2,3,4,5]UG Scholar, Department of Electrical and Electronics Engineering, Saranathan College of Engineering

Abstract: This paper presents an efficient current mode control technique using an Adaptive Neuro Fuzzy Inference system (ANFIS) for single phase power factor correction (PFC) with a new topology of a SEPIC (Single Ended Primary Inductance converter). Boost converter operates in discontinuous current mode. The power factor is achieved in this way. The output

is regulated by feedback. The performance of the proposed system is analyzed using Mat lab/Simulink based simulation studies. In order to ensure the robustness of the proposed controller the performance parameters such as Percentage Total Harmonic Distortion(%THD), Power factor (PF), %Voltage regulation, %Efficiency are analyzed. From the simulation results, it is inferred that the proposed method provides efficient tracking of output voltage and source current for step load, set point and line variations.

DYNAMIC COMPENSATION OF REACTIVE POWER BY POWER FACTOR IMPROVEMENT FOR THREE PHASE INDUCTION MOTOR

A.R.Danila Shirly[1], M. Praveen Kumar[2], M.Santhosh[3], K.Vijayaragavan[4], R.Vishnuchander[5]

[1]Assistant Professor, [2,3,4,5]UG Scholar, Department of Electrical and Electronics Engineering, Saranathan College of Engineering

[1]danila-eee@saranathan.ac.in

Abstract: This paper emphasizes the importance of power factor improvement by utilizing the capacitor bank. The proposed device automatically improves the power factor by injecting the reactive power generated by the capacitor bank connected with the induction motor. Induction motor is used in various industrial applications due to their robustness, reliability and less cost but it operates in lagging power factor. It is estimated that the majority of the electrical appliances used worldwide are induction motors. Especially when induction motors are driven under no load condition the power factor is very low. Power factor improvement is done by adding the capacitors in parallel with motor or it can be added at the starter, or introduced at the switchboard or distribution panel. The proposed system consists of a relay which detects the value of power factor and compares it with a standard set point value, if the measured value goes below the standard set point value it will readily inject the generated reactive power without human intervention. At present the automatic power factor improvement is gaining prominence owing to the superiority of it over the fixed capacitor bank in compensating the reactive power with different loading condition. The main aim of this paper is to compensate the reactive power near the load side rather than disturbing or unsettling the entire power system.

SELF-POWERED ACTIVITY TRACKER

Dr. S. Vijayalakshmi[1], Lakshmi Sk[2], Megadharshini S[3], Narmatha Devi K[4]

[1]Associate professor, [2,3,4]UG students, Department of EEE, Saranathan college of Engineering

[1]vijayalakshmi-eee@saranathan.ac.in

Abstract: This paper presents an automated wearable technology that is being incorporated into an essential daily accessory, a shoe. This ensures round the clock monitoring of health and activity. Since being self-powered, accuracy and compatibility are the key features of the paper. Harvesting parasitic mechanical as well as thermal energy makes the shoe an island Pico grid that is able to function effectively.

EQUAL LOAD SHARING USING PWM CIRCULATION SCHEME FOR THREE PHASE CROSS SWITCHED MLI

[1]Dr.C. Krishnakumar, [2]Atchaya.S, [3]Becca.R, [4]Bhuvaneswari.S, [5]Meenatchi.V

[1]Prof & HOD, [2,3,4,5]UG Scholar, EEE, Saranathan college of Engineering

[1]krishnakumar-eee@saranathan.ac.in

Abstract: The industrial developments forge to propel a modernize world and enhance a large degree of comfort to the society. The electronic industry appears to support developments in terms of new power devices with high power rating and reduced blocking voltages. The advancement of power converters gives hands to strength an interface to offer the desired characteristics for the ineffaceable operation of the domestic and industrial systems. The need for a variable frequency and amplitude Alternating Current (AC) supply voltage attaches a stronger importance on the role of power converters and directs to continue exploring substitute in this direction. The option extends to alleviate the birth of new topological structures and derive modifications to the scope of control mechanisms. It however requires a methodical formulation and a facility to examine the suitability for use in the real world. The thesis revolves around the formulation of a Pulse Width Modulation (PWM) and suggests modifications to arrive at hybrid approaches to turn on the devices. It incorporates changes to the traditional Multilevel Inverter (MLI) topology and gets on to propel new configurations in a push to target higher levels of performance.

CENTRED SOURCED MULTILEVEL BOOST CONVERTER

V.Abhirami[1], P.Harshini[2], M.Keerthana[3], S.Keerthimalini[4], M.Marimuthu[5]

[1,2,3,4]UG Scholar, [5]Assistant Professor, Electrical and Electronics Engineering, Saranathan College of Engineering, Trichy, Tamil Nadu, India

[1]vabhirami@ymail.com

Abstract: Centred Sourced Multilevel Boost Converter topology is proposed. The output voltage from sustainable renewable energy sources like photovoltaic cells and other fuel cells are very low. A centred sourced multilevel boost converter was proposed to provide an effective solution to renewable sources. The major advantages of this topology are to reduce input current stress with high gain and a large conversion ratio without extreme duty cycle which allow high switching frequency. The proposed converter is simulated and prototyped.

DESIGN AND IMPLEMENTATION OF INTEGRATED WATER SYSTEM MANAGEMENT USING IOT

Gayathri N[1], Aravindh V[2], Mohamed Nasrullah N[3], Chandramohan P[4], Eswar M[5]

[1]Assistant Professor, [2,3,4,5]UG Scholar, Department of Electrical and Electronics Engineering, Saranathan College of Engineering

[1]Gayathri-eee@saranathan.ac.in

Abstract: Due to increasing levels of water scarcity and demand growth, the provision of water with good quantity has become an essentiality. Enhanced water monitoring systems are installed with an online service system is which enables the local municipal officials to monitor the usage levels of the consumers and additionally it provides hands on information on the quality of water being used in their household with a waste water reuse model. Whenever an abnormal condition arises in the water supply system, the officials and the consumers are notified through the online service which develops transparency on the management side. This comprehensive and low-cost system greatly helps the residential consumers to avoid any mishappening due to poor water quality and increase the lifetime of their water supply systems thus ensuring transition towards smart homes.

AGC OF MULTI AREA MULTI SOURCE ELECTRIC POWER SYSTEM WITH DIFFERENTIAL EVOLUTION ALGORITHM BASED PID CONTROLLER UNDER DEREGULATED ENVIRONMENT

B. Prakash Ayyappan[1], Dr. R. Kanimozhi[2]

[1]Part-time Ph.D Scholar (Electrical), Anna University, Chennai-25

[2]Assistant Professor (EEE), Anna University (BIT Campus), Tiruchirappalli-25

Abstract: In an interconnected multi-area deregulated power system to improve the dynamics of AGC such as improving the transient response of frequency and tie-line power oscillations and optimizing the power generated by various GENCOs according to the bilateral contracts scheduled between GENCOs and DISCOs. This paper presents an algorithm for solving optimal power flow problem through the application of Differential Evolution. The optimal electric power flow is obtained by using DE method and the performance of the controller is investigated on a three-area interconnected power system consisting of Thermal-Thermal-Thermal unit in one area, Hydro-Thermal unit in the second area, and Thermal-Hydro unit in the third area. Simulation results have shown that the bilateral contracts are implemented in the system. The new Differential Evolution Algorithm (DEA) method is used for designing the concept of Automatic Generation Control (AGC) of hydro-thermal system which is under open market scenario. Open transmission access develops gradually with more socialized companies for generation, transmission and distribution which generally affect the formulation of AGC problem. The simulation results by the use of MATLAB simulink show the effectiveness of DE-PID controller considered and executed appropriately, which improves the performance based on metrics such as frequency and Tie line power deviations.

ACCELEROMETER GESTURE CONTROLLED ROBOT USING ARDUINO

Dr.S. Vijayalakshmi[1], B.Dhanraj[2], K.Irshath Ali[3], S.Karthick[4], T.Mohamed Faizal[5]

[1]Associate Professor, [2,3,4,5]UG Scholar, Department of EEE, Saranathan College of Engineeing

Abstract: A gesture-controlled robot is a kind of robot which is controlled by the gesture, but not by the traditional button/remotes. The user have to wear a small transmitting device known

as accelerometer in our case and this will records the movements of our hands and send the signal to the comparator IC which compares the input voltages for acceleration with a reference voltage and pass it to the encoder IC which is used to encode 4 bits data and this will be transmitted by a RF transmitter. At the receiving end there is a RF receiver which receives the encoded data and passes it to the decoder IC. The decoder decodes and converts the 4 bits serial data into parallel data and send to the microcontroller. The data is then processed by the microcontroller and shifted to the motor driver and hence motor driver rotates the motor as per the signal or movement of hand.

IOT BASED SMART VEHICLE OVER-SPEED ACCIDENT DETECTION AND RESCUE SYSTEM

Dhurga Devi.A[1], Kanimozhi.SA[2], Madhuranthagi.T[3], Vijay R[4]

[1,2,3]UG Scholar, [4]Assistant Professor, Electrical and Electronics Engineering, Saranathan College of Engineering, Trichy, Tamil Nadu, India

Abstract: The objective of the smart vehicle is to provide detection and report of accidents. This system is built by utilizing the Sensors, wi-fi enabled processor, and cloud computing infrastructures. The erratic variations are monitored continuously by the processor in which the vibration values are communicated by the accident detection system. Using the cloud-based service the details of an accident occurred where send to the emergency contacts. The vehicle location is captured by the use of Global Positioning System. The application named Cayenne delivers the information about the accident system in reliable and in fast manner. Thus, a smart vehicle for accident detection is built by using the ubiquitous connectivity for small cities which is the salient feature.

A SURVEY ON PREDICTION OF HEALTH INSURANCE FRAUDS USING MACHINE LEARNING

Saravanan Parthasarathy[1], Arun Raj[2], Lakshminarayanan[3], Selvaprabu Jeganathan[4]

[1,2,3,4]B.S.Abdur Rahman Crescent Institute of Science and Technology, Chennai

[1]saravanan_cse_2019@crescent.education

Abstract: The health care providers are saving millions of lives every year. At the same time, the costs of medical treatments are getting pricier day by day. People are tackling this issue by

subscribing proper medical insurance schemes. On the other hand, the fraudulent health insurance claims keep on increasing. It affects the insurance company, health care providers and general public. The financial institutions are employing the machine learning techniques to dissever the medical and financial data, and forecasting the possibilities of fraud. In this study we have analyzed the usage of machine learning techniques in health care insurance frauds. This review has been limited to past five years of research works. The results of this survey indicate that the machine learning models are very successful in predicting the health care insurance fraud. The accuracy of machine learning models is progressed by implementing new techniques and approaches. The machine learning methodologies are not only saving insurance institutions from losses; they are also ensuring the wellness of the people.

INTERNET OF THINGS BASED ADVANCED ENERGY METER

P.Priyadharshani[1], S.Selvashanthini[2], S.Suruthi[3], M.Swarnasri[4], Dr.M.V.Suganyadevi[5]

[1,2,3,4]UG Scholar, [5]Associate Professor, Department of EEE, Saranathan College of Engineering

[1]priyapblossom@gmail.com

Abstract: As the population increases, especially in countries like India, the electricity theft and human assistance for recording the energy meter reading are the two major problem encountered by both the consumers and electricity board. This human assistance not only increases the labor cost but also liable to lot of errors. In this paper, both this problem are identified and rectified by an advanced energy meter using Internet of Things. In addition to this, whenever overvoltage condition occurs an indication is sent to the respective consumers. This also helps the utility to disconnect the services of consumers who has not made the payment and resume the services after the payment from the remote area. This energy meter is designed for automatic calculation of voltage and current used by the consumers. In this meter the energy used, energy theft and over voltage conditions are continuously indicated using an LCD display. This energy meter is based on IoT, which makes it easier to send message to the controlling utility and the consumers through ESP866 WiFi module. As the PIC16F877A microcontroller is used for controlling which makes it really affordable. The most appealing feature is that it can effectively act as an alternative to conventional energy meter at low cost and can have access to remote consumers without human intervention.

IMPLEMENTATION OF SOLAR STOVE USING SOLAR POWER

Nethra.M[1], Pragatheeswari.G[2], Shahanaz Mariyam.M[3], Yuvasri.M[4], Marimuthu. M[5]

[1,2,3,4]UG Scholar, [5]Assistant Professor, Electrical and Electronics Engineering, Saranathan College of Engineering, Trichy, Tamil Nadu, India

[1]jaya98nethra@gmail.com

Abstract: Our society depends mostly on fuel for cooking purpose. As we are importing the fuel from other countries, the cost of transporting is expensive. To overcome this scenario we have implemented an idea to use renewable resource in the place of non-renewable resource. We have planned to design an electric stove. The stove is designed in such a way that burner is supplied with the PV panel. In this project there is an implementation of maximum power point tracking (MPPTs) algorithm for a PV system so as to extract maximum power from the solar arrays during unfavourable conditions. Also the effect on V-I and V-P characteristics of PV array module due to change in irradiance and temperature are delineated. The P&O MPPT technique is a direct control method enables ease to implement and less complexity. We have designed boost converter depending on the rating of PV panel. The boost converter is placed in between the PV panel and the load.

IMPLEMENTATION OF P&O ALGORITHM FOR MULTI CASCADED-BOOST CONVERTER

[1]Reka.J, [2]M.Marimuthu

[1]Assistant Professor, Cauvery college of engineering, Trichy, [2]Assistant Professor,EEE, Saranathan college of Engineering

[1]Reka.zenith@gmail.com

Abstract: This paper deals with P&O algorithm for Maximum power point tracking,MPPT along with Multi Cascaded Boost Converter. In order to attain the Maximum power and high voltage gain respectively. MPPT, plays a vital role in Photo Voltaic power system as they provide the maximum power output for PV System for different weather conditions and thereby gives improved array efficiency. Here the objective is attained by Perturb & Observe algorithm for MPPT is used to track maximum power and Multi cascaded Boost Converter for High Voltage gain. The input current is uninterrupted and attain large gain without high duty cycle

and without transformer allowing high switching frequency are the main merits of this topology. The MATLAB/SIMULINK is used for Testing and Implementing the required objective. The algorithms are written in m-file of MATLAB.

ANALYSIS OF DIFFERENT APPROACHES FOR DYNAMIC POWER DISSIPATION IN DIGITAL CIRCUIT

[1]Dr. Lokesh C, [2]Channakka Lakkannavar, [3]Dr. Rekha K. R., [4]B V Manjula

[1]Associate Professor, Department of Electrical and Electronics Engineering, Vidyavardhaka College of Engineering, Mysuru, Karnataka, India. lokesh.c@vvce.ac.in

[2]Assistant Professor Department of ECE , SDMCET, Dharwad, Karnataka, India

[3]Professor, Department of Electronics and Communication Engineering, SJBIT, Bangalore, India.

[4]Associate Professor Department of Electronics KVT Polytechnic, Chikkaballapura, Karnataka, India.

Abstract: Conventionally, the main developing purpose in the analysis is related to implement with optimal area and throughput, the latter is correlated in line with the longest path starting from input at the primary input of combinational logic circuits to its output terminals, and it depends on the minimum execution time span of one clock cycle for a sequential circuit. This article proposes a advanced synthesis approach or algorithm which regulates the consumption of power in the logic circuits with the reduction in number of switches, and it is one of the imperative aspect in the analysis of dynamic power synthesis.

ELIMINATION OF VOLTAGE SAG AND HARMONICS IN INVERTER OF DISTRIBUTED POWER GENERATION SYSTEM

Santhosh R[1], Siddharthan M A[2], Shyam Antoni S[3], Sudharson N A[4]

[1,2,3,4]UG Scholar, Department of EEE, Saranathan College of Engineering

[1]ravisanthosh053@gmail.com

Abstract: In distributed power generation system several problems occur. They are power quality problems like harmonics, frequency & voltage fluctuation , power fluctuation, storage, protection issues, islanding and stability control .Our objective is to simulate and build a

prototype to eliminate voltage sag and harmonics in inverter of distributed power generation system .Due to sudden increase or decrease in load there occurs voltage sag or swell. The Voltage sag is mitigated by using Space vector pulse width modulation method in inverter circuit. The harmonics due to load and power electronic devices used in inverter circuit is reduced by LC filter.

SECURITY AND SELF DEFENCE SYSTEM FOR WOMEN USING RASPBERRY PI

[1]Mohamed Suhail, [2]Shanmugarajeshwaran, [3]Chandrasekar, [4]R.Sridhar

[1,2,3,]UG Scholar, [4]Assistant Professor, Department of EEE, Saranathan College of Engineering

[1]suhail.mohamed173@gmail.com

Abstract: The scope of the paper is to provide efficient protection for women. Women all over the world are facing unethical physical harassments. Even the minors were being raped and murdered cruelly. This paper proposes the quick responding mechanism using Raspberry pi 3 that helps women during trouble, when she feels unsafe or someone following. Under this circumstance, she has to press the emergency button which will activate the whole system. The GPS will track the location and send a SMS to the nearby police station and to the stored contacts. Also, the programmed camera rev 1.3 will capture nearby images of the victim and it is sent to an email. The screaming alarm will get the attention of the nearby surrounding which will help the women.

STEP-DOWN DC-DC CONVERTER WITH CONTINUOUS OUTPUT CURRENT USING COUPLED-INDUCTORS

G.Sriram[1], A.Parthasarathy[2], S.Vignesh[3], A.Tamizhazhagan[4], R.Sridhar[5]

[1,2,3,4]UG Scholar, [5]Assistant Professor, Department of EEE, Saranathan College of Engineering

[1]gsriram9806@gmail.com

Abstract: This paper proposes a step-down DC-DC converter with continuous output current which utilizes coupled inductors. The main feature of the proposed converter is applying the same number of switches as that of synchronous buck converter. On account of the extension of the duty cycle, the Synchronous Rectifier (SR) switch voltage stress and the main MOSFET

current stress are significantly reduced. However, the main MOSFET voltage stress increases due to the discharge of the leakage inductance energy. The proposed converter attains high efficiency by the extended duty cycle, low number of switches, and soft switching operation while the converter driver is just like the conventional buck converter. Due to the single-phase structure, this converter is a possible alternative to the buck VRM. The complexity of coupled inductors design and the space occupied by coupled-inductors can be considered as drawbacks similar to the other converters using coupled-inductors. To verify the converter operation and the theoretical analysis, a prototype of the introduced converter is implemented.

AN OPTIMIZED DETECTION CLASSIFIER MODEL FOR MULTIPLE POWER QUALITY DISTURBANCES

B. Devi Vighneshwari[1], Jayakumar N[2], Nisha C.Rani[3]

[1,2,3]Assoc. Prof, Dept of Electrical & Electronics Engg, The Oxford College of Engineering, Bangalore, India

[1]devieeetoce@gmail.com, [2]jaykumartoce@gmail.com, [3]nishashamin@gmail.com

Abstract: Today's world is witnessing the growing demand of power and it has become very tough task to fulfill this demand. But the generated power is facing quality issue due to occurrence of disturbances in the power signal. The existences of nonlinear load in a power system are the main reason for these power disturbances. Hence, every power supplier as well as consumers are thinking of better quality of power. Thus, to improve the power quality continuously better power monitoring is required at consumer end. Hence, power quality disturbance detection and classification is highly desirable. Most of the power disturbances are transitory and non-stationary in nature which requires efficient techniques and tools for power quality disturbance analysis. From the analysis it is found that if the power disturbances are existing with noise, then it is very hard to extract features vector and which may degrade the classification accuracy. This paper introduces an artificial neural network (ANN) based feed forward model by using wavelet transform where number of power quality events are generated and wavelet decomposition mechanism to achieve accurate power disturbance detection. This proposed model adopts Short Time Fourier Transform (STFT) approach and a simple feature extraction approach that mainly enhances the accuracy level to highest degree. Also, a novel approach for the detection and classification of single and multiple power quality (PQ) events is proposed using a Sequential Ant Lion Optimizer and Recurrent Neural Network (SALRNN) technique. These techniques have been well tested on transient, sag, swell, harmonics and their

combinations in real time. From the analysis of the proposed feed forward model of classification it is found that feed forward model-based ANN is accurate than other fitnet ANN and radial basis ANN. Compared to existing systems, the proposed model gives efficient range of disturbances. To test the proposed approach, the waveforms of the PQ events are executed in MATLAB/ SIMULINK working stage. From the simulation results, it can be seen that the proposed approach is effective for the detection and classification of single and multiple PQ events and guarantees the system with lesser complexity hence the accuracy of the system is raised.

ANALYSIS OF CLASSIFICATION MODELS TO PREDICT THE POST GRADUATE ADMISSIONS

Selvaprabu Jeganathan[1], Arun Raj Lakshminarayanan[2], Saravanan Parthasarathy[3], K. Martin Sagayam[4]

[1,2,3]B.S.Abdur Rahman Crescent Institute of Science and Technology, Chennai , [4]Karunya Institute of Technology and Sciences, Coimbatore

[1] elva_cse_phd_17@crescent.education

Abstract: Decision making using data mining techniques is being used in many business units. Educational institutions slowly started the implementation of business intelligence techniques to identify the various factors that have an impact in educational performance. By applying datamining techniques on academic data, we can identify different patterns which aids institutions to take strategic decisions to improve the students' academic performance which is directly related to their academic admissions. Potential graduate students will have a dilemma on identifying the universities for their post graduate admissions and on the other hand an average graduate student will be uncertain on acquiring post graduate admission based on their academic scores. In this paper we apply following classification techniques such as Logistic Regression, KNN Classification, Support Vector Classification, Naive Bayes Classification, Decision Tree Classification and Random Forest Classification on the given academic admission dataset. We compute the accuracy, absolute mean error for the different models and associate their performance to classify the best performing model. The Logistic Regression classifier produced a top result with an accuracy level of 73 percent. This method could be helpful for the students to classify them whether they can get their post graduate admission.

A DIRECT PULSE WIDTH MODULATION STRATEGY FOR THREE PHASE CROSS SWITCHED MLI

Dr.C.Krishnakumar[1], Dr.S.Thamizharasan[2], S. Atchaya[3]

[1]Professor, [2] Associate Professor, [3]Ug Scholar, Department of EEE, Saranathan College of Engineering, Tiruchirapalli.

Abstract: This paper fosters a new Pulse Width Modulation (PWM) strategy to generate PWM pulses without the aid of carrier and reference signals for the proposed cross switched MLI. This method centres to avail the phenomena of equal area criteria to compute pulse width for required PWM pattern to attain the desired output voltage. The proposed methodology is verified using MATLAB based simulation for proposed five level MLI and the experimental investigation is carried out for 1 kW MLI with the PWM pulses used to buffer the switching devices are acquired through Xilinx Spartan 3E FGPA controller. The experimental results accorded with simulation results.

DESIGN AND DEVELOPMENT OF SEPIC CONVERTER FED BLDC MOTOR DRIVER FOR PHOTOVOLTAIC APPLICATION

Dr. M. V. Suganyadevi[1], L. Ajay[2], T. Ananth[3], N. Balaji[4], K. Mathavan[5]

[1]Associate Professor, [2,3,4,5]UG Scholar, Department of EEE, Saranathan College of Engineering, Tiruchirappalli

Abstract: This paper presents a solar photo voltaic (SPV) array fed through SEPIC and Permanent Magnet Brushless DC motor driver to PMBLDC. Even though PMBLDC driver design part is quite complicated, it's mostly preferred because of its efficiency and High-Power density in now a day, Here BLDC Motor is used for low voltage fan application. 3-phase voltage source inverter used as electronic commutation is connected to the stator winding of the BLDC motor. Since the Input side requires low voltage DC normally the household fan application. DC that fed to BLDC through three phase VSI, here we need a DC-DC SEPIC converter to provide constant DC voltage at output. This paper mainly proposes a PV cell integrated SEPIC converter feeding a rated voltage to BLDC motor. MATLAB/SIMULINK based model is developed and simulation results are presented.

DESIGN AND IMPLEMETATION OF STANDALONE PV BASED AIR COOLER

Hariharan.K[1], Aadhi mathavan.K[2], Kalaiyarasan.R[3], Karthikeyan.K[4] Paranthagan.B[5]

[1,2,3,4]UG Scholar, [5]Associate Professor, Department of EEE, Saranathan College of Engineering

[1]harieee2020@gmail.com

Abstract: This paper is about designing and developing of PV based Air cooler without access of grid system. It is mainly used for industrial and working areas where we can reduce the power usage. Air blower is coupled with PMDC motor and speed is controlled with Arduino UNO controller which is cost efficient and simple in programming. DC-DC buck converter is placed between PV panel and PMDC motor for step down of input voltage from PV panel. The performance of the proposed system is simulated in MATLAB/ Simulink environment and the results are validated.

TRANSFORMERLESS INVERTER TOPOLOGY FOR SINGLE PHASE APPLICATION WITH ELIMINATION OF LEAKAGE CURRENT

Dr.K.Rajkumar[1], R.Manikandan[2], T.Nidhish[3], N.Sethulakshmanan[4], M.Prasanth[5]

[1]Assistant Professor, [2,3,4,5]UG Scholar, Department of EEE, Saranathan College of Engineering, Tiruchirappalli

[1]rajkumar-eee@saranathan.ac.in

Abstract: Various disadvantages such as increased weight, size and cost of single-phase photovoltaic converter with transformer has urged the design engineers towards to the transformer less topologies. But, the main challenge of transformer less inverter topology is leakage current. In recent years, many leakage current reduction techniques have been addressed. Many of them are of galvanic isolation. Nevertheless, the galvanic isolation can not only results the constant value of common mode voltage (CMV). Hence, it is not possible to achieve complete leakage current elimination. In this work, a transformer less single phase inverter with a clamping method is proposed to obtain constant CMV in all its operating modes. Additionally, a modified modulation approach is also proposed to enable a current path during the negative region of power. Consequently, it is possible to achieve reactive power region by the enabled bidirectional current path in the negative region of power. The result shows the

complete clamping of the CMV and reactive power generation by the proposed system. Improved efficiency and reduction of harmonic distortions is also achieved.

DESIGN OF KNOWLEDGE BASED AGRICULTURE AND ENERGY MANAGEMENT SYSTEM

G. Ramapraba[1], R. Satheesh[2], G. Saranya[3], Sathya Uma[4], S.Sivapriya[5]

[1,3,4,5]UG Scholar, [2]Assistant Professor, Department of EEE, Saranathan College of Engineering

Abstract: Smart agriculture is an emerging concept, because IOT sensors are capable of providing information about agriculture fields and act upon based on the user input. The system has duplex communication link based on a cellular- internet interface that allows for data inspection in nutrition level checking and scheduling to be programmed through an android application. It is also managing the power from renewable energy source that would be implemented in the automatic functions of light and fan. If any discrepancy sends a SMS notification as well as a notification on the application developed for the same to the farmer's smart phone. Agriculture plays a vital role in India's economy. It is the main source of earning of Indians. Energy management includes planning operation of energy production and energy consumption units.

BRIDGELESS BUCK RECTIFIER FOR LED APPLICATIONS

C Pearline Kamalini[1], R V Nirubhanjali[2], S Soundharya[3], J S Suruthi[4], S Valliammai[5]

[1]Assistant Professor, [2,3,4,5] UG Scholar, Department of EEE, Saranathan College of Engineering

[1]pearline-eee@saranathan.ac.in

Abstract: A high quality bridgeless buck rectifier for PFC with single inductor is designed which considerably increases the efficiency by reducing the number of conducting semiconductor components. The low utilization of the magnetic component in the conventional bridgeless buck rectifier increases performance. The proposed rectifier's efficiency is further improved by eliminating input bridge diodes. Also, the rectifier doubles its output voltage, which extends useable energy of the bulk capacitor after a drop-out of the line voltage. The simulation of open loop controlled bridgeless buck PFC rectifier with single inductor and modified converter is performed in MATLAB software hence its operation is verified.

Converters usually buck consisting of LC input filter operating in discontinuous capacitor voltage mode has inherent power factor correction properties and continuous input current. The measurement results show that the proposed rectifier has nearly unity power factor. THD less than 1% and high efficiency. It is used for 12V LED applications.

DESIGN AND FABRICATION OF POWER ELECTRONIC INTERFACE FOR FIXING AND REMOVAL OF BEARING AND COUPLING IN MECHANICAL SYSTEM USING INDUCTION HEATING

A.E. Manish[1], B. Antony Rozario Gnanaraj[2], S. Ganesan[3], Dr. S. Vijayalakshmi[4]

[1,2,3,4]UG Scholar, [5]Associate Professor, Department of EEE, Saranathan College of Engineering

[1]manishanand.ae@gmail.com

Abstract: The main objective of the project is to solve the difficulty in removing bearing and coupling in commercial industries where machines like motors play at large. The proposed project is a safe device, hygienic, frugal and non-destructive equipment which employs induction heating to remove said bearing from shaft or fit it in a shaft, with ease. For the power electronic interface Matrix converters (MCs) are used, which perform direct ac–ac power conversion employing an array of bidirectional switches, without any intermediate dc-link. Matrix Converters have become an attractive solution to the problem thanks to their advantages, which include a simple and compact power circuit design, four quadrant operation, sinusoidal input currents and controllable input power factor (IPF).

DESIGN AND IMPLEMENTATION OF CENTRAL SOURCE MULTILEVEL BOOST CONVERTER WITH FUZZY LOGIC CONTROLLER

M. Gomathi[1], M. Marimuthu[2]

[1]PG Scholar, [2]Assistant Professor

[1,2]Department of EEE, Saranathan College of Engineering, Panjappur, Trichy 12.

[1]gomathikms@gmail.com , [2]marimuthu-eee@saranathan.ac.in

Abstract: This paper proposes the central source multilevel boost converter (CMBC) with FLC. The presented CMBC topology including customary step up converter and voltage double

stages to give different output voltages, uses one inductor, one switch along with (2N-1) capacitors and (2N-1) diodes for achieve an N times the customary step up output voltage. In this topology each device obstructs only one voltage level, accomplishing high voltage converter with low voltage devices. A five level CMBC is designed and simulated in this paper. A fuzzy logic controller is employed to control the output voltage of the boost converter. Simulation and experimental results show that fuzzy logic-controlled boost converter has fast transient response, and better steady-state response. Uninterrupted input current and large gain without enormous duty cycle and without transformer allowing high switching frequency are the main merits of this topology.

IMPLEMENTATION OF FUZZY SYSTEM ON INTELLIGENT SOOT BLOWING DESIGNING FOR THERMAL POWER PLANT MODERNIZATION

S.Sambhu Prasad[1], Subodh Panda[2], D.Sirisha[3]

[1]Professor Mech. Engg, [2]Professor ECE, [3]Assoc. Professor IT, Pragati Engineering College, Kakinada ,AP

[1]drssp123@gmail.com, [2]subodh.panda@gmail.com

Abstract: Present scenario thermal power plant has many more challenges with respect to its generation in best possible and efficiently way. So, sustainability of power plant now a day's depends on adaption of optimal availed technology and focusing on individual operation point on perfect manner. This work concentrated on one of most undesired indirect losses station called as blow down operation. Till now no such predefine model available for optimize shoot blowing and its utilization to enhance overall power plant efficiency.

Effective data preparation and corresponding simulation provide a best model of intelligent soot blowing structure, At present almost the power plant follow-up the time scheduling process for blowing, which causes many unnecessary losses and decrease operation potentiality. This research work proposed fuzzy system adaption for soot blowing optimization. Since fuzzy technique has the capability of tolerance of impression, uncertainty and partial truth to achieve robustness, with low-cost designing. There for this fuzzy based modelling prove to be best in practice for required cleaning of individual and corresponding soot blowing process. This also improves boiler efficiency through improving operational behaviour on reducing NOX emission, lower the cause which affects the activity of soot blower.

MODIFIED SINGLE SOURCE MULTI LEVEL INVERTER FOR HYBRID ENERGY SYSTEMS

P.Ramprakash[1], G.Devadharshini[2], B.Haripriya[3], G.V.Hemadharshini[4], D.Keerthana[5]

[1] Assistant Professor,[2,3,4,5] UG Scholar, EEE, Saranathan College of Engineering, Trichy

Abstract: The Application of Renewable Energy Sources increases rapidly on the limited availability of fossil fuels and the environmental awareness over the decades. Hybrid System uses two or more input sources for the single output and this is normally used over the limited availability of renewable energy sources. Wind Energy and solar Energy are normally used as sources in hybrid energy system whereas fuel cells are also used in some limited applications. This paper proposes a multilevel Inverter system for hybrid energy sources with unequal voltage values. The proposed converter is explained with and without Boost operation. This paper also proposes a suitable PWM technique to control the voltage and frequency of the system and also to make the system ready for grid connection. The MATLAB/ Simulink simulation with the results are presented to validate the performance of proposed multilevel inverter system.

WORST CASE ANALYSIS FOR SYNCHRONOUS BUCK CONVERTER BASED ON EXTEREME VALUE ALGORITHM

[1]Dr. M. Shyamalagowri, [2]V. V. Nijil

[1]Associate Professor,[2]Research Scholar, EEE, Erode Sengunthar Engineering College

[1]mshyamalagowri2011@gmail.com

Abstract: This paper deals with the Worst Case Analysis (WCA or WCCA) for a synchronous buck converter based on Extreme Value Analysis (EVA). The Worst Case Analysis will carry over analysis on the circuit against the variations in operating temperature, component value changes, humidity, radiation, etc. WCA is to be done for electronics circuit before going for bulk manufacturing the board. Worst Case analysis examination is utilized to recognize the most basic parts which will influence circuit execution. At first, an affectability investigation is run on every individual segment which has a resilience allocated. The part esteem is successfully pushed toward both of its resistance limits by a little level of its incentive to see which breaking point would have the most impact on the most pessimistic scenario yield. A Worst-Case investigation is then performed by setting all the segment esteems to their end

resilience limits which gave a sign of the most pessimistic scenario results. So as to lessen the quantity of reproduction runs, grouping capacities can be utilized to distinguish contrasts from the ostensible most pessimistic scenario yield, for example, least, greatest, or limit contrasts.

USING SOFT COMPUTING TECHNIQUES MEASUREMENT OF VOLTAGE STABILITY OF THE POWER SYSTEM

M.V.Suganyadevi[1], Perumal Raja.S[2], Pradeep.P[3], M.Vasanth[4], M.Viswanathan[5]

[1]Associate Professor, [2,3,4,5]UG Scholar , Electrical And Electronics Engineering, Saranathan College of Engineering, Trichy, Tamil Nadu, India

Abstract: In this paper we propose measurement-based voltage stability using different soft computing technique for estimating the output data of the voltage stability margin. In the conventional method of monitoring of the voltage stability limits of the power system through different lines to busses consumes more time to get the desired values for the analysis. In this method we use some of the optimization techniques such as Support Vector Regression (SVR), Artificial Neural network (ANN) to obtain more specific results in a limited time frame. We use IEEE 30-bus system for testing.

A HIGH GAIN MULTILEVEL DC-DC ZETA CONVERTER FOR HIGH VOLTAGE APPLICATION

S.Srinithi[1], M.Marimuthu[2], Dr.S.Vijayalakshmi[3]

[1]PG Scholar, [2]Assistant Professor, [3]Associate Professor, Dept.of EEE, Saranathan College of Engineering, Tiruchirappalli, India

[1]ssrinithiselvi@gmail.com

Abstract: The presented paper is an endeavour to propose a high gain refitted Zeta converter with a voltage multiplier cell. The proposed circuit is a blend of changed variant of customary zeta converter and a voltage multiplier unit. The voltage addition of a proposed refitted zeta increases to n time of voltage gain by expanding n time of multiplier unit. The upside of projected converter is decreased voltage worry across switch that concludes superior proficiency and colossal gain is expanded without upsetting the primary circuit. Right now, the detailed analysis of proposed converter with numerical examination is finished with the help of MatLAB/ Simulink. The scientific investigation and the results approve the usefulness of a projected converter.

REGENARATIVE CONTROL OF ELECTRIC TWO-WHEELER USING SUPERCAPACITOR

L.Pradeepa[1], X.PrecillaPoorani[2], DR.K.Rajkumar[3],S.Vijayalakshmi[4]

[1,2,4]UG Scholar, [3]Assistant Professor, Electrical and Electronics Engineering, Saranathan College of Engineering, Trichy.

Abstract: In the present era, Electric vehicle is the perfect replacement of internal combustion engine vehicle for the betterment of eco-friendly environment. By using gasoline engine driven vehicle, which are the major issues to the emission of greenhouse gases. In this regard, EV plays a dominant role under the concentration of dependency of foreign oil, cost etc. EV uses electric braking system namely regenerative braking, rheostatic braking and plugging. Regenerative braking can absorb and stores energy.

AUTOMATED EPILEPTIC SEIZURE DETECTION USING WHALE OPTIMIZATION BASED RANDOM FOREST CLASSIFIER

A. Phraeson Gini[1], Dr. M P Flower Queen[2]

[1]Research Scholar, [2]Associate Professor, Noorul Islam Centre for Higher Education, Noorul Islam University, Kanyakumari.

[1]Pingmehere2020@gmail.com

Abstract: Epilepsy is a neurological disorder which creates severe effects to human brain. The Electroencephalogram (EEG) may reveal a pattern that tells physicians whether an epileptic seizure is likely to occur again. EEG testing may also help the physician exclude other conditions that mimic epilepsy as a reason for the seizure. Now-a-days the researchers are showing much interest in these seizure detections because of its significance in epileptic detection. This paper is addressing an efficient soft computing framework for seizure detection from the EEG signal. The proposed pipeline of work is having the state-of-art as the possibility of achieving the maximum accuracy. The spectral features extracted from the Intrinsic mode functions (IMF) of EEG samples and it is directing the proposed flow towards the efficient detection of seizure and also the random forest algorithm-based seizure classification is reliable for because of its learning behavior from the huge number of known datasets. The feature selection algorithm in this proposed work is stimulating the overall work towards the maximum

true positive rate. This work is implemented on MATLAB platform and dataset were downloaded from the universal database such as Bonn university database. The results obtained from the proposed approach is showing the truthfulness of the approach introduced here.

LOW COST POWER QUALITY ANALYSER WITH DATA LOGGING

Ramprasath.S[1], Booma.G[2], Dharshini.R[3], Joicy.J[4], Nandhini.T[5]

[1]Assistant Professor, [2,3,4,5]UG student, Saranathan college of Engineering, Trichy-12.

[1]ramprasath-eee@saranathan.ac.in

Abstract: In this prototype, an automated smart remote metering system, low cost power quality analyser (LCPQA) is fabricated to measure true root mean square value of voltage, current and Power factor for small scale industries. The measurement system is an ARDUINO UNO based master-slave wireless technology that incorporates smart monitoring via Android mobile application. This wireless technology requires ESP8266 wifi module for transmitting and receiving data. The hardware model of the smart metering system senses voltage and current by graphical method to find true RMS values and calculates parameters like power, power factor and energy. Remotexy open source mobile android application act as a front end for remote monitoring and it helps to generate embedded code for data manipulation. As of now the data can be monitored within the wifi range. Further development is to collect data all over the world using cloud technology.

HYBRID ENERGY SOURCE BASED THREE LEVEL DC-DC CONVERTER FOR ELECTRICAL VEHICLES

Shenbagalakshmi

Associate Professor, SKN Sinhgad Institute of Tecghnology & Science, Lonavala

Abstract: To enhance the opulence of hybrid energy source in electrical vehicles and to have a sophisticated usage which results in bi-directional power flow capability with wide voltage conversion range thus a three-level dc-dc converter for electrical vehicles are proposed. This unique technology was extracted from buck and boosts three level dc-dc converter with high voltage gain and non-extreme duty cycle. One of the most critical issues for the environment today is pollution generated by hydrocarbon combustion, which is one of the main sources of power for transportation. In recent years, energy storage systems assisted by super capacitor

have been widely researched and developed to progress power systems for the vehicles. In this paper, a bi-directional DC-DC converter and its control methods are proposed. From the results of detailed experimental demonstration, the proposed system is able to perform adequate charge and discharge operation between low-voltage and high-voltage with drive vehicles and main battery. In a hybrid or electric vehicle, a dc-dc converter enables reduction of the size of the electric machine and optimization of the battery system. The experimental results validate the feasibility of the proposed topology and the correctness of its operating principles.

LINEAR CODES DO NOT ACHIEVE THE CAPACITY OF ASYMMETRIC THREE-INPUT DISCRETE MEMORYLESS CHANNELS

R N Krishnakumar

School of theoretical and experimental studies, KAS research labs Trivandrum, India

krishnakumar.rn@gmail.com

Abstract: We show that linear codes do not achieve the capacity of the asymmetric discrete memoryless Z channel. The proof is based on a connection between existence of capacity achieving linear codes for the Z channel and an achievable rate point for an associated two-way channel. The proof is then extended to general asymmetric channels. A result of this sort was established earlier by Ahslwede et al [2] but our proof is different and more insightful and slightly general. And our methods are quite interesting.

MICROCONTROLLER BASED SINUSOIDAL PWM SMART INVERTER

R. Balasubramanian[1], Rohit Mallya[2], Prabhakaran.S[3], Vignesh.S[4], Sachin.S[5]

[1]Associate Professor, [2,3,4,5]UG student , Saranathan college of Engineering, Trichy-12.

[1]balasubramanian-eee@saranathan.ac.in

Abstract: This paper represents the microcontroller based Sinusoidal Pulse Width Modulated Inverter for voltage sensitive equipment applications. The advantage of using microcontroller is the low cost and easy generation of Sinusoidal PWM signals. Microcontroller ARDUINO UNO is capable to generate the necessary Sinusoidal PWM signals using programming logic. The project mainly focuses upon providing a backup power to low power voltage sensitive equipment with onsite and remote sensing provisions and smartness to predict the approximate duration the local source (BATTERY) will support the equipment at the current load connected

to the inverter. It also estimates the duration for the battery to charge during the charging period. In our project the Sinusoidal PWM signal is generated using direct ARDUINO program and is generated at 20KHz. Here a constant frequency alternating current can be obtained be switching the MOSFET's which are controlled using the SPWM signals generated for switching using the ARDUINO and is driven by a driver circuit. The corresponding block diagram, flow chart, driver circuit, programming logic, hardware has been discussed. The circuit have been simulated for a resistive and Resistive- cum-Inductive load. The simulated and experimental results have been shown in the paper.

SINGLE PHASE MULTILEVEL INVERTER BASED ON A NOVEL SWITCHING SCHEME USING BUCK CONVERTER

[1]Sudharsan .N, [2]Paranthagan .B

[1]PG Scholar, [2]Associate Professor, Electrical And Electronics Engineering, Saranathan College Of Engineering,Trichy,India

[1]sudharsan171997@gmail.com , [2]paranthagan-eee@saranathan.ac.in

Abstract: This paper presents a single phase multilevel inverter (MLI) based on a novel switching scheme. This new idea produces a suggestive reduction in the number of power devices and capacitor required to implement multilevel output with battery powered application. The proposed scheme has two stages namely, DC-DC converter and Inverter. Multilevel are achieved for the inverter by altering duty cycle of the DC-DC converter. The proposed idea has been implemented in the MATLAB/SIMULINK environment and the results have been validated.

DESIGN AND IMPLEMENTATION OF OIL SLUDGE CLEANING ROVER

Balasubramanian R[1], Dinesh Kumar R[2], Kumaran R[3]

[1]Associate Professor, [2,3]UG Scholar, EEE, Saranathan college of Engineering, Trichy

Abstract: This paper describes and present the sludge cleaning robot used for cleaning sludge in the oil storage tank. It is designed for performing cleaning work instead of manual cleaning which will be low safety to the cleaning person, low efficiency, resource taken, long time for cleaning and environmental pollution problems. The robot system consists of transceiver (NRF24L01), dual axis XY joystick module, shovelling blade. Modular structures have been

adopted in our robot which makes assembling of all components. The robot can be moved in and around by spraying water in the tank to remove the unwanted particles and sludge. The sludge is removed and discharged by using a pump. This shows that the oil tank sludge cleaning robot is able to perform cleaning operation effectively and efficiently which prevents the harmful substances that affects the manual workers. As per the industries requirement this robot will reduce the interference of humans to perform the task.

ACTIVE BRIDGES BASED BIDIRECTIONAL DC-DC CONVERTER FOR SOLAR PV APPLICATION

Dr.M.V.Suganyadevi[1], S.Kamalakannan[2], C.Pearline Kamalini[3]

[1]Associate Professor, [2,3]Research Scholar

Department of EEE, Saranathan College of Engineering, Trichy, Tamilnadu.

Abstract: A New Proposed system is designed for performance improvement high-voltage conversion, and ripple factor minimisation. Demand on PV system is increasing day by day due to its low maintenance, and no emission of harmful gases. Batteries are incorporated with Bidirectional DC-DC converters, it provides constant power supply in the system. Batteries are charged in the day time and it is discharged in the cloud condition. It increases the complexity of the system. New system, active Bridges based BD Converters are designed for solar PV panel. These bridges are more convenient for transferring the regulated power flow in both directions of the system. Two H bridges are acting as power Controller in the BD converter. H Bridges are operating in high frequency, high frequencies reduce the size and weight of the system. Active bridges-based BD Converters are more suitable in both small residential houses and also in Big power plants. Unique characteristics of active bridge based on BD Converters are flexible in PV panels. Solar PV System always failed to give a constant power supply to the system, it is attained by connecting two active bridges-based BD converter.

A BI-STRUCTURAL CONVERTER BASED FOUR QUADRANT OPERATION OFPERMANENT MAGNET BLDC MOTOR

S.Rajalakshmi, Anna University, BIT campus, Tiruchirappalli

Abstract: In day today electricity scenario the power demand and the wastage of power is a major issue for home applications and industries. To overcome these drawbacks the research was directed towards the less power consuming and battery storage equipment. After a wide

range of research and developments, the field of magnetic materials with the power electronics controls to electric drive was significantly improved. In this paper, a Bi-structural bidirectional converter based permanent magnet brushless DC motor under four quadrant operations was introduced in which wastage of power is recovered back in an effective way and stored in the battery. In addition to abc and d-q models are carried out for driving the motor under different condition. The PWM controller produces a steady state control to the inverter and converter. The PWM will operate in both time domain as well as the frequency domain. The modelling of PMBLDC motor drive system with the controller was presented. For which the Bidirectional Converter with PDM unified Controller is used for driving the motor under different quadrant using MATLAB/SIMULINK. Based on the simulation results the proposed work is experimented through the hardware using PIC controller. The performance output of the proposed work is found feasible by the speed verses torque characteristics and four quadrant operation of the motor.

DESIGN AND ANALYSIS OF A NOVEL MULTILEVEL INVERTER FOR ISOLATED LOAD APPLICATION

[1]C.Keerthika, [2]S.RamPrasath

[1]PG Scholar, [2]Assistant Professor, Dept.of EEE, Saranathan College of Engineering, Tiruchirappalli, India

[1]ckeerth7@gmail.com

Abstract: In recent years, the demand and the quality requirements of electric power is more day by day because of highly sensitive electronic load. The customer equipment's are facing the problems such as reduction in life time, poor reliability and efficiency due to power quality issues. Power electronics plays a major role in interconnection the different power to satisfy the customer load demand. There are many power electronic converters are available. Out of these, inverters are too popular. Existing inverter has demerits of providing poor Total Harmonic Distortion (THD), large size of filter, more voltage stress across the power switches and power switches must operate at high frequency to get sinusoidal output. The above said problems to be reduced or eliminated by introducing the concept of mult inverter. There are many MLI topologies were evolved. But, cascaded type MLI is too popular, because which is developed from basic H-Bridge topology. Our proposed work is to develop a novel MLI topology to generate seven-level of ac output voltage with reduced switch count and to choose the best switching angle scheme to reduce (THD) of the multilevel inverter. The proposed inverter is to be simulated in MATLAB environment.

POWER CAPABILITY ENHANCEMENT WITH TCSC-UPFC COMBINED USING SOCIAL GROUP OPTIMIZATION

Sunil Kumar A.V, Dr.R Prakash, Dr.Shivakumar aradhya R S,Mahesh Lamsal
Department of Electrical and Electronics Engineering, Acharya Institute of Technology, Bengaluru-560107, India

Abstract: This paper includes the application of Social Group Optimization (SGO) technique to determine the location of the Flexible AC Transmission systems (FACTS) in the transmission line. Two types of FACTS devices, Thyristor Controller Series Compensator (TCSC), and Unified Power Flow Controller (UPFC) are considered. The impact of using a combination of TCSC and UPFC has been examined in minimizing the power loss and maintaining the voltage stability of the system. Simulations are performed on standard IEEE -6, IEEE-14, and IEEE-57 bus system.

ALGORITHMIC SKELETON FOR COUPLED NUMERICAL ANALYSIS OF SWITCHED RELUCTANCE MOTOR USING SOFT MAGNETIC COMPOSITE IRON POWDER

K.Vijayakumar[1], C. Shanmugasundram[2], A. Joseph Basanth[3], R. Karthikeyan[4]
Electrical Engineering SSMIET[1], MVIT[2], AU Dindigul Campus[3] , SVCE[4] Dindigul to Palani Highway, Dindigul-6240021&3, Chennai-6021174, Tamilnadu and Puducherry-6051072
k.vijaymec@gmail.com

Abstract: The applicability of Soft Magnetic Composite material to switched reluctance machine has been thoroughly investigated through a coupled field numerical simulation approach which validates electromagnetic-thermal-structural fields for an accurate analysis of switched reluctance machine. Methods for the electromagnetic thermal and structural simulations of two configurations viz (a) Switched Reluctance Machine made of sheet Steel (M19-SRM) and (b) Switched Reluctance Machine made of Soft Magnetic Composite material (SMC- SRM) have been presented along with the coupling procedure. The two dimensional electromagnetic- thermal-structural coupled field analysis treats the joule heat loss as heat source in order to determine the nodal temperatures through thermal analysis and is applied as body force loads in the subsequent stress analysis in various parts of the machine structure.

IOT BASED DIGITAL NOTICE BOARD

Mrs. V. Vinodhini, Gowthami.G, Ramya.S, Ridha Preen.C, Udhaya.S
University College of Engineering, Ariyalur
vinsjeyam@gmail.com

Abstract : The paper aims to present the technology on based online notice board using Internet Of Things(IOT). Smart notice board can be developed to make noticing system much simple and faster & cost effective with web & SMS interface the system is platform independent which overcomes the disadvantages of existing Noticing system. Web and SMS interface of system gives access to both IP based as well as cellular based network devices to provide input to the system. This prototype developed can be used to eliminate the need of huge bill boards thus it is also a better method of going green. The role of information and communication technologies in universities is not a new concept in the current world scenario and with the Indian government schemes such as "Digital India", it is now more approachable and executable. Here the old traditional bulletin notice board system provides the scope for digitalization with the replacement using a much faster and efficient electronic notice board which is a paperless and reduces the physical maintenance and operations. In this paper, the IOT based E-Notice board system is implemented in order to make our college digitalized. It consists of LED display board, LED display module microcontroller HD-W02, mobile phone with a developed app. The LED display board displays the information which is transmitted by using the android app (E-NOTICEBOARD) in the phone and the information is received by the microcontroller which has an inbuilt Wi-Fi receiver. Thus the received information is displayed on the Electronic Notice board by using IOT Technology.

Index Terms: IOT;Web; SMS

A CONTEMPLATE OF HIGH LEVEL DATA FLOW IN REVERSIBLE LOGIC GATES

Kirankumar Manivannan, Asst.Professor, Easwari Engineering College, Tamilnadu
Dr. M. Santhi, Professor and Head – ECE, Saranathan College of Engineering, Tamilnadu
kiransun5@gmail.com, santhiphd@gmail.com

Abstract: Reversible logic gates are particularly searched after for the future figuring headways as they are known to make zero power spread under perfect conditions. Reversible circuits hold ensure in cutting edge enlisting developments like low power VLSI, quantum figuring,

nanotechnology, optical handling, etc. Reversible logic gates require reliable contributions for reconfiguration of passage limits and garbage yields that help in keeping reversibility. By contrasting the different boundaries it is conceivable to comprehend individual door qualities. Through this a circuit's conduct can be investigated. The fundamental intention of this paper is by contrasting the high level computation gates which are utilized in the circuits. At that point the garbage output has been estimated. In this paper a survey has been taken of high level computation gates and comparison has been done with it's samples. A clear view of survey details has been given in a comparative table.

Keywords: High level computation, Garbage outputs, Quantum figuring, Reversible logic gates, Zero power dissipation.

A STUDY OF DATA SECURITY IN FOG COMPUTING

N. Shanmugapriya, P. Arul

Department of Computer Science, Government Arts College, Trichy, Tamil Nadu, India.

shanmugapriyaragu@yahoo.com, phdarul2004@yahoo.com

Abstract: In spite of the wide utilization of cloud computing, some applications and services still cannot benefit from this popular computing model due to innately problems of cloud computing such as undesirable latency, lack of mobility support and location awareness. As a result, Fog Computing is currently entice many researchers as it brings cloud services closer to the end users. The Internet of Things (lOT), current digitized intelligent connectivity domain, demands real time response in many applications and services. This furnish Fog Computing a suitable platform for achieving goals of autonomy and efficiency. Fog computing is still emit paradigm that demands further research. Among all the other issues customary in fog computing, security is the one of the blazing issues. The fog, existence closer to the end user, is more vulnerable than the cloud. The Biometric cryptography key is used to secure the scrambled data in the fog environment. The Biometric cryptography technique uses fingerprint, voice or iris as a key factor to secure the data encryption and decryption in the cloud server. Advanced biometrics are used to safeguard sensitive documents and valuables. A more instantaneous problem is that databases of personal information are targets for hackers. Biometric technology offers very constrain solutions for security. In the face of risks, the systems are convenient and hard to duplicate. Additionally, these systems will continue to develop for a very long time into the future.

Index Terms - Fog Computing, Cloud Computing, Biometric, Internet of Things.

USING BLOCKCHAIN BASED SECURITY FOR E-HEALTH DATA ACCESS MANAGEMENT

[1] S Renuka, [2] P Arul

[1] Lecturer, [2] Assistant Professor

Department of Computer Science,

Government Arts College, Trichy-22, India

[1] spkumarrenu@gmail.com, [2] phdarul2004@yahoo.co.in

Abstract: Growing healthcare is very essentials nowadays. Thus healthcare systems that require safely towards tampering and misuse of records. Here, we have proposed a method using blockchain to be tamper resistant and secure the information. So industries like healthcare, education, information technology and etc using this technology for secure data processing. Also it is increasingly getting interested from industries changing from centralized to decentralized systems. This connects all the functionalities of systems and computing. This proposed architecture introduces a new incentive mechanism for the creation of new blocks in the block chain. It converts all the information into chain of blocks and gives access rights to authenticated persons and open to further extensions. Thus our proposed architecture provide numerous opportunities for healthcare industry such as reduced transaction costs, increased transparency for regulatory reporting, efficient healthcare data management and healthcare records universality.

Keyword: Block chain, healthcare management.

AUTOMATIC VEHICLE ACCIDENT DETECTION AND RESCUE SYSTEM

[1]Reshma Radhakrishnan, [2]Livin Anto Nellisserry, [3]Muralikrishnan O, [4] Rojan Thambi,

[5]Dr.Parvathy M

[1,2,3,4] UG students, [5] Associate Professor, Department of ECE

SCMS School of Engineering and Technology,

meetparu.parvathy@gmail.com

Abstract: Road accidents are one of the most serious menaces which smash hundreds of lives every year. The biggest mistakes occur due to utter carelessness of the people who are unaware

about their enclosure due to the hallucinations induced in them by drugs & other distractions. In this moving world, people are highly focused to reach their destination at a faster pace & do not have enough patience to wait in the traffic lane till the green lights are turned on. People make progress to put others lives also in danger without overlooking into the consequences, for not following the traffic policies. People don't follow the speed limits & researchers have come up with ideas to lessen them. However rapid industrialization and population growth has turned the roads jammed up with more cars along the traffic lanes increasing death toll. So in order to lessen them advanced technologies has been incorporated. We have done a lot of studies based on the accident detection and prevention by having a closer look at various research IEEE papers. Hence our project deals with a mechanism which hence forth reduces the impact due to collision on the passengers, by changing their seat positions away from the area of the crash. It ensures safety of the passengers, & reduces the level of blow during an encounter. Automatic unlocking of doors and windows also takes place; once heavy threshold is detected. This plays a crucial role in order to take out the injured person safely and without any sort of risks. It helps to save the time for rescue operation as well as landing them in hospital. Our project has been implemented using the Arduino Uno and C++ code . The main objective of the system involves rescue part that provides the passengers with better safety at the time of an accident by reducing the impact caused .Our project reaches as an emergency button for people with avoidance and rescue as the main target. It also involves the detection part as well, done by using the Accelerometer, GPS and the GSM module to track the accident spot. Even though the cars are insured, a car crash may end up losing money, having injuries and post traumatic stress. Our main aim is to sort out these issues to a particular extent .Every year millions of the people die, approximately 1.5 million people die as per the latest WHO reports in 2020. It creates a lot of economic loss and lack of productivity from the affected victims. Detection, Avoidance & Rescue during the road disasters, hence would reduce the immense mortality rates as well.

Keywords: Rescue setup: Automatic sliding of seat position, Automatic unlocking of doors, Automatic opening of windows.

FPGA IMPLEMENTATION OF ENHANCED SPEED SYSTOLIC ARRAY MULTIPLIER USING PIPELINING APPROACH FOR MATRIX MULTIPLICATION

[1] S.Subathradevi, [2] M. Deepika Eswari, [3] M. Keerthana, [4] S. Mahalakshmi,

[1] Assistant Professor, [2, 3, 4] Student, Department of Electronics and Communication Engineering

Anna University- BIT Campus, Tiruchirappalli, India

saminathan.sruthi@gmail.com

Abstract: In the recent technology, there is a need of high speed in powerful data processing. Such complex problem is overcome by using parallel computing technology which uses the concept of pipelining for this application. This project provides the implementation issues in systolic array multiplier for high speed data processing. This also introduces the concept of parallel processing and pipelining which improves the speed of execution. In this project, a new method of multiplying matrices using systolic array multiplier design will be done and each processing element in systolic will be replaced by Dadda multiplier. Here, the verilog code will be written for matrix multiplication in systolic architecture and implemented on FPGA SPARTAN 3E.

Keywords: array, Wallace, dadda, FPGA, Xilinx, multiplication.

SMART AGRICULTURE WITH MACRONUTRIENT FERTILIZER'S

D. Rasi, R. Sowndharya, S. Sudha, M. Pooja

Dept. of IT, Hindusthan College of Engg. & Tech. Valley Campus, Pollachi Highway, Coimbatore.

drasi.it@hindusthan.net

Abstract : Our Country INDIA is land of versatile soil. Indian Economy is based on Agriculture productivity depending upon the variety of soils. The population in our Country is also reached beyond 1.2 billion and in near future it will increase by double the rate then, there will be serious problem for food production. So Agriculture productivity is very important in our Country. Nowadays, Farmers are distress due to shortage of rain and scarcity of water. The main objective of this project is automatic irrigation system to ensure the amount of three main

MACRONUTRIENTS in the soil. The three macronutrients are Nitrogen (N), Phosphorus (P) and Potassium (K).These nutrients are used for the growth of crop to ensure Time saving and consuming power supply. The N, P, K quantity in the soil sample is determined by Color Sensor. This will categorize the quantity of N, P and K by High, Medium and Low. By making use of this Automated Fertilizing Irrigation Technology, the human intervention can be minimized. In case, there are any changes in Temperature, Humidity and quantity of Macronutrients in nearby surrounding places, the sensor will sense the changes and gives an interrupt signal in wave-form to the ARDUINO Board to initiate the irrigation system.

Index Terms : Irrigation, Macronutrients, N, P, K, Fertilizing

INSECT CLASSIFICATION BASED ON IMPROVED SQUEEZE-AND-EXCITATION NETWORK

Divya Balasubramaniam, Dr. M. Santhi

Department of ECE, Saranathan College of Engineering, Trichy, India

divyabalasubramaniam05@gmail.com, santhim@saranathan.ac.in

Abstract : Insect species recognition and classification is most important research in agriculture industry, with recent development in deep learning, Convolution Neural Networks has shown a promise improving in performance. But the inter species classification still seems to be a challenge in this field. To overcome the challenges, this paper proposes a new network R-SEANet which combines squeeze-and-excitation modules and attention modules with RESNet. The module focuses on the informative features rather the background data. So, the training time is reduced by limited number of iterations. The results show that integrated network shows the promising results with accuracy of 82% compared to others.

Keywords : Insect classification, Species Similarity, SE, Attention.

ENHANCED PERFORMANCE OF IMAGE STEGANOGRAPHY USING HASH CODE IN QUANTUM-DOT CELLULAR AUTOMATA

M. Jeyalakshmi, Department of ECE, SSM Institute of Engineering and Technology, Dindigul, Tamilnadu

Dr. M. Santhi, Department of ECE, Saranathan College of Engineering, Tiruchirappalli, Tamilnadu

Abstract: Quantum-dot Cellular Automata (QCA), one of the technology at nanoscale level in quantum electronics has yet to replace the CMOS technology due to very high Integration density, low power consumption, high speed and low circuit area. This article proposes a new method of hash code based image cryptography combined with image steganography technique in QCA which was not discussed earlier to enhance the security level of data transmission in Nano communication networks The experimental results proved that the proposed method in QCA provides secured communication compared to the existing works.

Keywords : Quantum-dot Cellular Automata (QCA), Hash code; Image Cryptography, Image Steganography

AUTO INTENSITY CONTROL OF STREET LIGHT WITH POLLUTION SENSOR

Indirani M, Prarthana.M, Sonia.R Suriya.R, Showmiya.K

Dept of IT, Hindusthan College of Engg. & Technology, Valley Campus, Pollachi Highway, Coimbatore, Tamilnadu, India

mindirani.it@hindusthan.net, prarthu.yaso@gmail.com, soniaravi54@gmail.com, riyacrazy4@gmail.com, showmiya13199@gmail.com

Abstract : The recent research work emphasizes on the conservation of energy as well as on reduction of environmental pollution. This project introduces an intelligent method for controlling the street light intensity automatically during day and night time which helps to reduce the unnecessary electricity consumption. The working principle is based on the requirement of luminous energy at a particular moment of time. An automatic system is designed using ARDUINO which will switch ON or OFF the street lights at a given time and also depending on the intensity of the sunlight. With the help of ultrasonic sensors we build an energy efficient street light system which can detect the movement of vehicles on the street and vary the brightness of street light accordingly. We use gas sensors to monitor the pollution rate in that street and store it in the cloud. Four modules are used in this project; based on Sun Light Intensity, Real time clock, Detection of Movement of Object and Pollution Sensor.

Index Terms : Light Dependent Resistor (LDR), StreetLight, Microcontroller, Illumination.

IOT BASED AUTOMATIC FACIAL DETECTION

S.Athistalakshmi, Teaching Fellow, Department of CSE
University College of Engineering, Ariyalur
lakshmi.ucea@gmail.com

Abstract: A real-time driver lethargy detection system for driving safety. Based on computer vision techniques, the driver's face is located from a color video captured in a car. Then, face detection is employed to locate the regions of the driver's eyes, which are used as the templates for eye tracking in subsequent frames. Finally, the tracked eye's images are used for Lethargy detection in order to generate warning alarms. In this novel system present an enhanced technique for detecting Lethargy in real time and reducing car accident. In this paper we proposed an eye blinking technique for real time video by using machine learning and computer vision (open cv). When driver often feels drowsy, instead of stopping the car for a while to rest and gain back conscious continues driving So we utilize internet of things IOT , which a system connected to internet, when driver feels sleepy , directly an alert message will be send one of his nearest owner or driver family .then the alerted person can call the driver to stop the car. Mean while there in a speaker inside the car to warn the driver. To implement this system an Arduino used and it own camera board for taking frames.

Keywords: Driving Behaviour Questionnaire (DBQ), Eye Aspect Ratio (EAR), Simple Mail Transfer Protocol (SMTP) , Region of Interest (ROI)

ENHANCEMENT OF AN ADAPTIVE AUTOMATED WAREHOUSE USING CONCUSSION FREE ROUTING ALGORITHM

S. Janani, B. Savithri, K. Swetha, S. Swetha, K. Vasantha
Department of ECE
University College of Engineering, Ariyalur
Vasantha.kumarasamy@gmail.com

Abstract: As a rule, distribution centers are utilized to store merchandise or items. In the Warehouses, the manual picking system requires a lot of effort and difficult, which can be resolved by an automated system. Augmented Reality (AR) can give a benevolent choice to improve the manual request picking execution by passing on picking data into visual guidance.

The warehouse floor-related map can provide an accurate and continuous navigation performance for intuitive AR guidance with a lightweight wearable AR device, which can alleviate the worker's mental effort while doing picking action. A computerized stockroom framework contains various materials, workstations, and different Automated Guided Vehicles (AGVs) and it is worker controlled. The performance can be increased by using suitable automated system. In this paper An impact free strategy is proposed in which the climate map for AGVs is described by the grid method. The initial route of each task is predetermined by improved Dijkstra's algorithm and overall system efficiency is enhanced.

Catchphrases: Augmented reality, Automated Guided Vehicles, stockroom, picking of merchandise.

STRUCTURE SUBJECT MODEL BASED VISUAL INVESTIGATION SYSTEM FOR RAILROAD MAINTENANCE

M. Desika, S. Kavitha, S. Kaviya, R. Dhaunya, K. Nagarajan, G. Prathiba
Department of ECE
University College of Engineering, Ariyalur
nagunals@gmail.com, gprathibasubash@gmail.com

Abstract - Recognition of latch deserts is a significant assignment in railroad assessment frameworks, and it is as often as possible performed to guarantee the security of train traffic. Conventional examination is generally worked via prepared laborers who stroll along railroad lines to look for possible dangers. Notwithstanding, the manual examination is exceptionally moderate, expensive, and hazardous. This paper proposes a programmed visual review framework for identifying somewhat worn and totally missing clasp utilizing probabilistic Structure Subject Model (SSM). In particular, our technique can at the same time model assorted kinds of clasp with various directions and enlightenment conditions utilizing unlabeled information. To survey the harms, the test clasp is contrasted and the prepared models and automatically positioned into three levels dependent on the probability likelihood. The trial results show the adequacy of this technique.

Keywords – Latch Deserts, Latent Dirichlet Allocation (LDA), Structure Modeling, Structure Subject Model (SSM)

SECURE COMMUNICATION WITH QKDP IN WSN USING REVERSIBLE LOGIC GATES

Mrs. V. Sathya, AP / CSE, A. V. C College of Engineering, Tamilnadu
Mr. Kirankumar Manivannan, AP / ECE, Easwari Engineering College, Tamilnadu
Dr. V. Vani, AP (Sr.) / CSE, VIT, Tamilnadu
Dr. Sridhar Chandrasekaran, Researcher, National Chiao Tung University, Taiwan, China
sathyacse@avccengg.net, kiransun5@gmail.com, vani.v@vit.ac.in, sridharc9020@gmailcom

Abstract: Sensor nodes are deployed anywhere in a wireless sensor network. So their communication can be easily monitored. In these networks, message protection and node identification are common issues. Hence, security of large scale such networks requires efficient key distribution and management mechanisms. Quantum cryptography and particularly quantum key distribution is such a technique that allocates secure keys only for short distances. While not completely secure, it offers huge advantages over traditional methods by the use of garbage output reduction and quantum transmission. These problems can be recovered by using the reversible logic gates in efficient manner. Here a new reversible 4x4 logic gate called BKG gate has been used. This has been incorporated with QKDP to achieve secure communication in WSN. In our research, we adopted C-R scheme in terms of these quantum gates to overcome the susceptibility caused by malicious nodes. As the qubits stored in a sensor node can be used only once and cannot be duplicated, hence risk of information leakage reduced even if the node are compromised.

Keywords: Garbage outputs, QKDP, BKG gate, Secure communication, WSN.

FPGA IMPLEMENTATION OF HIGH SPEED-LOW POWER TWO DIFFERENT PARALLEL PREFIX ADDER (CARRY TREE ADDER) FOR DSP APPLICATIONS

Ananda.M, Malarvizhi.M, Ramya.K, Subthradevi.S
Assistant Professor Department of ECE, University College of Engineering-BIT campus, Trichy, India
anand1159@gmail.com, malarvizhibh9903@gmail.com, ramyakarunanithi5@gmail.com, saminathansruthi@gmail.com

Abstract : The binary adder is an essential part of digital signal processing as well as in a microprocessor. The problem arises when delay performance of addition operations increases. To reduce delay and increase the speed of arithmetic operation, parallel prefix adder plays a vital role in the VLSI application. This project work investigates the implementation of different Parallel prefix adders such as kogge stone and Lander Fischer on Xilinx ISE version 14.2and implemented on Spartan 3E
kit. Further, their simulation outputs are compared with Ripple carry adder

Keywords : Lander Fischer, Koggestone, Ripplecarry, Carry prefix operator

SMART DRAINAGE WORKER SAFETY SYSTEM

Roshini T[1], Shanmuga Priya R[1], Vaishali A[1], Valantina Nivetha V[1], C. Vennila[2]

[1,2] Department of ECE, Saranathan College of Engineering, Tiruchirapalli, India

roshinrosy@gmail.com, shanmugapriyar49@gmail.com, vaishaliarivazhagan2303@gmail.com, tinavincent20@gmail.com, vennila-ece@saranathan.ac.in.

Abstract: A smart city is the future goal to have cleaner and better amenities for the society. Smart underground infrastructure is an important feature to be considered while implementing a smart city. Drainage system monitoring plays a vital role in keeping the city clean and healthy. Since manual monitoring is incompetent, this leads to slow handling of problems in drainage and consumes more time to solve. The process of unblocking and cleaning process may lead to much human death because of the gas. The proposed method describes a microcontroller based safety system to overcome the gaseous hazards in sewage. In this, a smart device is designed based on PIC16F877A platform which is a CMOS-FLASH based 8-bit microcontroller. This device measures the gas concentration, pulse rate of the person working in poisonous gaseous area. The measured quantity can be displayed on LCD screen and has a long-distance communication facility which tends to send a text message using GSM module, thereby reducing some sort of disturbances and rejection in the communication network. An IoT module (Node MCU) is used for continuous monitoring and storage of the measured data. This system is designed for the sewage workers. We can extend the use of application in industries, oil wells etc. where poisonous gas are present in extreme level.

Keywords: Smart city, PIC16F877A, GSM, IoT

TRASH CLEANING ROBOT

[1] S.Merlin, [2] K.Shivani, [3] S.Sandhiya, [4] P.Keerthani, [5] Dr. S.A.Arunmozhi

[1,2,3,4] UG students, [5] Associate Professor, Department of ECE

Saranathan College of Engineering, Trichy.

[1]merlin99sanjeevi@gmail.com,[2]shivanivasuki@gmail.com,

[3]sandhiyasivam05101998@gmail.com, [4] keerthanip@gmail.com,

[5] arunmozhi-ece@saranathan.ac.in

Abstract : The main aim of this project is to design an autonomous trash cleaning robot which could be operated in an remote place .The primary action in many repetitive task is picking up objects and moving them to other location. This robot was designed as a fetching robot. It was to come with a set of objects(garbage) that it was designed to detect and segregate into biodegradable and non-biodegradable, and it be able to collect these items from environment when there are placed at random. When it comes to deep learning based object detection there are 3 primary object detection methods we are using YOLO . This project includes two main parts which are motor drive part and image processing part

Index term: Autonomous , Image processing, Deep learning, YOLO(You Only Look Once) ,Segregation.

HIGH PERFORMANCE MONTGOMERY MULTIPLIER USING HIGH SPEED ADDERS FOR RSA CRYPTOSYSTEMS

[1] Sruthi P, [2] Subbhapriya.A, [3] Hariprasath S

[1,2] UG students, [3] Assistant Professor, Department of ECE

Saranathan College of Engineering, Trichy

[1] sruthipukalendi@gmail.com, [2] priyaasok98@gmail.com, [3] hariprasath-ece@saranathan.ac.in

Abstract- Cryptosystems are intended to provide security in data transmission. Different cryptosystems like RSA, DSA and ECC involves modular multiplication for private key generation. In this work, the key generation process of RSA cryptosystem is implemented using Modular exponentiation. Modular exponentiation involves repeated modular multiplication. Classical modular multiplication is a time-consuming process whereas to improve the efficiency of the RSA cryptosystem, it is necessary that these operations need to be completed faster. The main aim of this work is to analyze and compare the effect of different high-speed adders for implementation of high performance Montgomery multipliers in RSA cryptosystem. To

improve the speed of modular multiplication operation Montgomery Multiplication technique is used. In Montgomery multiplication method, multiplication operation is replaced by repeated addition and shift operations. In Montgomery multiplication, to speed up the process of multiplication, high speed adders are used to compute the intermediate results. The design of Montgomery multiplier in terms of area, cost and speed for RSA cryptosystems is analysed by implementing Carry Save Adder and Carry look Ahead Adder. The design is synthesised and the simulation is carried out using Xilinx ISE 9.2. The designed multiplier is implemented in Virtex-II FPGA. The results show that by designing CSA, the delay is reduced by 20% compared to the implementation using Full adders.

Index terms : Cryptosystems, high-performance, modular multiplication, Montgomery multiplier.

HAND GESTURE RECOGNITION BASED ON CNN

[1] S.Melvin Nehemiah, [2] H.Mohamed Faize , [3] Z.Mohamed Aashik, [4] V.Periyannan,

[5]Dr.M.Baritha Begum

[1,] UG students, [5] Assistant Professor, Department of ECE

Saranathan College of Engineering, Trichy.

[1]melvinmelvin13@gmail.com, [2] faizehsaf@gmail.com, [3] mohamedaashik312@gmail.com,

[4]rvperiyannanbe@gmail.com, [5] barithabegum-ece@saranathan.ac.in

Abstract: Hand gesture is one of the common method used in sign language for non-verbal communication. It is most commonly used by deaf & dumb people who have hearing or speech problems to communicate among themselves or with normal people. Various sign language systems has been developed by many makers around the world but they are neither flexible nor cost-effective for the end users, but this project presents a system prototype that is able to automatically recognize sign language to help deaf and dumb people to communicate more effectively with each other or normal people. Pattern recognition and Gesture recognition are the developing fields of research. Being a significant part in nonverbal communication hand gestures are playing key role in our daily life. Hand Gesture recognition system provides us an innovative, natural, user friendly way of communication with the computer which is more familiar to the human beings. By considering in mind the similarities of human hand shape with four fingers and one thumb, the project aims to present a real time system for recognition of hand gesture on basis of detection of some shape based features like color, shape and structure of the hand and conversion into speech that allows them to communicate with people.

Keywords: Non-verbal communication, sign language, Pattern recognition, Hand Gesture recognition.

ANALYSIS OF HIGH GAIN IN WINDMILL SHAPED ULTRA-WIDEBAND ARRAY ANTENNA FOR MOBILE APPLICATION

S. A. Arunmozhi[1], V. Benita Esther Jemmima [2],

[1] Associate Professor, Department of ECE, Saranathan College of Engineering, Trichy, India.

[2] PG Student, Department of ECE, Saranathan College of Engineering, Trichy, India.

[1] arunmozhi-ece@saranathan.ac.in

[2] beniviji@gmail.com

Abstract: This paper focuses on a comparative study of high antenna gain by increasing the elements in antenna array. The initial antenna setup is made up of a windmill structure. The antenna is built on polyethylene substrate with a dielectric constant of 2.25 and height of 1.6mm. The desired antenna parameters are achieved within the ultra-wide band of 4-10 GHz. HFSS (High Frequency Structural Simulator) is used to design and investigate the antennas. Along with the gain return loss, directivity and radiation efficiency of the antenna are also investigated in order to find out the best structure for communication purposes. Thus, the designed antenna results in a constant gain of 8 dB in the frequency range of 4-10 GHz when the number of elements increase beyond 5.

Keywords-ultra-wideband, windmill, high gain

WIRELESS FOOD ORDERING SYSTEM WITH MAGLEV BASED FOOD SERVICE

[1] Manishankar.K, [2] Saravana Kumaran.B, [3] Saren Kumar.B.P, [4] Sunil Kumar M,

[5]Ms.M.Anthuvan Lydia

[1,2,3,4] UG students, [5] Assistant Professor, Department of ECE

Saranathan College of Engineering, Trichy

[1]manishmani436@gmail.com, [2] saravanababu1999@gmail.com, [3] sarenkumar86@gmail.com,

[4] sunilvijay313@gmail.com, [5] anthuvanlydia-ece@saranathan.ac.in

Abstract : Technology has entered almost every field in our life, but still its effect is not yet that evident in the food industry. Even today, most of the restaurants in India follows the traditional pen and paper method to take orders from customers ,Where the food items or quantity of food can be wrongly noted. Automating the food-ordering process improves the dining experience of the customer. This paper proposes an automated system that uses wireless communication to place order and a maglev based food service system is used for serving the food to the appropriate table. The wireless food ordering system uses a touchsreen to place the order without even waiting for a waiter The ordered details are wirelessly sent to the kitchen through Xbee. The maglev based food serving system levitates over the track by repulsion. The food items are placed over it and it serves the food to the corresponding table as per table number provided to it. This system improves efficiency and accuracy of restaurants by saving time, eliminating human errors. As the system is automated, it requires one time investment in installing the devices at tables.

Keywords: Traditional, Maglev, restaurants, wireless, communication

TRAFFIC SIGN RECOGNITION AND DETECTION FOR LAND VEHICLE

[1]VR.Durgasri Swethaa, [2] R.Elakkiya, [3] Dr.M.Santhi

[1,2] UG students, [3] Professor, Department of ECE

Saranathan College of Engineering, Trichy

[1] durga29nov@gmail.com, [2]elakkiya20.nov@gmail.com, [3]santhim@saranathan.ac.in

Abstract: At present situation the citizenary are faced many accidents during the road ways transportation. At an equivalent time they lose our life and valuable properties in those accidents. To avoid these problems the system designed with the assistance of Raspberry pi. The Digital image processing plays important role within the sign capturing and detection system. The image processing algorithms to takes the required action for resizing the captured signs. The Raspberry pi camera port wont to capturing the road signs with image enhancement techniques. The embedded system small computing platform studies the characteristics of speed signs. There in photopic vision time to require the form analysis for recognizing the signs using edge detection algorithms. The target of the proposed work is to implement the available technique to traffic light with the assistance of raspberry pi3 board.

Keywords : Raspberry Pi; Pi cam; Python; Open CV; HSV; ROI;

IOT BASED RECYCLE IC SYSTEM

[1] Priyadharshini K, [2] Ruckmani S, [3] Silambarasi E, [4] Ms. Eindhumathy J

[1,2,3] UG students, [4] Assistant Professor, Department of ECE

Saranathan College of Engineering, Trichy

[1] priyadharshinikumanan@gmail.com, [2] ruckmanisubbiah@gmail.com,

[3]silambarasielavarasan@gmail.com, [4] eindhumathy-ece@saranathan.ac.in

Abstract: The counterfeiting of electronic components has become a major challenge in the 21st century, as the electronic component supply chain grows more complex due to globalization. It also poses a serious threat to our critical infrastructures due to their inferior quality and has become one of the major concerns to the government and the industry. A specialized service of testing, detection, and avoidance must be created to tackle the worldwide outbreak of counterfeit ICs. So far, there are standards and programs in place for outlining the testing, documenting, and reporting procedures. However, there is not yet enough research addressing the detection and avoidance of such counterfeit parts. It is necessary to power up a chip at a distributor's site to measure different electrical parameters for verifying whether it is used before. However, this can be challenging as many of the distributors may not be equipped with proper test infrastructures. Moreover, the reliability of authentic chips may be reduced if they have been removed from the packaging boxes for testing purposes In this paper, we propose a technique to detect recycled ICs via Radio Frequency Identification(RFID) Tag and RFID Reader using IoT, which can be applied to IC Packages. We will present measures to prevent the problems that arises due to untrusted people in the supply chain.

Keywords: RFID Tag, RFID Reader, Microcontroller.

HUMAN ACTION RECOGNITION

[1] Swarnaa R, [2] Swathypriya B, [3] Vinubala M, [4] Mohan V

[1,2,3] UG students, [4] Associate Professor, Department of ECE

Saranathan College of Engineering, Trichy.

[1] swarnaaramakrishnan@g,mail.com, [2] swarnaaramakrishnan@gmail.com,

[3] projecthar2020@gmail.com, [4] mohan-ece@saranathan.ac.in

Abstract: Human Activity Recognition (HAR) has plays an important role in various areas such as research, security, health, daily activity, elderly, energy consumption in the smart building

and etc. Most of the HAR base survey papers has discussed single activity recognition. In this research work, Human action is recognized using various layers such as convolutional layer and LSTM layer. For the recognition of action, videos are converted into various frames and the feature is extracted from various frames. Hence the ultimate aim is to produce the output with the help of these layers with high accuracy when compared to the previous work.

Keywords: Human Activity Recognition, Convolutional layer, Human action

DYSARTHRIC SPEECH ENHANCEMENT USING EMPIRICAL MODE DECOMPOSITION

P. Shanmugapriya[1], P. Surya[2]

[1] Associate Professor, Department of ECE, Saranathan College of Engineering, Trichy, India.

[2] PG Student, Department of ECE, Saranathan College of Engineering, Trichy, India.

[1] shanmugapriya-ece@saranathan.ac.in

[2] suryakps01@gmail.com

Abstract: In this paper, Dysarthric speech classification using glottal features and dysarthric speech enhancement using Empirical Mode Decomposition and Hurst based mode selection (EMDH) were proposed. The proposed method utilizes glottal features, which were efficiently estimated from coded speech using a deep neural net-based glottal inverse filtering method. Support Vector Machine (SVM) classifier is used to classify the dysarthric and healthy speech. Using the features extracted from every speech utterance as well as its corresponding label indicating, dysarthric/healthy, a Support Vector Machine (SVM) classifier is trained. Then, the EMDH speech enhancement is used to identify and select the Intrinsic Mode Function (IMF) which is less distorted and using them to reconstruct the enhanced speech signal.

Keywords: Dysarthric speech, Empirical Mode Decomposition, Intrinsic Mode Function, Hurst Exponent.

AGRICULTURAL SKID STEERING ROBOT DESIGNED FOR LEAF DISEASE DETECTION USING IMAGE PROCESSING

[1]Subiksha S V, [2] Saranya P, [3] Pavithra V, [4] Shalini P, [5] Shamim Banu A

[1,2,3,4] UG students, [5] Assistant Professor, Department of ECE

Saranathan College of Engineering, Trichy

[1] s.v.subiksha99@gmail.com, [2] saarabliss15@gmail.com, [3] pavithrav989@gmail.com,

[4]shaliniprasath99@gmail.com, [5] shamimbanu-ece@saranathan.ac.in

Abstract: The project we choose to propose is a skid steering robot which serves as an aid for farmers to spray pesticides by evaluating the disease present in the tomato namely bacterial spot, early blight, late blight and leaf mold. Our project involves the integration of embedded as well as image processing domain. Initially the skid steering robot acts as a carrier for spraying pesticides and which is suitable for navigating through rough terrain. The principle behind the robot is inertial navigation system which implies the centre of rotation being concentrated thereby providing perfect balance to the robot. This type of robot carrier is suitable for surface irrigation. The system is framed into five stages. Initially the robot moves on the provided lane and stops when it identifies the crop. Secondly image is captured, followed by image enhancement and processing using Matlab. Thirdly the features of the crop are extracted and is compared with the trained images. The training in our proposed system is the first phase which is done using Neural Networks for storing the features. The second phase is referred as testing phase wherein the comparison with the threshold values of the trained image is completed. After its completion the type of disease is displayed along with the pesticide which is used to treat it. Finally, the required amount of pesticide is pumped from the tank attached to the robot and is sprayed to the crop. The overall locomotion and control of the carrier is governed by Arduino nano. The main aim of our proposed system is to protect the farmer from direct exposure of chemicals that is deployed in pesticides.

Keywords: Skid steering robot, Tomato disease detection, ANN, Arduino nano, feature extraction, Matlab.

TO IMPROVE SECRECY THROUGHPUT OF PRIMARY PAIR IN COGNITIVE RADIO NETWORKS

S.Veeralakshmi [2], C.Vennila[1]

[1] Professor, Department of ECE,Saranathan College of Engineering,Trichy,India.

[2] PG Student,Departmentof ECE, Saranathan College of Engineering, Trichy,India.

[1] vennila-ece@saranathan.ac.in, [2] veerabaskar1996@gmail.com

Abstract: Secure wireless communications is very important to environmental and military concerns. This project investigates that the energy efficiency and secrecy performance of cognitive radio networks (CRNs), where primary and secondary users with different priorities of spectrum access can either interfere or cooperate with each other. Focusing on several key aspects that may have potential impacts on secure underlay CRNs, including the transmission power, the number of interfering users, and the designed interference resistance coefficient.

Based on analytical results, propose a cooperative spectrum sharing paradigm to improve both the secrecy throughput and the energy efficiency of primary users. The main idea is that primary users allow secondary users to simultaneously access the licensed spectrum and in return, the secondary transmitter acts as both a relay for primary transmissions and a friendly jammer against eavesdropping, in case the primary transmission fails. fails. Both theoretical and numerical results reveal that: (i) When the interference from secondary transmitters is small, there is an optimal transmission power that maximizes the secrecy throughput for primary users compared to CRNs without the security issue; (ii) When the interference from secondary transmitters is large, the secrecy throughput increases with the transmission power for primary users ; (iii) The transmission power that maximizes the energy efficiency is smaller than that maximizes the secrecy throughput for primary users; (iv) The number of interfering users has a slight impact on the secrecy throughput and the energy efficiency of primary users due to the secondary power control; (v) The proposed cooperative paradigm is an efficient approach to boost both the secrecy throughput and the energy efficiency of primary users compared with the traditional non-cooperative spectrum sharing, and provides an alternative method to compensate for the interference caused by secondary users.

Keywords: Cognitive Radio Networks, Cooperative Spectrum Sharing, Licensed spectrum, Interference.

DIAGNOSIS AND TREATMENT METHODS FOR VEGETABLE LEAF DISEASE CLASSIFICATION USING SUPPORT VECTOR MACHINE ALGORITHM

[1] M. Santhi, [2] T. Ragavi,

[1] Professor, Department of ECE,Saranathan College of Engineering,Trichy,India.

[2] PG Student,Departmentof ECE, Saranathan College of Engineering, Trichy,India

[1] santhim-ece@saranathan.ac.in, [2] rasinathiya@gmail.com

Abstract : Agricultural productivity is something on which Indian economy highly depends. Farmers experience more difficulties to increase the yield of agricultural products. Many studies show the quality of agricultural products may be reduced due to plant diseases. So, there is a need to identify and classify the plant leaf diseases. As manual identification is time consuming, some low cost automation technique is required. An identification and classification of plant leaf diseases follows the steps like Image Pre-processing, Segmentation, Feature extraction. In this project work, Support Vector Machine algorithm based plant leaf disease classification has

been proposed to classify the plant leaf diseases quickly and accurately and provide the treatment methods for that specific leaf diseases.

Keywords : Leaf disease, MATLAB, GLCM and SVM, Natural treatment, Chemical treatment.

SMART HELMET AND VEHICLE SYSTEM

[2]L.Aarthi, [3] A.Abarna ,[4]M.Abinaya, 1K.Malaisamy

[2,3,4] UG students, [1] Assistant Professor, Department of ECE

Saranathan College of Engineering, Trichy.

[1] malaisamy-ece@saranathan.ac.in

Abstract: The objective of the project is to design a smart helmet and vehicle system based on IOT which is effective solution for accident detection and accident avoidance. It also provides various measure for vehicle maintenance and rescue during the occurrence of accident. There is already a smart helmet system which is existing but which only detects whether the helmet is properly fastened and the rider has consumed alcohol or not using alcoholic sensors and then depending upon the condition the engine starts. But our system is two way connected with both helmet and bike, there are various cases included. To start with once the helmet is fastened properly and the rider hasn't consumed any alcohol the engine will be ready to start, before that it checks whether the bike stand has taken out and placed properly in its position. Secondly, various sensor such as speedometer is placed which monitors the speed of the vehicle and controls when limit exceeds .Then pollution and temperature sensor is used which indicates the abnormal condition of the engine and its mechanics .Finally, the main goal of the project is done by which once an accident is detected with help of vibration sensor w.r.t ground the system sends the immediate message to the nearby rescue center and to the family member regarding the accident which includes the time and exact.

Keywords: IoT Alcoholic sensor, Speedometer, Pollution, Temperature

AUTOMATIC COUGH DETECTION USING DEEP NEURAL NETWORK

[1]A. Sharan jasmine, [2] Dr.V. Mohan,

[1] PG students, [2] Associate Professor, Department of ECE

Saranathan College of Engineering, Trichy.

[2] mohan-ece@saranathan.ac.in

Abstract : Cough is the effective symptom for many respiratory diseases. Analysis of cough may provide important clue not only to aid diagnosis, but also for the selection of drugs for treatment. The clinical information of the chronic cough patients could be provided by the evaluation of its intensity and frequency. Most of the previous work presented the automatic cough detection system. But they were unsatisfied on the detection accuracy or lacking large validation. In this proposed work, the cough sound has been automatically detected from the continuous speech signal by using the deep learning technique such as Deep Neural Network (DNN). This work should be more comfortable for analysing the person those who are affected by the respiratory disease. These audio based sensing methods can be applied by measuring of frequency, severity and characteristics of cough sounds. DNN presented here to model the acoustic features in cough detection. This system provides better performance and results. The performance measures has been achieve the better accuracy.

Keywords: cough detection, deep learning techniques.

RECOGNITION OF PLANT LEAF DISEASES

[1] Elakeyaa P V, [2] Keerthana A, [3] Bharathi P, [4] Ezhilmani S, [5]V. Mohan

[1,2,3,4] UG Final year student, Department of Electronics and Communication Engineering, Saranathan College of Engineering, Trichy, Tamilnadu, India

[5] Associate Professor, Department of Electronics and Communication Engineering, Saranathan College of Engineering, Trichy, Tamilnadu, India

[5]mohan-ece@saranathan.ac.in

Abstract : Agriculture plays an especial role in the Indian economy. Since it is one of the major contributors to Gross Domestic Product (GDP) and national income of the country, decrease in the productivity of the crops leads to a major loss. To identify the plant diseases in a short span of time with greater accuracy remains as a major challenge. To overcome this, we provide a software solution for the automatic analysis and detection of plant leaf diseases using Support Vector Machine (SVM) and image processing techniques like image acquisition, image pre-processing, image segmentation, feature extraction and classification with the help of MATLAB. Initially the images of various leaves are fed and then varied image processing techniques are applied to the acquired images to extract useful features and for further analysis and classification. Here specifically we concentrate on diseases like Alternaria alternata, Cercospora leaf spot and Bacterial blight and Anthrocnose. In addition with the detection of the disease, infected area and affected region percentage is also measured.

Keywords: Feature Extraction, Gray Level Co-occurrence Matrix (GLCM), K-means clustering algorithm, Image Segmentation, Support Vector Machine (SVM) classification

ANALYSIS OF RETINAL IMAGES USING TEXTURAL CLASSIFIER

[1] S.Hariprasath, [2] R. Sathya

[1] Assistant Professor, Department of ECE, Saranathan College of Engineering, Trichy, India.

[2] PG Student, Department of ECE, Saranathan College of Engineering, Trichy, India.

[1] hariprasath-ece@saranathan.ac.in, [2] sathyarajendran105@gmail.com

Abstract :Retinal vasculature structure implicates important information helps the ophthalmologist in detecting and diagnosing a variety of retinal pathology. The disorders related to retina of the eye like Diabetic Retinopathy (DR), Age-related Macular Degeneration (AMD), and Glaucoma etc., can cause visual impairments. In this paper the detection of Diabetic Retinopathy using fundus images is presented. By extracting features such as area of microaneurysms, area of exudates and texture features the detection and classification of retinal diseases. A method for DR detection by morphological image processing is proposed in this work. The image pre-processing includes image resizing, Contrast Limited Adaptive Histogram Equalization (CLAHE) and green channel extraction from the color fundus image. The selected significant features are trained and tested using neural network to classify the disease.The results show that the classification accuracy of 92% is achieved.

Keywords : Retinal Image Classification, Textural Features, CLAHE, Diabetic Retinopathy

DESIGN OF STAY ON ALERT SYSTEM FOR WOMEN SAFETY

[1] Dr.Padmaa M, [2] Mohsina G, [3] Pavithra P, [4] Preetha B

[1] Professor, Department of ECE, Saranathan College of Engineering, Trichy, India.

[2,3,4] UG Student, Department of ECE, Saranathan College of Engineering, Trichy, India.

[1] padmaa-ece@saranathan.ac.in, [2] razimoha1622@gmail.com, [3] pugalpavi13@gmail.com

[4]preeboss99@gmail.com

Abstract: The prototype of a stay- on-alert system is presented with the GPS tracking ability for the women. Women suffering violation are even denied of the basic human rights. Though there are unprecedented numbers of laws against domestic violence, sexual assault and other

forms of violence in each and every country to protect their female citizens to become a victim of any such violence but they are facing major challenges in implementing such laws. Thus, we all should focus on ensuring a society which is secure for all the women around the globe so that they can experience equality and justice. The defense strategy used by females needs to be revolutionized by adopting modern technology and gadgets to protect them from the oppressor. Our project consists of GPS, GSM modems and microcontroller interconnected with the alarm system to alert the neighbors. GPS Receiver gets the location information from satellites in the form of latitude and longitude. The GSM modem sends an SMS to the predefined mobile number. When a woman is in danger and in need of self-defense then she can press the button which is provided for her. By pressing the switch, the entire system will be activated then immediately a SMS will be sent to the concern person with location using GSM and GPS. And if she is unable to press the button her health condition and the irregular movements automatically turns ON the circuit which means that when the inbuilt sensors reaches out threshold value the circuit turns ON and safeguard the women at the moment with the help of chemical spray, electric shock which affects the oppressor immediately and it further alert the nearby people with the help of buzzer, in-addition the position of the women will be sent to the police station in terms of SMS which is done by GSM module so that they can rush out to the spot and rescue her out from that dangerous situation. This device will protect the women from sexual assault and domestic violence.

Keywords: GPS, GSM modems and Microcontroller, Buzzer

FOREST FIRE DETECTION USING DEEP LEARNING ALGORITHM

[1] G.Sivakannu, [2] R.Kishorekumar, [3] M.Sureshkumar, [4] C.Venkatesh

[1] Assistant Professor, Department of ECE, Saranathan College of Engineering, Trichy, India.

[2,3,4] UG Student, Department of ECE, Saranathan College of Engineering, Trichy, India.

[1] sivakannu-ece@saranathan.ac.in, [2]kishorekk548@gmail.com,

[3]sureshece2017@gmail.com, [4]aravindvenky98@gmail.com

Abstract: Apart from causing tragic loss of lives and valuable natural and individual properties including thousands of hectares of forest and hundreds of houses, forest fires are a great menace to ecologically healthy grown forests and protection of the environment. Every year, thousands of forest fire across the globe cause disasters beyond measure and description. This issue has been the research interest for many years; there are a huge amount of very well studied solutions

available out there for testing or even ready for use to resolve this problem. Forest and urban fires have been and still are serious problem for many countries in the world. Currently, there are many different solutions to detect the forest fires. People are using sensors to detect the fire. But this case is not possible for large acres of forest. In this paper, we discuss a new approach for fire detection, in which modern technologies are used. In particular, we propose a platform that Artificial Intelligence. The computer vision methods for recognition and detection of smoke and fire, based on the still images or the video input from the cameras. Deep learning method "convolution neural network "for finding the amount of smoke and fire. The accuracy is based on the algorithm which we are going to use and the datasets and splitting them into train set and test set.

Keyword: Forest fire detection, Deep learning, Convolution Neural Network

GESTURE CONTROLLED BOMB DISPOSAL ROBOT

Ms.V.Ramya[1], Ms.P.Anushiya[2], Ms. K. Deepika[3], Ms. J. Irene Naveena[4]

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

Department of Electronics and Communication Engineering,

Saranathan College of Engineering, Trichy

[1] ramya-ece@saranathan.ac.in

Abstract: In this paper, a gesture controlled robotic vehicle for bomb disposal incorporated with the nifty virtual reality technology has been proposed. This robot will be of immense help to the military, the police and bomb disposal squad to render the bomb inert without any casualty. Although such a technology is already in existence, merging it with gesture control technology can case the control mechanism and virtual reality will impersonate the squad member onto the robots view and give much a sense of actuality. This makes this massive and complicated task as easy as pie. This can be further innovated using advanced gesture controlled bands for VR such as oculus touches, nod, etc. and advanced robotic arm for ample speed and accuracy. This we can reach out to the human 'dread to tread' areas and accomplish complicated tasks without human loss and body disasters.

Keywords: Gesture, bomb, EOD, Virtual Reality, actuality, robotic vehicle, dispose.

GAIN ENHANCED MINIATURIZED MICROSTRIP WEARABLE DUAL-BAND ANTENNA DESIGN

[1] Salai Gayathri M, [2] Dr.S.A.Arunmozhi

[1] PG Student, Department of ECE, Saranathan College of Engineering, Trichy, India.

[2] Associate Professor, Department of ECE, Saranathan College of Engineering, Trichy, India.

[1]salaigaya1996@gmail.com, [2] arunmozhi-ece@saranathan.ac.in

Abstract : Advantages of Microstrip patch antennas make them solid candidates for the field of communication in Microwave applications. In this paper, the design of a dual-band (2.95 GHz and 5.7 GHz) microstrip wearable antenna is proposed. The CST microwave studio software is used as a tool for simulation. The proposed design is a combination of rectangular and F-shaped configuration having low return loss, high gain, and low VSWR. One of the significant features of the designed wearable antenna is its compact size. When it is compared with the existing design, it was found that the proposed design has a reduced size of the substrate.

Keywords : Microstrip patch antenna; wearable antenna; dual-band antenna; CST studio suite.

ANALYSIS OF EPILEPSY IN WOMEN WITH A STATISTICAL APPROACH

[1] Maalathy G, [2] Dr Mohan V

[1] PG Student, Department of ECE, Saranathan College of Engineering, Trichy, India.

[2] Associate Professor, Department of ECE, Saranathan College of Engineering, Trichy, India.

[1] maalathygothandaraman@gmail.com, [2] mohan-ece@saranathan.ac.in

Abstract : Epilepsy is the most common serious neurological symptoms, affecting all ages. A critical concern to patients with epilepsy is the unpredictability of seizures; they may occur at work, while driving, or in social settings or a rest[1]. Most seizures are not epileptic, that is, not generated primarily by the brain. Epileptic seizures can arise from distinct regions of the brain, or be caused by a general dysfunction of the biochemical mechanisms (generalized). One of the physician's most important tasks in evaluating a patient with an episode of loss of consciousness is to determine if the event was a seizure or syncope. The Main Objective of this study is to Survey the outcome for women with epilepsy and response to ANTI EPILEPTIC TREATMENT[3].

Keywords : Biochemical, Epilepsy, Anti-Epileptic drug, Seizure, Syncope, Dysfunction

MEDICAL TAG BASED ON TELEMETRY SYSTEM TO MONITOR CVD'S PATIENT IN A LOCALIZED CROWD AREA

[1] A.Shamim Banu, [2] T.Mahesh, [3] R.Selvakumar, [4] A.Mohammed jawith, [5] P.Hariprasath

[1] Assistant Professor, Department of ECE, Saranathan College of Engineering, Trichy, India.

[2, 3 ,4, 5] UG Student, Department of ECE, Saranathan College of Engineering, Trichy, India.

[1]shamimbanu-ece@saranathan.ac.in, [2] maheshsvb16@gmail.com,

[3]selvakumarjr7@gmail.com, [4]mohamedjavith2402@gmail.com,

[5]hariprasath161098@gmail.com

Abstract: Heart rate monitoring is a vital aspect of maintaining heart health. People from different age groups have different ranges for maximum and minimum values of heart rate, the monitoring system must be compatible enough to tackle this scenario. In this paper, an IoT based system has been implemented that can monitor the heartbeat from the output given by a hardware system consisting of a NodeMCU and pulse sensor. Further, an alert system is added which is executed if the heartbeat goes below or above the permissible level given in the devised algorithm. The real- time monitoring is done via Adafruit, this platform is more secure to store the information and uses MQTT protocol which has lots of advantages over others. IFTTT protocol is also used to create conditional statements called applets. The prototype is integrated with GPS technology to monitor the live location .The heartbeat data and other personal details of the patient are stored in the cloud, this can be utilized for future studies on the health condition of the patient. The prototype is realized using NodeMCU, pulse sensor, Adafruit, and IFTTT cloud.

Keyword: Heart rate monitoring, sensors, NodeMcu, Internet of things,IFTTT,Adafruit.

MILITARY QUADCOPTER

[1] K.Malaisamy, [2] A.Kesavan , [3] P.Mohanraj, [4] R.Vigneshwaran

[1] Assistant Professor, Department of ECE, Saranathan College of Engineering, Trichy, India.

[2, 3, 4] UG Student, Department of ECE, Saranathan College of Engineering, Trichy, India.

[1]malaisamy-ece@saranathan.ac.in, [2]kesavan22563@gmail.com, [3]ppmraj333@gmail.com,

[4]vickeyvaran15@gmail.com.

Abstract: The quadcopter system is an extremely manoeuvrable and versatile platform formany applications especially surveillance and future military applications which can be used to monitor and survey important areas as well as areas which are normally very difficult to access or dangerous locations like a army border. The main objective of this paper is to create a manual controlled quadcopter for surveillance through camera and to search and retrieve the information about surrounding environment. Our design utilizes a KK 2.1.5 flight controller having an in-built microcontroller. The quadcopter will be controlled from mobile app or remote controller from a certain distance wirelessly. This small and highly manageable system would acquire data such as video/images from a camera installed in the quadcopter and send them to the base station. The project would have an carrying out future rescue missions and provide gunfire. During flight, the video obtained from the mobile camera is viewed using the Surveillance app. It will have ability to help assist, locate and save victims, faster with more efficiency than any other option.

Keywords: Quadcopter, Military applications, Microcontroller

IOT BASED PATIENT MONITORING SYSTEM

[1] Dr.S.Rajeswari, [2] R. Ganesh, [3] V. Karundeva

[1] Associate Professor, Department of ECE, Saranathan College of Engineering, Trichy, India.

[2 3] UG Student, Department of ECE, Saranathan College of Engineering, Trichy, India.

[1] rajeswais-ece@saranathan.ac.in, [2] Ganeshrengarajan1999@gmail.com,

[3]karundeva98@gmail.com

Abstract: Today's rapid climb of elderly populations and aging problems including the prevalence of obstructive health related issues have affected many aspects of society. This has led to high demands for a more robust healthcare monitoring and coverings facilities. This system measures the glucose level, temperature, position of the patient and the level of human waste. Controlling and data processing is done using Arduino UNO board to which all the other sensors are connected. The sensors are connected to the analog pins of the board and the values got from them are used to detect any critical situation. Thinkspeak cloud is used so that the condition of the patient can be know from any part of the world. ESP8266 WIFI module is used to connect the Arduino to the internet which enables the value from the sensors to be uploaded to the cloud without any interruption.

Index Terms : health monitoring system, real time health monitoring, GSM patient health monitoring.

ENERGY BASED VOID-AVOIDABLE OPPORTUNISTIC ROUTING FOR UNDER WATER SENSOR NETWORK

[1] S. Rajeswari, [2] R. Yogasheeba

[1] Associate Professor, Department of ECE, Saranathan College of Engineering, Trichy, India.

[2] PG Student, Department of ECE, Saranathan College of Engineering, Trichy, India.

[1]rajeswaris-ece@saranathan.ac.in, [2] yogarayappan@gmail.com

Abstract : Recently, underwater device networks (UASNs) are planned to explore underwater environments for scientific, industrial and military functions. However, high propagation delays, high transmission losses, packet drops and restricted information system of measurement in underwater propagation environments build realization of reliable and energy-efficient communication a difficult task for UASNs. The extremely dynamic natures of UWA links imply reconciling, ascendable and economical routing schemes for UASNs. Depth-based routing has attracted abundant attention as a results of it'll work efficiently while not the need for full-dimensional location info of sensors. However, it suffers from the issues of void region and detouring forwarding. This project ..an Energy Based Opportunistic Routing (EDVOR) scheme is used to avoid the problems of void region and detour forwarding in routing. When a packet is forwarded to a underwater node without shallower and reachable neighbours , it enters a so-called void region .To avoid unreachable neighbor to visit somewhere along the way this is called detour problem .EDVOR uses a RREQ packet to establish the energy based data forwarding paths for underwater acoustic nodes , from the energy based paths ,the minimum hop count path will selected to transmit the data to sink. Simulation results show that EDVOR outperforms the prevailing routing protocols in terms of packet delivery ratio, energy-efficiency and average end-to-end delay.

Key words: Void Region, Opportunistic Routing, ns2

VOICE ASSISTED BILL READING SYSTEM FOR VISUALLY IMPAIRED PERSONS

[1] Dr.M.Baritha Begum, [2] P.Anusiyaa, [3] N.Archana, [4] M.Claudius Grace

[1] Assistant Professor, Department of ECE, Saranathan College of Engineering, Trichy, India.

[2 3 4] UG Student, Department of ECE, Saranathan College of Engineering, Trichy, India

[1]barithabegum-ece@gmail.com,[2] anusiyaa27@gmail.com, [3] archanaecesce@gmail.com, [4]claudiusgrace@gmail.com

Abstract : "Automation is a unique property". This paper deals with bill reading system for the blind. Blind people have a mindset that they cannot be independent but this proposed work tries to eliminate it by converting the image to speech, thereby allowing them to be independent .This system also gives them a belief that they're not cheated in anyway by the shopkeepers Thus it proves to safeguard them against any fraud activities. The proposed system combines the concept of OCR (Optical Character Recognition) and TTS (Text to Speech Synthesizer). It reads English alphabets and numbers which is present in the image and converts it into voice. It consists of two modules, Image Processing module and Voice Processing module.

Index Terms : Optical Character Recognition, Text to Speech Synthesizer, Image processing module, Voice processing module

EAVESDROPPING AWARE ROUTING AND SPECTRUM/CODE ALLOCATION IN CDMA BASED EONS USING DAAS

[1] M. Padmaa, [2] J. Vinitha

[1] Professor, Department of ECE, Saranathan College of Engineering, Trichy, India.

[2] PG Student, Department of ECE, Saranathan College of Engineering, Trichy, India.

[1] padmaa-ece@saranathan.ac.in, [2] j.vinithatkj@gmail.com

Abstract : In this paper, CDMA technique is proposed for providing physical layer security against eavesdropping in the elastic optical networks(EONs). CDMA technique is used to encode confidential information. Therefore in order to decode the original information, an eavesdropper will now have to lock on the correct frequency, determining the correct code and symbol sequence among the co-propagated overlapped signals. When the spectrum slots are randomly allocated, the gaps between the spectrum slots are created. The compact spectrum is converted into small fragments. Thus fragmentation aware routing and spectrum allocation (FA-RSA) is proposed to find the path having the contiguous spectrum. In this work, defragmentation techniques is used and also called as Defragmentation as a Service (DaaS). Defragmentation is used to satisfy spectrum contiguous constraint by aggregating the spectrum fragments and also reduces blocking probability.

Keywords : Code division multiple access(CDMA); Eavesdropping; Elastic optical network(EON); Optical layer security(OLS); Routing and spectrum allocation(RSA); Spread spectrum(SS).

DESIGN OF CIRCULAR MICROSTRIP PATCH ANTENNA FOR 5G APPLICATIONS

[1]Priyadharshini. G,[2] Priya Dharshini. R, [3] Ronikha Rajam. V, [4] Sangeetha. S, [5] V. Koushick

[1 2 3 4] UG Student, Department of ECE, Saranathan College of Engineering, Trichy, India.

[5] Assistant Professor, Department of ECE, Saranathan College of Engineering, Trichy, India.

[1] Priya.ekg@gmail.com, [2] Priyaramar1710@gmail.com, [3] ronikharajam@gmail.com, [4]sangeethasten15@gmail.com, [5] koushick-ece@saranathan.ac.in

Abstract: Fifth generation wireless communication technology seeks to accomplish increase in key aspects of wireless communication. The use of 5G seems to be reasonable, advantageous and also cost efficient against using 4G or optical and wired communication. In this project, circular microstrip patch antenna operating at 22.9 GHz frequency compactable at 5G mobile technology are designed with Advanced Design System (ADS) program and the performance of the designed antennas are compared. The proposed antenna is obtained by cutting a portion of the circular patch for attaining the desired range of antenna parameters. In this project FR-4 substrate with a dielectric constant of 4.2 is selected as the dielectric substrate and its height is 0.3 mm. According to these values and the resonant frequency of 22.9 GHz, radius and ground radius of the patch obtained from theoretical formulas are approximately 2 mm and 3.8 mm. The proposed antenna yields a directivity of about 7.80 dBi (22.916 GHz) and gain of 5.6 under simulation. The study of microstrip patch antenna has made great progress in recent years. Thus, the proposed antenna becomes a necessity for many applications in recent wireless communication such as 5G application. Finally, the simulated results and the theoretically calculated values seems to be almost around the same range of values, that is approximately equal.

Keywords: Fifth generation, Circular Microstrip patch Antenna, Advanced Design System (ADS)

IMPROVING PERFORMANCE OF MULTIUSER FULL DUPLEX DEVICE TO DEVICE COMMUNICATION UNDERLAYING CELLULAR NETWORKS

Dr. M. Baritha begum [1], K.Sharmila [2]

[1] Assistant Professor, Department of ECE, Saranathan College of Engineering, Trichy, India.

[2] PG Student, Department of ECE, Saranathan College of Engineering, Trichy, India

[1]barithabegum-ece@saranathan.ac.in, [2]sharmisharmi73@gmail.com

Abstract : During this paper, we investigate the resource allocation problem of multi-user full-duplex device to-device communication, considering both perfect and statistical channel state information. In perfect CSI scenario, to unravel the challenging problem, we decouple it in to 2 sub-problems as power allocation and channel assignment. Then we proposed an influence allocation algorithm supported difference of two convex functions programming and a channel assignment algorithm supported Kuhn–Munkres algorithm, respectively. In statistical channel state information scenario, we have formulate the challenging resource allocation problem as an outage probability constrained maximize to the weighted ergodic sum -rate .To unravel the matter, the closed-form expressions of outage probability and weighted ergodic sum-rate are derived first. Then we decouple into resource allocation problem for power allocation and channel assignment. An optimization solution developed to the 2-D global searching and Kuhn–Munkres algorithm. Simulation results shows that the proposed algorithms can improve the weighted sum-rate for full-duplex device to device communication significantly both in perfect and statistical channel state information (CSI).

Keywords: Device to Device communication, Full Duplex, Power allocation, Resource allocation, Outage probability, weighted sum-rate

EFFICIENT DECISION SUPPORT SYSTEM FOR AGRICULTURE USING IOT

[1] Maglin Fathima.V,[2] Prathiba.R, [3] Santhya.S, [4] Varshini.R

[1 2 3 4] UG Student, Department of ECE, Saranathan College of Engineering, Trichy, India

[1]maglinfathima@gmail.com, [2]prathibaramesh99@gmail.com, [3]santhya.sarv@gmail.com, [4]varshini1106@gmail.com

Abstract : Monitoring the paddy field from early stage to mature harvest stage to detect the disease and increase the yield by taking appropriate measures using the advanced technology and image processing.

Keywords: Paddy Field, Harvest, Image processing.

INTELLIGENT TRAFFIC LIGHT CONTROL USING IMAGE PROCESSING (ROAD-FI)

[1] M. Santhi, [2] P. Catherine Joyce [3] S. Deepika, [4] R. Akilandeshwari, [5] M. Dhanvarshini,

[1] Professor, Department of ECE, Saranathan College of Engineering, Trichy, India.

[2,3,4,5] UG Student, Department of ECE, Saranathan College of Engineering, Trichy, India.

[1] santhiphd@gmail.com, [2] catjoyce97@gmail.com, [3] deepikaselvaraj99@gmail.com, [4]akilarajadurai1999@gmail.com, [5] varshinimc@gmail.com

Abstract : Traffic management is a fairly tedious operation in densely populated and developing countries like India. The established traffic control systems provide fixed time delays for all lanes, and the number of vehicles in each lane is not considered. A better and smarter approach to controlling traffic lights using image processing is proposed in this Road-Fi project. This is achieved by collecting all the lanes ' footage, translating it into frames, performing background subtraction, detecting the edges using Canny edge detection algorithm and having the vehicle count. In the current sequence of traffic light control each category has a separate time delay which makes this system effective. Thus Road-Fi provides an ideal solution for shortening the length of the queue at the lanes and reducing time and traffic congestion.

Keywords : Canny edge detection;density of the vehicles; computer vision; python;Raspberry Pi 3b+

DETECTION OF PARKINSON DISEASE THROUGH SPEECH RECOGNITION

[1] Shanmuga Priya P, [2] Saranya G, [3] Swetha K, [4] Bavathareni SA, [5] Padmavathi M

[1] Associate Professor, Department of ECE, Saranathan College of Engineering, Trichy, India.

[2,3,4,5] UG Student, Department of ECE, Saranathan College of Engineering, Trichy, India.

[1] shanmugapriya-ece@saranathan.ac.in, [2] saranyaganesh2167@gmail.com

[3]kswetha251298@gmail, [4] bavathareni11dec98@gmail.com, [5] padmavathi631@gmail.com

Abstract : Parkinson Disease is neuro degenerative disease that affects the nervous system. The detection of the Parkinson disease is a tedious process. But the early and accurate detection of this disease is the most crucial part of the treatment. In order to detect the disease, we use speech recognition. Here we use Torgo database and the speech signal from this database is used as the input signal. In this paper we use two classification scheme Deep Neural Networks (DNN) and to verify which gives the higher accuracy. There are two important steps involved while using a classifier: Training and testing. For the feature extraction Mel Frequency Cepstral Coefficients (MFCC) is used. With the proposed methodology highly accurate output is obtained. The results gives whether the speech signal is Parkinson affected or not. It also shows that the results set a solid baseline to compare with future systems. Additionally, several other factors of speech is also included in the Parkinson's disease detection systems and should be considered in the future.

Keywords: Parkinson Disease, Torgo, Deep Neural Network, Mel Frequency Cepstral Coefficients

EPILEPSY ALERT SYSTEM

Dinakaran G [1], Ananthakrishnan P [2], Joshua Tribhuvandev Bennet [3], Sivagamasundhari P [4]

[1,2,3] UG Final year student, Department of Electronics and Communication Engineering, Saranathan College of Engineering, Trichy, Tamilnadu, India

[4] Assistant Professor, Department of Electronics and Communication Engineering, Saranathan College of Engineering, Trichy, Tamilnadu, India

[4] Sivagamasundhari-ece@saranathan.ac.in

Abstract: Autism spectrum disorder (ASD) is a neurological and developmental disorder that appears in the early childhood and lasts throughout the entire subject's life. There is no single cause for autism spectrum disorder, it is generally accepted as a result of abnormalities in brain structure. On closing observing the person affected with ASD, it is noted that person with ASD has high chance of getting epilepsy since both are related to similar brain structure problem. On observation in their social life, person affected with ASD cannot focus on a single particular work, the tend to get distracted and they also do repetitive stereotypical movements. They are also more prone to taste and smell disorders. We have proposed an idea to support ASD affected persons to be independent and perform day to day activities without affecting their privacy.

Keywords: Autism Spectrum Disorder, Epileptic seizure, Heart rate sensor, Accelerometer sensor, Internet of Things, Gas leakage.

AN ENERGY EFFICIENT PROGRAMMABLE CONTROLLER FOR PERSONALIZED BIOMEDICAL APPLICATIONS

Keerthana R [1], Adhilakshmi K N M [2], Esther Nisha K [3], Iswarya R [4],Vaishanavi R [5]

[1, 2, 3, 4] UG Final year student, Department of Electronics and Communication Engineering, Saranathan College of Engineering, Trichy, Tamilnadu, India

[5] Assistant Professor, Department of Electronics and Communication Engineering, Saranathan College of Engineering, Trichy, Tamilnadu, India

Abstract: Wearable personalized health monitoring systems can offer an effective solution for human health care system. And it keeps patients engaged and performs many functions. It monitors a patient's physiological signals continuously and transmits it with minimum power. It also helps in improving the chances of saving human life. In wearable personalized health monitoring systems, the signals are continuously monitored. For this operation, power is consumed heavily. It needs charging for a certain time, (i.e.) every 2-3 hours for continuous monitoring. During the charging of the equipment, if the patient suffers any difficulties, this

wearable personalized health monitoring system become helpless at that time. In already existing system the power is consumed heavily because they transmit the bit for every second from the physiological signals. So, a power efficient health monitoring system using "WIFI CONTROLLER ESP8266 MOD" has been proposed to give timely needed information about the patient's health with low power consumption.

Keywords: Personalized health monitoring, Biomedical sensors, Physiological signals, Heart rate, SpO2, BPM, Abnormality, Alert message system.

"UGV" -THE DEFENSE BOT

Jerald Joel M [1], Joseph Leyans Brighton B [2], Hari Krishnan V.S [3], Haris T.S [4], Shanmuga Priya P [5]

[1,2,3,4] UG Final year student, Department of Electronics and Communication Engineering, Saranathan College of Engineering, Trichy, Tamilnadu, India

[5] Associate Professor, Department of Electronics and Communication Engineering, Saranathan College of Engineering, Trichy, Tamilnadu, India

Abstract : Defense robot plays a vital role in saving human loses in the military base. Thus, it will gain more importance in the upcoming era. The robot basically consists of a vehicle mounted only one camera, the camera is used for capturing the targets image and the same one is used for monitoring them. Defense robot which are monitored, operated and controlled by military personnel, who need not be present in the terrain of activity, is a platform for multiple payloads such as mine detection and clearance, supply delivery systems. The salient feature of this defense bot is metal detector i.e. it is used to detect the buried mines which are been undiscovered as result of wars. Defense bot is mounted with a special type of gun called as laser gun. Defense bot is capable of blending into enemy territory, owing to credibility of the robot's compactness. The movement of the robot is controlled via pc or laptop. Since human lives are more valuable this bot can be used as the substitution for soldiers in the war areas. Even Places where there can be threats from intruders or terrorists these robots can be used.

Keywords: Defense Robot, Laser Gun, Military Base, Soldiers, Mines, Borders, War areas.

ANGEL GUARDIAN

[1] B. Nivedhaa, [2] M.Kanishka, [3] N.Jananie, [4] V.Hebeya, [5] Dr.C.Vennila,

[1,2,3,4] UG Final year student, Department of Electronics and Communication Engineering, Saranathan College of Engineering, Trichy, Tamilnadu, India

[5] Professor, Department of Electronics and Communication Engineering, Saranathan College of Engineering, Trichy, Tamilnadu, India

[4] hebi191999@gmail.com, [5] vennila-ece@saranathan.ac.in

Abstract : Women safety in India is bid concern which has been most important topic to be considered. Safety of women matters a lot whether at home, outside a home or working place. Few crimes targeted against women society are rape, sexual harassment, kidnapping abduction and sex trafficking. The rate has been increased exponentially. Women are afraid to be alone due to fear of being harmed in public places. This fear is due to repeated violence against them. For that, we introduce our project Angel Guardian with IoT based woman security system using Raspberry pi. We humans can't aptly respond to critical situations. Here, comes the need for a device which gets activated and rescues the victim from the danger, which is the venture of the idea of our project. The proposed system depicts a smart device that gives the mix of alarm and shock gadget to prevent the user when she catches the trigger. Live streaming is given in a website along with the information of the girl using IoT to monitor the situation. We emphasis more on self-defense, to induce her the courage to fight back, to measure the rights she is born with. This idea was devised in every wake of great crimes against women in India and to assist detain those crimes.

Keywords: Sexual harassment, IoT, Raspberry pi

AUTOMATED CLASSIFICATION OF WASTES AND REAL-TIME MONITORING USING IoT

Akshaya B [1] , Gayathri R [2] , Hamshavardni G [3], Mahendran M [4]

[1,2,3,] UG Final year student, Department of Electronics and Communication Engineering, Saranathan College of Engineering, Trichy, Tamilnadu, India

[4] Assistant Professor, Department of Electronics and Communication Engineering, Saranathan College of Engineering, Trichy, Tamilnadu, India

Abstract : The nation and the world are facing a huge problem today in disposal, segregating, and recycling of solid wastes. There is a rapid increase in the categories of solid wastes

generated and in the amount it is generated because of urbanization, constant economic growth, and industrialization. Globally about 2.01 billion metric tons of municipal solid wastes are produced annually. Segregation of wastes increases the number of recyclable materials and monitoring those helps to prevent waste deterioration which may cause the emission of harmful gases. The proposed system comprises various sensors and motors interfaced with Arduino for segregating those wastes and IoT is used for monitoring the waste bins. A web page is also created to show when the bin is full. The monitoring of wastes helps in the timely disposal of wastes and recycling them for other purposes. The segregation of waste into metallic, wet, and dry can be implemented successfully using this system.

Keywords : Waste segregation, monitoring, disposing of, Arduino, IoT, webpage.

AUTHENTICATED RATION DISTRIBUTION SYSTEM USING RFID

Aadhithya P [1],Devi Priya K [2], Divya Prabha M [3], Kavitha S [4]

[1 2 3 4] UG Final year student, Department of Electronics and Communication Engineering, Saranathan College of Engineering, Trichy, Tamilnadu, India

Abstract: The Public distribution system (PDS) is an Indian food Security System established under the Ministry of Consumer Affairs, Food, and Public Distribution.The ration distribution system is automated by using RFID and Fingerprint . This automated ration system replaces the conventional ration card system by RFID Tags. In addition to, these tags followed by fingerprint detector is placed in the machine in order to check the correct user access. If the user is a correct user, the next process takes place and the input can be given in the keypad. By giving the input the required products are received from the ration shop. In order to perform the similar operation the embedded controller is pre-programmed.. In order to involve government in the process, the proposed ration shop system is connected to the government database via GSM module, which further sends the up-to-date information to the government and as well as the consumer.

Keywords: Global System for Mobile Communication(GSM), Personal Digital Assistants (PDA), Global Positioning System(GPS), Time Division Multiple Access(TDMA).

TRACE AND TRACK FOOD SUPPLY CHAIN BASED ON BLOCK CHAIN AND EPCIS

[1] S.D. Sairam, [2] A. Ashif Ameer, [3] K. Akash,[4] R. Ezhil Valavan, [5] S. Jaya Suriya

[1] Assistant Professor, Department of Electronics and Communication Engineering, Saranathan College of Engineering, Trichy, Tamilnadu, India

[2 3 4 5] UG Final year student, Department of Electronics and Communication Engineering, Saranathan College of Engineering, Trichy, Tamilnadu, India.

[1] Sairambe.dvk88@gmail.com, [2] ashifbritto@gmail.com, [3] akashkannan221999@gmail.com, [4]ezhil4449@gmail.com, [5] jsuriya943@gmail.com

Abstract : The food supply chain is the most complex and fragmented of all supply chains. The production is found all over the world both on land and in water. A lot of the producers and intermediaries are difficult to identify and track. For all the participants in the production chain this creates uncertainty and risk. Mitigating this uncertainty comes at a cost, and the outcome may still be insufficient. Examples of problems that have been difficult or impossible to solve with current technologies include establishing reliable provenance and preventing fraud and counterfeiting. These issues can have knock-one effects on public health and the environment, and reduce financial costs of unnecessary recalls of food products. To overcome the above challenges, a block chain Io-T based food traceability system (BIFTS) is proposed in this study, to achieve the following: (i) to integrate block chain and Io-T technology for effective and efficient traceability, and (ii) to support shelf life adjustment and quality decay evaluation for improving quality assurance. For the sake of better computational load, the block chain is modified as a lightweight block chain to be associated with cloud computing to support Io-T monitoring, and can be vaporized after the entire life cycle of traceability to release computational resources of the system. By using such a reliable data source, the decision support in food quality can be made by using fuzzy logic to determine adjustment of shelf life rate, and order of quality decay, according to different situations for each batch of perishable foodstuffs at food processing sites. Therefore, the proposed traceability model is extended to the modern food supply chain environment, resulting in reliable and intelligent monitoring, food tracking, and quality assurance.

Keywords: Food supply chain, Block chain IoT, Fuzzy logic

AN IoT BASED STAPLE FOOD ENDOWMENT AND WASTE MANAGEMENT SYSTEM FOR FOSTER CARE USING ARDUINO AND BLOCKCHAIN

[1] M.Janani, [2] R.Gunaseeli, [3] B.Abarna, [4] B.Malarvizhi, [5] V.Dinesh

[1,2,3,4,] UG Final year student, Department of Electronics and Communication Engineering, Saranathan College of Engineering, Trichy, Tamilnadu, India

[5] Assistant Professor, Department of Electronics and Communication Engineering, Saranathan College of Engineering, Trichy, Tamilnadu, India

1 astrojana266@gmail.com, 2 bmalarvizhi98@gmail.com

3 abarnabalu99@gmail.com, 4 gunaseeli14071998@gmail.com,

5 dinesh-ece@saranathan.ac.in

Abstract : IOT usage in everyday lives is potential and can be applied in different fields; lamentably the execution in the social field is as yet inadequate. The data about the nourishment saves for huge number of halfway houses in India are not effectively accessible; anyway givers think that it's hard to get the correct data about nourishment holds, particularly staple nourishment stock in foster care. This venture proposes an electronic IOT framework where staple nourishment stocks and the wastage of food stocks in halfway houses can be distinguished by Arduino device which is associated with sensors. The data from the Arduino is transferred into the web application. Benefactors gives nourishment items through exchanges with specialist organizations, and nourishment providers will dispatch things to the halfway house. Blockchain is applied to all gatherings in system using SHA256 hashing algorithm to be made sure about and diminish exchange control.

Index Terms : Internet of Things, Arduino, Blockchain, Foster care, Endowment.

DUAL CODE DATA SHIELDING BASED ON VIDEO STEGANOGRAPHY

[1] Dr.S.A.Arunmozhi, [2] A.Abinaya, [3] S.Anusha, [4] J.Divyadharshini, [5] R.Hemamalini

[1] Associate Professor, Department of Electronics and Communication Engineering, Saranathan College of Engineering, Trichy, Tamilnadu, India

[2 3 4 5] UG Final year student, Department of Electronics and Communication Engineering, Saranathan College of Engineering, Trichy, Tamilnadu, India.

Abstract : Steganography is that the art of covered or hidden writing. Videos are perfect for information hiding. It essentially exploit human perception, the particular information isn't maintained in its original format and thereby it's converted into an alternate equivalent multimedia files like image, video or audio which successively is being hidden within another multimedia file. The proposed system increases the capacity in video data hiding using dwt(discrete wavelet transform)technique. The algorithm decomposes the video file into frames, after this divided each image into three components y,u and v. The key message is hidden within

the image then the image is hidden within the video file. Thus, the key message is shared between the sender and receiver only. This method of transfer the message is way more confidential, which is employed for personal journal writing, access system for digital content-e-paying, e-marketing, personal or national security data, and finance also because the private communication data.

Keywords: Steganography, Discrete Wavelet Transform

IOT BASED AUTOMATIC VACUUM CLEANER

[1] Srinidhi P B, Lavanya S, [3] Dr.S.Rajeswari

[1, 2] UG Final year student, Department of Electronics and Communication Engineering, Saranathan College of Engineering, Trichy, Tamilnadu, India.

[3] Associate Professor, Department of Electronics and Communication Engineering, Saranathan College of Engineering, Trichy, Tamilnadu, India.

[1] srinidhinidhi38@gmail.com, [2] lavsugans@gmail.com, [3] rajeswais-ece@saranathan.ac.in

Abstract: The main aim of our project is to design an autonomous or a manual vacuum cleaner. This vacuum cleaner must be able to work by instructing it in a remote place. To make it access from any part of the world, we have made use of Internet Of Things (IOT).We have included Wi-Fi module ESP-8266 which is capable of either hosting an application or offloading all Wi-Fi networking functions from another application processor. Here the owner of the vacuum cleaner is given an IP address which is also the key of the vacuum cleaner. With the help of the IP address the user will be able to operate it from any part of the world.

IndexTerm: Autonomous cleaning, manual cleaning, remote operation, Automatic off, efficient cleaning, obstacle detection, power efficient, IOT based operation.

SPOTTING OF UNSOLICITED MESSAGES AND DECEPTIVE USER IDENTIFICATION ON SOCIAL NETWORKS

R. Senthamilselvi[1], Aarthi. M[2], Jusmitha. N[3], Kavya Priyadharshini. S[4], Keerthana. B[5]

[1]Assistant Professor, [2,3,4,5]Student, Department of Computer Science and Engineering, Saranathan College of Engineering

[1] senthamilselvi-cse@saranathan.ac.in

Abstract: Over the last few years, social networking sites have become one of the main ways for users to keep track and communicate with their friends online. Sites such as Facebook and Twitter are consistently among the top 20 most-viewed web sites of the Internet. Statistics show that, on average, users spend more time on popular social networking sites than on any other site. The tremendous increase in popularity of social networking sites allows them to collect a huge amount of personal information about the users, their friends, and their habits. Unfortunately, this wealth of information, as well as the ease with which one can reach many users, also attracted the interest of spammers. Automated spammer fake profile in tweets is the important issue. It's very important problem cyber security .This project describes the spammer detection on social networks such as Twitter and Facebook. Spammer detection scheme is implemented based on (i) fake content, (ii) spam based on URL, (iii) spam in trending topics, and (iv) fake users. This proposed scheme identify the spam using the different kind of features .This features enhance the detection accuracy rate. In future we implemented the Machine learning algorithm it's enhance the detection of spam users.

A BLOCKCHAIN BASED CONFIDENTIAL SCHEMA FOR ORGANIZED DATA IN DISTRIBUTED SERVERS

A. T. Barani Vijaya Kumar[1], Abirami. V[2], Aruna. C[3], Jothika. S[4], Paven Priah. J.P[5]

[1]Assistant Professor, [2,3,4,5]Student, Department of Computer Science and Engineering, Saranathan College of Engineering

[1] barani-cse@saranathan.ac.in

Abstract: To process the secure database, a server/node has to be "empowered" with two features equipping a secure processor and having the database encryption key stored inside the processor chip. In CSP, outsourced encrypted database is partitioned and stored in a distributed manner, whereas the secure server manages the query processing on such distributed database. The data in a particular cloud server from which the server distributes

the user data in to multiple number of nodes based on the availability and user performance. Every time the user the user has been provided with asymmetric keys for better security reasons. Additionally, we propose honey encryption algorithm which holds the function of providing duplicate or empty data to the attacker, in case the attacker retrieves the user data from the cloud server.

VOICE BASED MEDICINE PRESCRIPTION IN HEALTHCARE

R. Mohankumar[1], Anuradha. R[2], Bavya. P[3], Brahadambal. S[4], Deepashree. M[5]

[1]Assistant Professor, [2,3,4,5]Student, Department of Computer Science and Engineering, Saranathan College of Engineering

[1]mohankumar-cse@saranathan.ac.in

Abstract: In India thousands of people dies as a result of wrong medication which leads to severe ailments. To overcome this problem voice recognition is used. In this voice recognition system speech-to-text convertion lets the user control computer functions and dictates text by voice. This system consists of two components, first component is for processing the signal that is captured by a microphone and second component is to interpret the signal that is processed and then mapping of those signals into words. As a result of which, the pharmacist can provide the medicine to user without any change in a computerized manner. The main goal is to avoid wrong medication for ailments viz. fever, cough, cold, body pain etc. And it is a new healthcare system that would change the way of storing and processing health records. It will digitize the complete healthcare process. There won't be any need to carry paper prescriptions. The system will generate an electronic prescription using speech recognition and natural language.

A SIMPLE STATISTICAL ANALYSIS APPROACH FOR SECURITY RISK MANAGEMENT AND CYBER INSURANCE COVERAGE FOR CLOUD SERVICES

P.L. Rajarajeswari[1], Harini. R[2], Jeba Mary. G[3], Kaleeswari. M[4], Keerthika. S[5]

[1]Associate Professor, [2,3,4,5]Student, Department of Computer Science and Engineering, Saranathan College of Engineering

[1]rajarajeswari-cse@saranathan.ac.in

Abstract: Cloud computing is a field in IT that has increasingly becoming popular among consumers. Cloud based computing is based on using or sharing a common CPU or server in the internet. A lot of security features are needed to protect data in the cloud. Such security features are available for purchase and are charged heavily. But even a small successful attack on the cloud could lead to the loss of data and money without any compensation. To guard against such inconveniences, cyber insurances are available to receive recompense in the case of loss. we proposed, cloud security and insurance are combined together to provide a better security platform for the customers. The packets to and from the cloud are scanned by services provides by Security-as-a-service providers which are provisioned by a subscription management process (SMP). Harmful packets elude security, cyber insurers, subscribed to by an insurance management process (IMP), provide compensation for damages incurred. we provide application level security as a service to the user using AES algorithm for encrypting and decrypting the data.

DRIVER EXHAUSTION DETECTION BASED ON FACIAL NODAL POINTS

S. Mohana[1], Darshna. S[2], Ishwarya. S[3], Madhumitha. K[4], Fouzia[5]

[1]Associate Professor, [2,3,4,5]Student, Department of Computer Science and Engineering, Saranathan College of Engineering

[1]mohana-cse@saranathan.ac.in

Abstract: Drowsiness and fatigue of automobile drivers reduce the drivers abilities of car manage, herbal reflex, recognition and notion. Such diminished vigilance stage of drivers is found at night time driving or overdriving, causing twist of fate and pose extreme danger to mankind and society. Therefore it is very tons essential in this recent fashion in vehicle industry to include driving force help system which could hit upon drowsiness and fatigue of the drivers. This undertaking offers a nonintrusive prototype computer vision gadget for monitoring a driving force's vigilance in real time. Eye tracking is one of the key technologies for destiny motive force help systems for the reason that human eyes contain lots statistics approximately the driver's condition which includes gaze, attention stage, and fatigue degree. One problem commonplace too many eye monitoring strategies proposed to this point is their sensitivity to lighting fixtures situation exchange. This has a tendency to seriously restrict their scope for car packages. Real-time detection and monitoring of the attention is an energetic region of research in laptop imaginative and prescient community. Localization and

monitoring of the attention can be beneficial in face alignment. This challenge describes actual time eye detection and tracking approach that works underneath variable and sensible lighting fixtures situations. It is primarily based on a hardware device for the real-time acquisition of a driving force's snap shots the use of digital camera and the software program implementation for monitoring eye that can avoid the accidents.

SECURE DOCUMENT TRANSFER APPLICATION USING IMAGE STEGANOGRAPHY AND VISUAL CRYPTOGRAPHY

R.Thillaikarasi[1], Alagu. S[2], Beryl Susanna. B[3], Bhavadarani. M[4], Keerthana. S[5]

[1]Associate Professor, [2,3,4,5]Student, Department of Computer Science and Engineering, Saranathan College of Engineering

[1]thillai-cse@saranathan.ac.in

Abstract: The proposed model is to build a secure document transfer application using Steganography and Visual Cryptography techniques for data hiding. Initially the document is made hidden inside an image using the technique of Image Steganography. The image is then encrypted using Visual Cryptography technique and is transmitted, which provides two level encryption. At the receiving end the image is first decrypted and the document is extracted. The main aim of the proposed model is to design a feasible and secure algorithm which combines the use of both Image Steganography and Visual Cryptography for improving security, reliability and efficiency for secret message/document.

ONLINE PURCHASE SYSTEM USING CRYPTOGRAPHY AND STEGANOGRAPHY

R.Thillaikarasi[1], Dhivakar. S[2], Dinesh. T[3], Kisore. S[4]

[1]Associate Professor, [2,3,4]Student, Department of Computer Science and Engineering, Saranathan College of Engineering

[1]thillai-cse@saranathan.ac.in

Abstract: Fast development in E- Commerce advertise is being witnessed in ongoing time all through the world. With ever-expanding notoriety of web-based shopping, Debit or Credit card misrepresentation and individual data security are significant worries for clients, vendors,

and banks explicitly on account of CNP (Card Not Present). This paper presents another methodology for giving constrained data just that is essential for support to move during online shopping, in this manner protecting the client information and expanding the client certainty and forestalling wholesale fraud. The strategy utilizes consolidated use of steganography and visual cryptography for this reason. RBI expresses that more than 900 deceitful cases registered in the previous year. Interloper performs assaults, for example, disguising and caricaturing in exchanges. To handle the attacks made by the hackers, we step-in with our concept of actualizing Crypt-steganography. We fill in as a Certified Authority (CA), a trusted in fourth assembling between the section and the bank. To heighten the security and complete the trade, we have parted the client's card details as a half share, and the other staying with the CA, which infers various degrees of crypt-steganography systems. Client's card subtleties will be encoded using 3DES and RSA. The depiction is created by inserting the client's share using image steganography. Another half is put away in the CA database. At the hour of procurement, after checking the client, the total payment procedure will be performed. Each time when a customer needs to make a purchase, he must provide the pass phrase.

AUTOMATIC PREDICTION OF LUNG CANCER USING DEEP LEARNING APPROACH

N. Kavitha[1], Bhuvaneswari. M[2], Janani. R[3], Jayashree. S[4], Kasthuri. B[5]

[1]Assistant Professor, [2,3,4,5]Student, Department of Computer Science and Engineering, Saranathan College of Engineering

[1]kavitha-cse@saranathan.ac.in

Abstract: Lung cancer is the most commonly occurring cancer in men and the third most commonly occurring cancer in women in worldwide. We developed a computer-aided decision support system for lung cancer detection using deep convolutional neural network (DCNN). In our model, we use Computer Tomography (CT) scans to train a 2DDouble Convolutional Neural Network (2DDoubleCNN) and Depthwise Separable Convolutional Neural Network (Depthwise Separable CNN). The lung cancer and non-lung cancer images are collected from kaggle lung cancer dataset. At first pre-classify the CT scan images from the initial dataset, so that the training of DCNN could be focused. Preprocessing the image in which noise is removed, resize it and so it can be converted into suitable format for which providing the dataset for training and testing. Next we built the 2DDouble Convolutional

Neural Network and Depthwise Separable Convolutional Neural Network separately. Then we compare the performance of 2DDoubleCNN against Depthwise Separable CNN in terms of accuracy, time consumption and memory. The Depthwise Separable CNN achieved accuracy of 98.98% in 6.22 minutes, whereas 2DDoubleCNN obtained 96.64% in 13.57 minutes.

VOICEPAD, JAVA PROGRAMMING BY VOICE

R. Senthamil Selvi[1], Nandha Gopala Krishnan. C[2], Vignesh. K[3], Sagul Hameed. M[4], Suhail Yusuff Azees. A[5]

[1]Assistant Professor, [2,3,4,5]Student, Department of Computer Science and Engineering, Saranathan College of Engineering

[1]senthamilselvi-cse@saranathan.ac.in

Abstract: An environment that helps programmers to program by voice is highly needed because of the increasing incidents of programmers who get affected by repetitive strain injury (RSI). This paper describes voicepad, an editing tool to create java programs by voice. It also shows how voicepad is used to ease the difficulties while writing java programs.

DEFENSE METHOD FOR DDOS ATTACK BY DETECTING IOT BOTNET DEVICES

V. Punitha[1], Raaja Vignesh. C[2], Naveen. K.S.R[3], Nirmal. R[4], Prasanna Kumar. R[5]

[1]Associate Professor, [2,3,4,5]Student, Department of Computer Science and Engineering, Saranathan College of Engineering

[1]punitha-cse@saranathan.ac.in

Abstract: IoT plays a vital role and each IoT device will have its unique characteristics. For example CCTV Cameras, Mobile phones, Laptop etc. However at some point, it will also become a threat when it is controlled by an attacker. Mirai is a malware which infects the IoT devices and spreads from one IoT device to other IoT devices and takes control of the devices. This paper proposes defend system to protect the particular DDoS attack happening in the IoT devices by the attacker using one of the powerful malware, Mirai by detecting the botnet. This paper presents the mirai attack, botnet operations and proposed method to detect the capture of botnets caused by Mirai malware.

ENHANCING AND EVALUATING THE PRIVACY OF THE USER IN BITCOIN TRANSACTION

P L Rajarajeswari[1], Revathi. A.U[2], Rajalakshmi. G[3], Nithyasri. K[4], Shalini. S[5]

[1]Associate Professor, [2,3,4,5]Student, Department of Computer Science and Engineering, Saranathan College of Engineering

[1]rajarajeswari-cse@saranathan.ac.in

Abstract: Bitcoin is a Cryptocurrency and a digital payment system. The system is peer-to-peer and the transactions take place between users directly without any intermediary. There is no need for any central repository and hence it is called as a first decentralised digital currency. Existing system is used for transferring money to a particular person. Details of the transaction are only shown to the receiver. The recipient provides both the signature and the public key. It is very convenient for the hackers to trace the information. Data leakage is highly possible. To overcome this major issue, in the proposed system, blockchain technology is used. Blockchain is a growing list of records, called blocks that are linked using Cryptography. Each block contains a Cryptographic hash of the previous block, and transaction data. On retrieving, the block has been viewed as whole. This helps us to prevent the data from third parties. When the hackers tried to hack the information, we can easily identify it, because the blocks are connected to each-other. When a person sends a bitcoin to receiver, the transaction is included in the Blockchain and broadcast into network. Once validated, the transaction is added to others block to create a block of data. Implementation is done with MD5 (Message Digest) Algorithm which is much faster than other algorithms. The MD5 message digest algorithm is a widely used hash function. Although MD5 was initially designed to be used as a cryptographic hash function. It is impossible to generate two inputs that cannot produce the same hash function.

DISEASE PREDICTION USING MACHINE LEARNING TECHNIQUES

V. Punitha[1], Sri Gopala Krishnan. R[2], Pragadeesh. P[3], Prasanna Venkatesh. S[4], Sriram. S[5]

[1]Associate Professor, [2,3,4,5]Student, Department of Computer Science and Engineering, Saranathan College of Engineering

[1]punitha-cse@saranathan.ac.in

Abstract: “There will be an era where technology goes hand in hand with human .” - Isacc Asimov. Healthy Lifestyle is now a days a major requirement for all the people because of the type of work style we have chosen. Moreover In these recent years there have been several

diseases that affected the people and they used to go to the doctor for consultation and regular checkups. If there is a major threat of any disease we have to go and consult him which is sometimes tedious. So In order to make our work simple we make use of this disease prediction system based on patient's symptoms. This system is able to provide data that aids us and mainly the experts in early detection of fatal diseases and therefore, increase the survival rate of our life significantly. In this system, we apply the classification algorithms, with its own advantage on various separate datasets of disease (Heart, Pneumonia, Diabetes etc.) available in UCI repository for disease prediction. The feature selection for each dataset was accomplished by backward modelling using the p-value test. The results of the study strengthen the idea of the application of machine learning in early detection of diseases.

AN APPROACH FOR JOB RECOMMENDATION BY EXPLORING JOB PORTAL

S Mohana[1], Prakash. V[2], Sanjay. D[3], Venkatramanan. A.S[4], Vinoth. M[5]

[1]Associate Professor, [2,3,4,5]Student, Department of Computer Science and Engineering, Saranathan College of Engineering

[1]mohana-cse@saranathan.ac.in

Abstract: Securing positions that best suits the interests and range of abilities is a significant testing task for the activity searchers. The troubles emerge from not having appropriate information on the association's target, their work culture and present place of employment openings. Likewise, finding the correct competitor with wanted capabilities to fill their present place of employment openings is a significant undertaking for the enrollment specialists of any association. Online Pursuit of employment Entryways have absolutely made occupation looking for helpful on the two sides. Occupation Entry is where enrollment specialist just as the activity searcher meet targeting satisfying their individual prerequisite. They are the least expensive just as the quickest wellspring of correspondence arriving at wide scope of crowd on only a solitary snap independent of their land separation.

The web application "Job search portal" gives a simple and advantageous quest application for the activity searchers to secure their ideal positions and for the spotters to locate the correct up-and-comer. Employment searchers from any foundation can look for the present place of employment openings. Employment searchers can enroll with the application and update their subtleties and range of abilities. They can look for accessible employments and apply to their ideal positions. Boss can enroll with the application and posts their present openings. They can

see the Activity candidates and can screen them as per the best fit. Clients can give an audit about an association and offer their meeting experience, which can be seen by the Businesses.

NVEDU

S. A. Sahaaya Arul Mary[1], Rohit Raj[2], Vatsala. R[3], Thayalan. G.R[4],
Surya Prakash. R[5]
[1]Professor, [2,3,4,5]Student, Department of Computer Science and Engineering, Saranathan College of Engineering
[1]mary-cse@saranathan.ac.in

Abstract: The basic concepts of education and entertainment, is that we have the liberty to take for granted, are a far-fetched luxury for the specially gifted. This project caters to solve such problem with minimal cost and familiar technology. The significant reason behind us taking over this project is that there are approximately 285 million visually impaired people around the globe, of which 39 million are completely without any form of vision whatsoever. Though braille was used in olden days, it served just as a tool to know what is what by our sense of feeling, which was truly time consuming and had no room for extending to other facets of life such as entertainment or novel reading at scale. To bring education, entertainment and comprehensive book reading capabilities to the fingertips of these students. The NVEDU device will consist of a microchip controlled by multiple control interfaces such as joysticks and tactile buttons. The key functionalities of the module will be, Students will be able to hear the audio lessons as dictated and loaded into the device by their instructor, students will be able to browse through and listen to songs and other multimedia files, students will now be able to read any book on the planet with the help of audiobook technology. This device will serve not just as a tool, but as a companion for the visually challenged for all their lives.

PARTIAL REPLACEMENT OF CEMENT AND FINE AGGREGATE BY USING BENTONITE AND WASTE

G.Kannan[1], S.Viknesh[2], S.Dinesh[3], P.Balaji[4], S.Abdhul Malik[5]

[1]Assistant Professor, [2,3,4]UG Scholar, Department of Civil Engineering, Saranathan College of Engineering

[1]kannan-ce@saranathan.ac.in

Abstract: As construction in India and other developing countries increases, the consumption of energy and resources is also increasing in an alarming way. Most of the developing nations have reduced the usage of virgin material like aggregates in construction, due to consumption of energy and resources is increasing in an alarming way, so they focused on the environment and safeguarding of natural resources and recycling of wastes materials. Many industries produce lot of waste products which is disposed into landfills. This material can be used in construction industry as alternative to conventional materials. Such practice conserves natural resources and reduces the space required for the landfill disposal of these waste materials.

The objective of Present work is to find out the effectiveness of the bentonite and recycled waste glass aggregate-based concrete. In this investigation it was proposed that the use bentonite as cement replacement material and recycled waste glass as fine aggregate material partially in concrete. Cement is partially replaced (5%, 10%, 15%) with Bentonite and Natural sand was partially replaced (10%, 15%, 20%) with sheet glass aggregate. Compressive strength of cubes at 7days and 28 days of duration and flexural strength at 28 days were studied and compared with conventional concrete. Fineness modulus, specific gravity, moisture, water absorption was also studied. Based on the test results, the ideal percentage of mix which shows maximum compressive strength was identified.

INTERLOCKING CAVITY BLOCKS

Anbuselvan.A[1], Vasanth.M[2], Babu.S[3], Pradeep Kumar.S[4], Dhanalakshmi.S[5]

[1,2,3,4]UG Scholar,[5]Professor, Department of Civil Engineering, Saranathan College of Engineering

[1]anbuarms1999@gmail.com

Abstract: Interlocking Cavity Blocks (ICB) are used as a construction material in many under-developed and developing countries. These ICB are prepared without designing specifications and guidelines in most of the regions, by simple mixing of Fly Ash, Cement

and Sand in a conventional manner by local manufacturers. Previous studies have shown a large variation in the mechanical properties of ICB collected from different regions. In this study, an attempt is made to improve the mechanical properties of ICB. Cement, Sand and Fly Ash were used. Results showed a markable increase in the compressive strength of the newly manufactured ICB as compared with the original bricks. Other properties including the water absorption and flexural strength of the newly manufactured ICB also improved. In Appearance test, the smooth and crack free surface were seen. Outer dimensions - 300mm x 200mm x 150mm with Cavity - 100mm x 50mm x 75m were maintained. The compressive strength of Flyash bricks for 7 days is 41% less than that of ICB and for 28 days, it is observed that Fly Ash strength is 25% less than that of ICB. The Flexural strength of Flyash is 32% less compared with ICB for 7 days and for 28 days, the Flexural strength of Flyash is 35% less compared with ICB. It is seen that the Compressive Strength of the Brick Masonry Prism is 11% less than that of Block Masonry Prism at 28 days testing. Water Absorption is 15.29%, as the weight of the interlocking block with cavity is very less, handling is very easy and dead load also gets reduced. Even in conveyance, there will be a savings of 10% by using ICB.

A REVIEW PAPER ON EFFECT OF SELF REPAIRING MECHANISM IN CONCRETE USING BIOMATIC MATERIALS

Kesavaraja.C[1], Yuvatharani.P[2], Kalpana.A[3], Abinaya.R[4], Padmavathi.V[5]

[1]Assistant Professor, [2,3,4,5]UG Scholar, Department of Civil Engineering, Saranathan College of Engineering

[1]K7g.5000@gmail.com

Abstract: Concrete is very sensitive to crack formation. Due to the high tensile stresses the cracks may be formed on the concrete surface. As wider the cracks endanger the strength and durability of concrete structures, So that the cost of maintenance to repair may be required. In order to enhance strength and durability cracks should be filled with bonding and inert materials. In this study the BIOMATIC MATERIALS are used to induce CaCO3. Bio-chemically induced calcite precipitate will help in the healing the premature cracks formed in the concrete structures. By providing self- healing agents 50% of maintenance cost is reduced. This study mainly focus on to enhance the ability of self-repairing mechanism of the concrete

by the help of formation of calcite precipitation. It is also an attempt to reduce the burden of frequent maintenance and manual repair works thus resulting in increase of lifetime of the concrete structures.

REMOVAL OF CHROMIUM FROM SYNTHETIC WASTEWATER BY USING LOW COST ADSORBENT

C.Nivedhitha[1], B.Nanthini[2], R.Preetha[3], R.Siva Sakthi[4]

[1]Assistant Professor, [2,3,4]UG Scholar, Department of Civil Engineering, Saranathan College of Engineering

[1]nivedhitha-ce@saranathan.ac.in

ABSTRACT - In the present study, an effort has been made to study and compare the performance of fixed bed column with single bed adsorbent Mosambi waste and Tea dust in removal of Cr(VI) from synthetic wastewater and arrive at the parameters of adsorption column that are useful for process design. From the removal efficiency of single bed Mosambi Waste and Tea dust column, it is evident that the Mosambi Waste single bed column performance is better than that of the Tea Dust Column. Kinetic models viz., Thomas model (1994) and Yoon-Nelson model (1984) were used to predict the performance of the column.

EXPERIMENT INVESTIGATION ON CONCRETE WITH PARTIAL REPLACEMENT OF CEMENT BYCOW DUNG ASH

G.Venkatesan[1], Giridharan.D[2], Kashim Khan.N[3], Selva Ganesh.A[4], Vasanth.A.D[5]

[1]Assistant Professor, [2,3,4,5]UG Scholar, Department of Civil Engineering, Saranathan College of Engineering

[1]venkatesan-ce@saranathan.ac.in

Abstract: Experimental investigations were carried out to study the cow dung ash on the strength of concrete. Cement was partially replaced with four percentages (5%, 10%, 15%, 20%) of cow dung ash by weight in M20 grade concrete mix. Test performed on the concrete mix are compressive strength, splitting tensile strength and workability. The compressive strengths of the concrete specimens were determined at 7 and 28 days respectively. The tests were performed on the moulds of size (150mm x150mm x150mm). Workability test is done using compaction factor apparatus. Workability Test shows that workability of concrete

decreases as percentage of cow dung ash increases in concrete mix. When compared to normal concrete the concrete containing 10% of CDA has 17% increase in compressive strength and 15% increase in Tensile Strength. The Compressive Strength and Tensile strength tend to decrease after 10%. Thus 10% replacement of cement by CDA gives satisfactory result.

EXPERIMENTAL INVESTIGATION OF FLEXURAL STRENGTH OF REINFORCED CONCRETE BEAM INCORPORATING ULTRAFINE SLAG

S.Kannan[1], S.Mohammed Aashik[2], A.Harish[3], R.Nihal Yasar[4], M.Mohamed Thageer[5]

[1]Assistant Professor, [2,3,4,5]UG Scholar, Department of Civil Engineering, Saranathan College of Engineering

[1]kannan-ce@saranathan.ac.in

Abstract: There have been enormous researches going on the use and utilization of industrial, agricultural and thermoelectric plant residues in the production of concrete. Production of high performance concrete (HPC) plays an important role with different pozzolanic materials like fly ash, condensed silica fume, blast furnace slag, rise husk ash etc. There has been increase in the consumption of mineral admixture by cement and concrete industries. This rate is expected to increase day by day. The presence of mineral admixture in concrete is known to impart significant improvement in workability and durability in concrete. The present paper involves the use of mineral admixture 'ultrafine slag" as a cementitious material for cement and to evaluate the threshold limit of replacement of cement. Main aim of this work is to evaluate the flexural strength of High strength concrete by partial replacement of cement (0, 8, 10, 12, and 14%) with ultra-fine slag (Alccofine 1203) for M60 grade of concrete.OPC of 43grade from single source is used in this investigation. The properties of cement tested as per IS4031:1988 and found to conform various specifications of IS12269:1987. Locally available river sand is used as fine aggregate and also its specific gravity and fineness is determined. The addition of alccofine shows an early strength gaining properties with increase flexural strength of concrete.

EXPERIMENTAL STUDY OF CONCRETE WITH PARTIAL REPLACEMENT OF CEMENT BY USING LIME STONE

Kesavaraja.C[1], Praveen Kumar.P[2], Surya Prakesh.B[3], Madhan Kumar.S[4], Suresh Kumar.M[5]

[1]Assistant Professor, [2,3,4,5]UG Scholar, Department of Civil Engineering, Saranathan College of Engineering

[1]kesavaraja-ce@saranathan.ac.in

Abstract : This experimental study presents the variation in the strength of concrete when replacing cement by lime powder also replacement by from 0% ,10%,20%,30% and 40% in steps of 10%. M20 grades of concrete are taken for the study keeping a constant slump of 60mm. The compressive strength of concrete cubes at age of 7 and 28 days is obtained at room temperature. Split tensile strength of concrete are found at the age of 28 days. Mixtures as a good substitute for Natural River sand.

EXPERIMENTAL STUDY ON CONCRETE WITH PARTIAL REPLACEMENT OF CEMENT BY USING RICE HUSK ASH

G.Venkatesan[1], S.P.Aravindh[2], A.S.Ashwin[3], Balasubramanian[4], R.R.Barani[5]

[1]Assistant Professor, [2,3,4,5]UG Scholar, Department of Civil Engineering, Saranathan College of Engineering

[1]venkatesan-ce@saranathan.ac.in

Abstract: Concrete containing rice husk ash should be promoted as a new construction material to replace the existing one in market. Properties of the material used must be better understood first to obtain the desired concrete. The compressive strength, splitting tensile strength, flexural strength was investigated. Sieve analysis of the constituent materials of the ordinary Portland cement and Rice Husk Ash concrete were conducted to confirm their suitability for Concrete mix. The recently prepared mix was casted in cube, cylinder and prism moulds and compacted by a tamping rod for 7 and 28 days at 0, 10, 15 and 20 percent replacement levels. In conclusion, the high performance of concrete can be produced using rice husk ash (RHA) as cement replacement material. The compressive strength of the OPC and RHA concrete increases with age at curing and decreases as the percentage of RHA content increases. When compared to normal concrete the concrete containing 10% of RHA as 14% increase in its compressive strength. The split tensile strength of the OPC and RHA

concrete increases with age at curing and decreases as the percentage of RHA content increases. When compared to normal concrete the concrete containing 10% of RHA as 20% increase in its tensile strength. The flexural strength of the OPC and RHA concrete increases with age at curing and decreases as the percentage of RHA content increases. When compared to normal concrete the concrete containing 10% of RHA as 29% increase in its flexural strength. The study arrived at an optimum replacement level of 10%.

EVALUATION OF ROAD SAFETY AUDIT ON EXISTING HIGHWAY BY EMPIRICAL BABKOV'S METHOD

A.Anadaraj[1], Sadeesh.P[2], Saisaravana.PL.M[3], Satheesh Kumar.S[4], Vigneshwaran.S[5]

[1]Assistant Professor, [2,3,4,5]UG Scholar, Department of Civil Engineering, Saranathan College of Engineering

[1]araj1988@gmail.com

Abstract: Road Safety Audit (RSA) is a formal procedure for assessing accident potential and existing safety performance of new and existing roads. RSA is an efficient, cost effective and proactive approach to improve road safety. It is proved that RSA has the potential to save lives. RSA appears to be an ideal tool for improving road safety in India, as basic accurate data on accidents have yet to be collected. The study aims to evaluate Road Safety Audit of a section of four-lane Madurai - Chennai, National Highway (NH) - 45 and will focus on evaluating the benefits of the proposed actions that have emanated from deficiencies identified through the audit process. After conducting RSA it is found that trucks are parked on highway which reduces the effective width of carriageway and creating traffic hazards to high speed moving traffics. Unauthorized median openings were found which should be immediately closed. Missing road and median markings to be done and speed signs should match with speed. Access and service lanes are also in deficit which requires immediate improvement. The most Vulnerable Road User (VRU) i.e. pedestrians and cyclists facilities near habitations are lacking and needs to be facilitated on priority.

AN EXPERIMENTAL STUDY AND INVESTIGATION OF SELF HEALING CONCRETE USING CRYSTALLINE ADMIXTURES

C.Kesavaraja[1], J.Madhumitha[2], A.Mufeenaa[3], S.Shalini[4]

[1]Assistant Professor, [2,3,4,5] UG Scholar, Department of Civil Engineering, Saranathan College of Engineering

[1]kesavaraja-ce@saranathan.ac.in

Abstract: The Aim of this study is analysing the Self-Healing Effect of a crystalline admixture in two types of environmental exposure conditions such as Concrete with admixture and Air Exposure condition and physical closing of cracks was observed. The Crystalline Admixture is added to 0.8% of weight of cement and Self-Healing of concrete comparing with a conventional concrete. The Basic Properties of the Materials were carried out and also the specimen was casted, the Compressive strength and Flexural strength test could be carried out for 7, 14 and 28 days. The observation shows that the Compressive strength and Flexural strength of Self-Healing Concrete were increased by 13% and 5% than Conventional concrete. The Result shows different healing behaviour depending on the Different exposure condition and Self-Healing was studied by means of SEM test on cracked specimen and physical closing of the crack was observed.

STUDY ON CRACKS IN BUILDING

Ellakiya Esthar.P[1], Nivetha.S[2], Sherly Agnes.A[3], Vijaya Shanthi.R[4], Dhanalakshmi.G[5]

[1,2,3,4] UG Scholar,[5]Professor, Department of Civil Engineering, Saranathan College of Engineering

[1]philip221161@gmail.com

Abstract : Cracks are pervasive in construction and can destabilise a structure, regardless of size or type. It is the critical challenge for construction industry which incurred many losses. Though cracks in concrete cannot be prevented entirely, but they can be controlled by using adequate material and techniques of construction and considering design criteria. This paper describes the study on cracks regarding causes, types of cracks and remedial measures for cracks. Details of various cracks formed in different types of buildings were collected and discussed. Report of the failure of structures published in Newspapers were also collected and studied. Overall, this paper gives comprehensive knowledge on the causes, remedial measures, precautions and prevention of cracks in buildings.

INVESTIGATION OF WATER AERATION PROCESS AT HYDRAULIC JUMP IN THE VENTURI-FLUME

Anandraj.A[1], Abarna.S[2], Harshitha.M[3], Srinivashini.V[4]

[1]Assistant Professor, [2,3,4] UG Scholar, Department of Civil Engineering, Saranathan College of Engineering

[1]araj1988@gmail.com

Abstract - Air entrainment at the hydraulic jumps is considered as one of the economical means of air- water transfer of atmospheric gases such as oxygen and nitrogen. The content of dissolved oxygen (DO) in water helps to assess the quality of water. Enhancing the DO level in water course helps in the survival of terrestrial animals, fish and other aquatic organisms. Moreover, Oxygen is needed for all algae, macrophytes, and also for many chemical reactions that are important to stream and lake functioning. Air- water transfer process can be administrated in the natural flowing channel by providing venturi-flume with control outlet gate. The change in form of energy at venturi-flume and subsequent hydraulic jump formation at the downstream of structure creates entrainment of air to water in addition to the turbulence in flow. This paper describes the experimental investigation on the water aeration process at venturi-flume. In this study, self-aeration performance of a classical hydraulic jump beyond a sluice gate has been experimented in a 0.15 m wide laboratory tilting flume with venturi model. Experimental observation confirms that the positive linear relationship between aeration efficiency and energy loss along the jump.

EFFECT OF WEB PATTERN REINFORCEMENT IN SLAB

P.Vaishali[1], S.Ahamed Asfaq[2], S.M.Ajith Kumar[3], M.V.Naveen[4], A.Niranjan[5]

[1]Assistant Professor, [2,3,4,5] UG Scholar, Department of Civil Engineering, Saranathan College of Engineering

[1]vaishalipaneerselvam@gmail.com

Abstract— A Slab is an extensively used structural element, which usually carries uniformly distributed gravity loads. We have taken a first step on towards reducing the amount of reinforcement used in a slab by adopting different pattern of reinforcement. We have chosen a spider web like pattern, proving that the strength of spider web is more dependent on its pattern. This paper compares the result of two slabs each of dimensions 1020 mm X 1020 mm X 50 mm and casted with same grade of concrete. Here one slab consists of normal grid pattern of reinforcement and the next slab is composed of spider web like pattern. Here we have

analyzed it in two techniques i.e. experimental method and analytical method. In experimental method we have used the loading frame for testing the strength of the slabs and deflection gauge to find its deflection. The ultimate load at which the slab fails is identical for both the slabs of 500 kN. But the maximum central deflection of grid type reinforcement slab is 19.1mm whereas for the spider web type reinforcement slab is 18.2 mm. The second method of analysis is the analytical method, for which we have used ANSYS software to investigate the stress. Here the maximum stress is 0.638 kN/mm2 for the grid pattern, but for spider web type it is 0.548 kN/mm2, which is 14 % lesser than the previous.

PERFORMANCE ANALYSIS OF FLEXIBLE PAVEMENT- A MICROCOSM STUDY

Dr.G.Dhanalakshmi[1], Akilan.R[2], Aravindh.A.L[3], Arun Kumar.M[4], Kizhore Kumar.R[5]

[1]Professor, [2,3,4,5] UG Scholar, Department of Civil Engineering, Saranathan College of Engineering

[1]dhanalakshmi-ce@saranathan.ac.in

Abstract: Pavement is a multi-layer system that distributes the vehicular loads over a larger area. It helps to make them durable and able to withstand traffic and the environment. The maintenance of roads means protecting, restoration and strengthening of all elements of the road to maintain sustainability of the road. Road maintenance also includes additional work that is necessary in order to raise the level of performance and reach the best level of safety and comfort for the road users. Cracking in pavement is a defect that appears in the top layer of the road. Pavement can be under compression and tension at the same time, but in different directions. While a tire compresses a pavement downward, it forms a deflection basin which causes the pavement to go into tension in both horizontal directions. If the pavement is not strong enough, the asphalt is stretched too far, which separates and a crack forms in the wheel track. A crack may also form between the wheel tracks. Roads are high-cost investments and need constant maintenance so that these investments continue to perform as required. Therefore, care must be taken to maintain the roads in optimum maintenance and in a scientific manner. In this study, most common types of cracks and defects which occur in Trichy to Hogenakkal road were identified and suggested suitable techniques for maintenance. A short span of the road was selected for the study. Survey was carried out and the reasons for cracking and other failures in pavement were studied.

AUTOMATED ROBOTIC ELECTRIC VEHICLE CHARGING MACHINE WITH DIGITAL PAYMENT

[1]Akshay Dhanesh, [2]Jibin Thomas, [3]Mohammed Sijah,[4]Tony Tomy, [5]Dr. Divya Nath K

[1,2,3,4] UG Scholar, [5]Associate Professor, Department of Electrical Engineering SCMS School of Engineering and Technology, Karukutty, India. A P J Abdul Kalam Kerala Technological University

akshaydhanesh121@gmail.com , jibinthomas680@gmail.com , sijah97@gmail.com , tonyveliyathuparambil@gmail.com , divynathk@gmail.com

Abstract: With the rising number of electric and hybrid vehicles, the demand for customer - friendly and innovative solutions for the charging infrastructure is growing steadily. Furthermore, future autonomous driving and parking vehicles are calling for new approaches regarding to battery charging. Nowadays electric vehicles have to be charged by hand. In other words, someone has to connect the charging cable with the charging socket of the vehicle. This report deals with automated charging systems for electric vehicles with digital payments. The first part of work explains advantages of automated conductive charging systems regarding to other automated concepts and why such systems are needed. The second part deals with an investigation of the state of art. Thereby it is evidenced which systems are already developed and published. The last part deals with the proposed system and it future scope and modifications.

EFFECT OF GRANITE DUST AND AGGREGATE ON STRENGTH OF BRICKS

P.Vaishali[1], S.Keerthiga[2], M.Neevitha Shivaani[3], E.Sivagmasundari[4], R.Viveka[5]

[1] Assistant Professor, [2,3,4,5] UG Scholar, Department of Civil Engineering, Saranathan College of Engineering

vaishalipanneerselvam@gmail.com

Abstract: The brick is a building material, which is used to build up the structures. The aim of this project is to determine the Compressive Strength and other characteristics of the bricks with a better alternative material. The bricks with Clay and Granite Dust, which can be used as an alternative for conventional bricks is casted and its properties Like Compressive Strength, Water Absorption and Size and Shape of Brick were determined. The scope of this project is

to determine and compare the strength of the bricks by using different percentage of Clay and Granite Dust. The investigation was carried out tests such as Compression Test, Water Absorption Test, Soundness Test, Hardness Test, Efflorescence Test, Structure Test, Size, Shape and Colour Test. For strength characteristics, the results showed a maximum Compressive Strength of 15.8 N/mm2 in the sample 4 containing 10% clay, 10% Cement, 20% Coarse Aggregates and 60% Granite Dust. In day 7, Compressive Strength was 7.54 N/mm2 in sample 3. It attained the same strength as compared with normal Clay bricks. In day 14, Compressive Strength in sample 3 is 17% higher strength than Normal Clay Bricks. In day 7, Compressive Strength in sample 4 is 49% higher strength than Normal Clay Bricks. In day 14, Compressive Strength in sample 4 is 90% higher strength than Normal Clay Bricks. Water Absorption values in bricks were good with a percentage of 11.4% in the same sample 4. From other brick tests such as Soundness Test, Hardness Test, Structure Test, Size, Shape and Colour Test, the sample 3 and sample 4 give the good quality of bricks.

Appendix

Saranathan College of Engineering, Trichy -12, Tiruchirappalli – 12
AICTE Sponsored International e-Conference (ICECES'20)
Participants list

S.No	Name of the First Author	Department	Name of the College	Title of the Paper
1	A. Phraeson Gini	EEE	Research Scholar, Noorul Islam Centre for Higher Education, Noorul Islam University	Automated Epileptic Seizure Detection Using Whale Optimization Based Random Forest Classifier
2	M.Gomathi	EEE	Saranathan College of Engineering, Trichy -12	Centered Sourced Multilevel Boost Converter
3	A.R.Danila Shirly	EEE	Saranathan College of Engineering, Trichy -12	Dynamic Compensation Of Reactive Power By Power Factor Improvement For Three Phase Induction Motor
4	M.V.Suganyadevi	EEE	Saranathan College of Engineering, Trichy -12	Design And Development Of Sepic Converter Fed Bldc Motor Driver For Photovoltaic Application
5	A.R.Danila Shirly	EEE	Saranathan College of Engineering, Trichy -12	Design of Modified SEPIC Converter Based ANFIS Controller for Power Factor Correction
6	M.V.Suganyadevi	EEE	Saranathan College of Engineering, Trichy -12	Using Soft Computing Techniques, the Measurement of Voltage Stability of the Power system
7	S.K.Lakshmi	EEE	Saranathan College of Engineering, Trichy -12	Self-powered activity tracker
8	B. Devi Vighneshwari	EEE	The Oxford College of Engineering, Bangalore	An Optimized Detection Classifier Model for Multiple Power Quality Disturbances
9	Dr. M. Shyamalagowri	EEE	Erode Sengunthar Engineering College, Erode	Worst Case Analysis For Synchronous Buck Converter Based On Extereme Value Algorithm
10	C Pearline Kamalini	EEE	Saranathan College of Engineering, Trichy -12	Bridgeless Buck Rectifier For Led Applications
11	Santhosh R	EEE	Saranathan College of Engineering, Trichy -12	Elimination of voltage sag and harmonics in inverter of distributed power generation system
12	P.Ram Prakash	EEE	Saranathan College of Engineering, Trichy -12	Multilevel Boost Converter for DC loads
13	Sudharsan .N	EEE	Saranathan College of Engineering, Trichy -12	Single Phase Multilevel Inverter Based On A Novel Switching Scheme Using Buck Converter
14	A.V. SUNILKUMAR	EEE	ACHARYA Institute of Technlogy	Power capability enhancement with tcsc-upfc combined using social group optimization
15	S.Sambhu Prasad	EEE	Pragati Engineering College, Kakinada, AP	Implementation Of Fuzzy System On Intelligent Soot Blowing Designing For Thermal Power Plant Modernization

16	K.Rajkumar	EEE	Saranathan College of Engineering, Trichy -12	Transformer less inverter topology for Single Phase Application with elimination of leakage current
17	L.Pradeepa	EEE	Saranathan College of Engineering, Trichy -12	Regenarative Control Of Electric Two-Wheeler Using Super Capacitor
18	G.Sriram	EEE	Saranathan College of Engineering, Trichy -12	Step-Down DC-DC Converter with Continuous Output Current Using Coupled-Inductors
19	S. Atchaya	EEE	Saranathan College of Engineering, Trichy -12	A Direct Pulse Width Modulation Strategy For Three Phase Cross Switched MLI
20	A.E. Manish	EEE	Saranathan College of Engineering, Trichy -12	Design And Fabrication of Power Electronic interface for fixing and removal of bearing and coupling in Mechanical System using induction heating
21	J.Anitha	EEE	Saranathan College of Engineering, Trichy -12	Design And Development Of Three Level Converter
22	Srinidhi	EEE	Saranathan College of Engineering, Trichy -12	A High Gain Multilevel Dc-Dc Zeta Converter For High Voltage Application
23	Hariharan.k	EEE	Saranathan College of Engineering, Trichy -12	Design and implementation of Standalone PV Based Air Cooler
24	R.Shenbagalakshmi	EEE	SKN Sinhgad Institute of Technology & Science, Lonavala	Hybrid Energy Source Based Three Level DC-DC Converter for Electrical Vehicles
25	Rajalakshmi.S	EEE	Anna University, BIT campus, Tiruchirapalii	A Bi directional based Four-Quadrant operation of permanent magnet Brushless DC Motor
26	R.Balasubramanian	EEE	Saranathan College of Engineering, Trichy -12	Design and implementation of oil sludge cleaning rover
27	S.Valliammai	EEE	Saranathan College of Engineering, Trichy -12	Design of DF buck-boost converter
28	Saravanan Parthasarathy	EEE	B.S.Abdur Rahman CreSaranathan College of Engineering, Trichy - 12nt Institute of Science and Technology, Chennai	A survey on Prediction of Health Insurance Frauds Using Machine Learning
29	S. Vijayalakshmi	EEE	Saranathan College of Engineering, Trichy -12	The Determination and Curing of Varicose vein using Raspberry pi
30	Dr.M.V.Suganyadevi	EEE	Saranathan College of Engineering, Trichy -12	Active Bridges Based Bidirectional DC-DC Converter for Solar PV application
31	R.Vijay	EEE	Saranathan College of Engineering, Trichy -12	IOT Based Smart Vehicle Over-Speed Accident Detection And Rescue System
32	G. Ramapraba	EEE	Saranathan College of Engineering, Trichy -12	Design Of Knowledge Based Agriculture And Energy Management System
33	Devi Sri J	EEE	Saranathan College of Engineering, Trichy -12	Wireless Battery Monitoring System With Live Tracking For An E-Vehicle
34	P.Ramesh Babu	EEE	Saranathan College of Engineering, Trichy -12	Design and Implementation of Cloud based Digital Energy meter using ESP8266

35	Mohamed Suhail	EEE	Saranathan College of Engineering, Trichy -12	Security and Self Defence System for Women using Rasberry Pi
36	S.Shree Haarini	EEE	Saranathan College of Engineering, Trichy -12	Wireless Power Transfer For Charging Electric Vehicle Using Solar
37	Gayathri N	EEE	Saranathan College of Engineering, Trichy -12	Design and Implementation of Integrated Water System Management using IoT
38	Mohamed Ameenullah H	EEE	Saranathan College of Engineering, Trichy -12	Smart Monitoring to be incorporated in Existing Public Toilets – Intelligent Toilets
39	S. Vijayalakshmi	EEE	Saranathan College of Engineering, Trichy -12	Accelerometer Gesture Controlled Robot using ARDUINO
40	Selvaprabu Jeganathan	EEE	B.S.Abdur Rahman CreSaranathan College of Engineering, Trichy - 12nt Institute of Science and Technology, Chennai	Analysis of Classification Models to Predict the Post Graduate Admissions
41	R.N.Krishnakumar	EEE	School of theoretical and experimental studies KAS Research labs, Trivandraum, India	Linear Codes do not achieve the capacity of Asymmetric Three-input Discrete Memoryless Channels
42	Reka.J	EEE	Cauvery college of engineering, TRICHY.	Implementation Of P & O Algorithm For Multi Cascaded-Boost Converter
43	Nethra.M	EEE	Saranathan College of Engineering, Trichy -12	Implementation Of Solar Stove Using Solar Power
44	K.Subhiksha	EEE	Saranathan College of Engineering, Trichy -12	Low Cost Digital Control Strategy For Four Quadrant Operation Of Pmdc Motor
45	Dr. Lokesh C	EEE	Vidyavardhaka College of Engineering, Mysuru	Analysis of different approaches for Dynamic Power Dissipation in Digital Circuit
46	B. Prakash Ayyappan	EEE	Part-time Ph.D Scholar (Electrical), Anna University, Chennai-25	AGC of Multi Area Multi Source Electric Power System with Differential Evolution Algorithm based PID Controller
47	S.Kiruthiga	EEE	Saranathan College of Engineering, Trichy -12	Design and Simulation of Solar powered MPPT control for AC off grid
48	Ayisha Banu.A.P	EEE	Saranathan College of Engineering, Trichy -12	DESIGN OF MULTISTAGE CASCADED DC-DC BOOST CONVERTER
49	Abirami, Keerthi malini	EEE	Saranathan College of Engineering, Trichy -12	Design and Implementation of Central source Multilevel Boost converter with Fuzzy logic controller
50	C. Keerthika	EEE	Saranathan College of Engineering, Trichy -12	Design and Analysis of a Novel Multilevel Inverter for Isolated Load Application
51	R.Balasubramania n	EEE	Saranathan College of Engineering, Trichy -12	Microcontroller Based Sinusoidal PWM smart inverter
52	P.Priyadharshani	EEE	Saranathan College of Engineering, Trichy -12	Internet of Things Based Advanced Energy Meter
53	S.Ramprasath	EEE	Saranathan College of Engineering, Trichy -12	Low Cost Power Quality Analyser With Data Logging
54	A.Srimathi	EEE	Saranathan College of Engineering, Trichy -12	Interleaved topology based Proficient Buck-Boost Converter

55	S.Sambhu Prasad, suboth panda	EEE	Pragati Engineering College, AP	Implementation of Fuzzy system on intelligence socio blowing designing for thermal power plant management
56	INDIRANI M,	ECE	Hindusthan College of Engg. & Technology, Valley Campus,Pollachi Highway, Coimbatore-32	AUTO INTENSITY CONTROL OF STREET LIGHT WITH POLLUTION SENSOR
57	MAGLIN FATHIMA. V	ECE	Saranathan College of Engineering, Trichy -12, Trichy.	EFFICIENT DECISION SUPPORT SYSTEM FOR AGRICULTURE USING IOT
58	ADHILAKSHMI. K.N.M	ECE	Saranathan College of Engineering, Trichy -12, Trichy.	AN ENERGY EFFICIENT PROGRAMMABLE CONTROLLER FOR PERSONALIZED BIOMEDICAL APPLICATIONS
59	JANANIE. N	ECE	Saranathan College of Engineering, Trichy -12, Trichy.	ANGEL GUARDIAN
60	DR.PARVATHY, Associate Professor	ECE	SCMS School of Engineering and Technology	AUTOMATIC ACCIDENT DETECTION AND RESCUE SYSTEM
61	Srinidhi	ECE	Saranathan College of Engineering, Trichy -12, Trichy.	IOT BASED VACCUM CLEANER
62	AKSHAYA. B	ECE	Saranathan College of Engineering, Trichy -12, Trichy.	AUTOMATED CLASSIFICATION OF WASTES AND REAL-TIME MONITORING USING IOT
63	ABINAYA. M	ECE	Saranathan College of Engineering, Trichy -12, Trichy.	SMART HELMET AND VEHICLE SYSTEM
64	S.ATHISTALAKSHMI, Teaching Fellow	ECE	University College of Engineering, Ariyalur	IOT BASED AUTOMATIC FACIAL DETECTION
65	ANUSHIYA. P	ECE	Saranathan College of Engineering, Trichy -12, Trichy.	GUESTURE CONTROLLED EOD BOT WITH VIRTUAL REALITY
66	JANANI. M	ECE	Saranathan College of Engineering, Trichy -12, Trichy.	AN IOT BASED STAPLE FOOD ENDOWMENT SYSTEM FOR FOSTER CARE USING ARDUINO AND BLOCKCHAIN
67	SATHYA AVC college of engineering	ECE	AVC college of engineering	SECURE COMMUNICATION WITH QKDP IN WSN USING REVERSIBLE LOGIC GATES
68	SATHYA.R	ECE	Saranathan College of Engineering, Trichy -12, Trichy.	MULTI RETINAL DISEASE CLASSIFICATION USING TEXTURAL FEATURES AND MULTI-LAYER FEED FORWARD NEURAL NETWORK

69	SHARAN JASMINE.A	ECE	Saranathan College of Engineering, Trichy -12, Trichy.	AUTOMATIC COUGH DETECTION USING DEEP NEURAL NETWORK
70	SHARMILA.K	ECE	Saranathan College of Engineering, Trichy -12, Trichy.	IMPROVING PERFORMANCE OF MULTIUSER FULL DUPLEX DEVICE TO DEVICE COMMUNICATION UNDERLAYING CELLULAR NETWORKS
71	M.DESIKA, Teaching Fellow	ECE	University College of Engineering, Ariyalur	AN EFFECTIVE VISUAL INSPECTION AND CONTROL SYSTEM FOR RAILROAD MAINTENANCE
72	ANUSIYAA. P	ECE	Saranathan College of Engineering, Trichy -12, Trichy.	VOICE ASSISTED BILL READING SYSTEM FOR VISUALLY IMPAIRED PERSONS
73	DINAKARAN G	ECE	Saranathan College of Engineering, Trichy -12, Trichy.	STEREOTYPED BEHAVIOUR AND EPILEPSY MONITORING SYSTEM FOR ASD PATIENTS
74	KESAVAN	ECE	Saranathan College of Engineering, Trichy -12, Trichy.	MILITARY QUAD COPTER
75	MRS.V.VINODHINI	ECE	University College of Engineering, Ariyalur	IOT BASED DIGITAL NOTICE BOARD
76	ASHIF AMEER A	ECE	Saranathan College of Engineering, Trichy -12, Trichy.	TRACE AND TRACK OF FOOD SUPPLY CHAIN BASED ON BLOCK CHAIN AND EPCIS
77	ELAKEYAA. P.V	ECE	Saranathan College of Engineering, Trichy -12, Trichy.	RECOGNITION OF PLANT LEAF DISEASES
78	ANANDA.M, MALARVIZHI.M, RAMYA.K, SUBTHRADEVI.S (Assistant Professor)	ECE	University college of Engineering-BIT campus, Trichy	FPGA IMPLEMENTATION OF HIGH SPEED-LOW POWER TWO DIFFERENT
79	DIVYADHARSHINI. J	ECE	Saranathan College of Engineering, Trichy -12,	DUAL CODE DATA SHIELDING BASED ON VIDEO STEGANOGRAPHY
80	K.Vasantha	ECE	University College of Engineering, Ariyalur	REFINEMENT OF AN ADAPTIVE AUTOMATED WAREHOUSE
81	BENITA ESTHER JEMMIMA.V	ECE	Saranathan College of Engineering, Trichy -12,	DESIGN AND ANALYSIS OF HIGH GAIN ULTRA-WIDE BAND ANTENNA FOR MOBILE COMMUNICATION
82	SURYA.P	ECE	Saranathan College of Engineering, Trichy -12,	ENHANCEMENT OF DYSARTHRIC SPEECH USING EMPIRICAL MODE DECOMPOSITION
83	VINITHA.J	ECE	Saranathan College of Engineering, Trichy -12	EAVESDROPPING-AWARE ROUTING AND SPECTRUM/CODE ALLOCATION IN CDMA BASED EONS USING DAAS

84	JERALD JOEL M	ECE	Saranathan College of Engineering, Trichy -12	WILLY-THE DEFENCE BOT
85	N.SHANMUGAPRIYA , Lecturer	CSE	Government Arts College, Trichy	A STUDY OF DATA SECURITY IN FOG COMPUTING
86	AADHITHYA. P	ECE	Saranathan College of Engineering, Trichy -12	AUTHENTICATED RATION DISTRIBUTION SYSTEM USING RFID
87	MOHSINA. G	ECE	Saranathan College of Engineering, Trichy -12	DESIGN OF STAY-ON-ALERT SYSTEM FOR WOMEN SAFETY
88	KIRANKUMAR MANIVANNAN, Asst.Professor	ECE	Easwari Engineering College	A CONTEMPLATE OF HIGH LEVEL DATA FLOW IN REVERSIBLE LOGIC GATES
89	SUBTHRADEVI.S (Assistant Professor)	ECE	University college of Engineering-BIT campus, Trichy	FPGA IMPLEMENTATION OF ENHANCED SPEED SYSTOLIC ARRAY MULTIPLIER USING PIPELINING APPROACH FOR MATRIX MULTIPLICATION
90	PRIYA DHARSHINI. R	ECE	Saranathan College of Engineering, Trichy -12	DESIGN OF CIRCULAR MICROSTRIP PATCH ANTENNA FOR 5 G APPLICATIONS
91	M.JEYALAKSHMI	ECE	SSM Institute of Engineering and Technology,Dindigul	ENHANCED PERFORMANCE OF IMAGE STEGANOGRAPHY USING HASH CODE IN QUANTUM-DOT CELLULAR AUTOMATA
92	SARAVANA KUMARAN. B	ECE	Saranathan College of Engineering, Trichy -12	WIRELESS FOOD ORDERING SYSTEM WITH MAGLEV BASED FOOD SERVICE
93	S RENUKA, Lecturer	CSE	Government Arts College, Trichy-22	USING BLOCKCHAIN BASED SECURITY FOR E-HEALTH DATA ACCESS MANAGEMENT
94	PRIYADHARSHINI. K	ECE	Saranathan College of Engineering, Trichy -12	IOT BASED RECYCLE IC SYSTEM
95	GANESH R	ECE	Saranathan College of Engineering, Trichy -12	SENSOR TECHNOLOGY BASED HUMAN MONITORING SYSTEM USING IOT
96	KISHOREKUMAR. R	ECE	Saranathan College of Engineering, Trichy -12	FOREST FIRE DETECTION USING DEEP LEARNING ALGORITHMS
97	INDIRANI M.	ECE	Hindusthan College of Engg. & Technology, Valley Campus,Pollachi Highway, Coimbatore-32	SMART AGRICULTURE WITH MICRONUTRIENTS FERTILIZER
98	VEERALAKSHMI	ECE	Saranathan College of Engineering, Trichy -12	PERFORMANCE IMPROVEMENT IN CONGNITIVE RADIO NETWORKS
99	DIVYA B research scholar Saranathan College of Engineering, Trichy -12	ECE	Saranathan College of Engineering, Trichy -12	INSECT CLASSIFICATION BASED ON IMPROVED SQUEEZE-AND-EXCITATION NETWORK
100	ROSHINI. T	ECE	Saranathan College of Engineering, Trichy -12	SMART DRAINAGE WORKER SAFETY SYSTEM

101	KEERTHANI. P	ECE	Saranathan College of Engineering, Trichy -12	TRASH CLEANING ROBOT
102	PAVITHRA. V	ECE	Saranathan College of Engineering, Trichy -12	AGRICULTURAL SKID STEERING ROBOT DESIGNED FOR LEAF DISEASE DETECTION USING IMAGE PROCESSING
103	ELAKKIYA. R	ECE	Saranathan College of Engineering, Trichy -12	TRAFFIC SIGN RECOGNITION AND DETECTION FOR LAND VEHICLE
104	SRUTHI. P	ECE	Saranathan College of Engineering, Trichy -12	DESIGN OF HIGH PERFORMANCE MONTGOMERY MULTIPLIER USING HIGH SPEED ADDERS FOR RSA CRYPTOSYSTEMS
105	DHANVARSHINI. M	ECE	Saranathan College of Engineering, Trichy -12,	INTELLIGENT TRAFFIC LIGHT CONTROLLER USING IMAGE PROCESSING(ROAD-FI)
106	YOGA SHEEBA.R	ECE	Saranathan College of Engineering, Trichy -12	AN ENERGY BASED VOID-AVOIDABLE OPPORTUNISTIC ROUTING FOR UNDERWATER SENSOR NETWORK
107	RAGAVI.T	ECE	Saranathan College of Engineering, Trichy -12	ANALYSIS AND DESIGN OF PLANT LEAF DISEASE CLASSIFICATION USING SUPPORT VECTOR NETWORK
108	M.SALAI GAYATHRI	ECE	Saranathan College of Engineering, Trichy -12	GAIN ENHANCED MINIATURIZED MICROSTRIP WEARABLE DUAL BAND ANTENNA DESIGN
109	MALATHI.J	ECE	Saranathan College of Engineering, Trichy -12	ANALYSIS OF EPILEPSY IN WOMEN WITH A STATISTICAL APPROACH
110	MAHESH. T	ECE	Saranathan College of Engineering, Trichy -12	MEDICAL TAG BASED ON TELEMETRY SYSTEM TO MONITOR CVD'S PATIENT IN LOCALIZED CROWD AREA
111	MELVIN NEHEMIAH. S	ECE	Saranathan College of Engineering, Trichy -12	HAND GESTURE RECOGNITION BASED ON CNN
112	SARANYA. G	ECE	Saranathan College of Engineering, Trichy -12	DETECTION OF PARKINSON DISEASE THROUGH SPEECH RECOGNITION
113	SWARNAA. R	ECE	Saranathan College of Engineering, Trichy -12	HUMAN ACTION RECOGNITION
114	G.Kannan, S.Viknesh,	CIVIL	Saranathan College of Engineering, Trichy -12	Partial Replacement of Cement And Fine Aggregate By Using Bentonite And Waste

	S.Dinesh, P.Balaji, S.Abdhul Malik			
115	Anbuselvan.A, Vasanth.M, Babu.S, Pradeep Kumar.S, Dhanalakshmi.S	CIVIL	Saranathan College of Engineering, Trichy -12	Interlocking Cavity Blocks
116	Kesavaraja.C, Yuvatharani.P, Kalpana.A, Abinaya.R, Padmavathi.V	CIVIL	Saranathan College of Engineering, Trichy -12	A Review Paper on Effect of Self Repairing Mechanism In Concrete Using Biomatic Materials
117	C.Nivedhitha, B.Nanthini, R.Preetha, R.Siva Sakthi	CIVIL	Saranathan College of Engineering, Trichy -12	Removal Of Chromium From Synthetic Wastewater By Using Low Cost Adsorbent
118	G.Venkatesan, Giridharan.D, Kashim Khan.N, Selva Ganesh.A, Vasanth.A.D	CIVIL	Saranathan College of Engineering, Trichy -12	Experiment Investigation On Concrete With Partial Replacement Of Cement Bycow Dung Ash
119	S.Kannan, S.Mohammed Aashik, A.Harish, R.Nihal Yasar, M.Mohamed Thageer	CIVIL	Saranathan College of Engineering, Trichy -12	Experimental Investigation of Flexural Strength of Reinforced Concrete Beam Incorporating Ultrafine Slag
120	Kesavaraja.C, Praveen Kumar.P, Surya Prakesh.B, Madhan Kumar.S, Suresh Kumar.M	CIVIL	Saranathan College of Engineering, Trichy -12	Experimental Study of Concrete With Partial Replacement of Cement By Using Lime Stone
121	G.Venkatesan, S.P.Aravindh, A.S.Ashwin, Balasubramanian, R.R.Barani	CIVIL	Saranathan College of Engineering, Trichy -12	Experimental Study on Concrete With Partial Replacement of Cement By Using Rice Husk Ash
122	A.Anadaraj, Sadeesh.P, Saisaravana.PL.M, Satheesh Kumar.S, Vigneshwaran.S	CIVIL	Saranathan College of Engineering, Trichy -12	Evaluation Of Road Safety Audit On Existing Highway By Empirical Babkov's Method
123	C.Kesavaraja, J.Madhumitha, A.Mufeenaa, S.Shalini	CIVIL	Saranathan College of Engineering, Trichy -12	An Experimental Study And Investigation of Self Healing Concrete Using Crystalline Admixtures
124	Ellakiya Esthar.P, Nivetha.S, Sherly Agnes.A, Vijaya Shanthi.R, Dhanalakshmi.G	CIVIL	Saranathan College of Engineering, Trichy -12	Study on Cracks In Building
125	Anandraj.A, Abarna.S, Harshitha.M, Srinivashini.V	CIVIL	Saranathan College of Engineering, Trichy -12	Investigation of Water Aeration Process At Hydraulic Jump In The Venturi-Flume

126	P.Vaishali, S.Ahamed Asfaq, S.M.Ajith Kumar, M.V.Naveen, A.Niranjan	CIVIL	Saranathan College of Engineering, Trichy -12	Effect of Web Pattern Reinforcement In Slab
127	Dr.G.Dhanalakshmi, Akilan.R, Aravindh.A.L, Arun Kumar.M, Kizhore Kumar.R	CIVIL	Saranathan College of Engineering, Trichy -12	Performance Analysis of Flexible Pavement- A Microcosm Study
128	Dr.G.Dhanalakshmi, Akilan.R, Aravindh.A.L, Arun Kumar.M, Kizhore Kumar.R	CIVIL	Saranathan College of Engineering, Trichy -12	Performance Analysis of Flexible Pavement- A Microcosm Study
129	R. Senthamilselvi Aarthi. M Jusmitha. N Kavya Priyadharshini. S Keerthana. B	CSE	Saranathan College of Engineering, Trichy - 12	Spotting of Unsolicited Messages and Deceptive User Identification on Social Networks
130	A. T. Barani Vijaya Kumar Abirami. V Aruna. C Jothika. S Paven Priah. J P	CSE	Saranathan College of Engineering, Trichy - 12	A Blockchain based Confidential Schema for Organized Data in Distributed Servers
131	R. Mohankumar Anuradha. R Bavya. P Brahadambal. S Deepashree. M	CSE	Saranathan College of Engineering, Trichy - 12	Voice Based Medicine Prescription in Healthcare
132	Pl. Rajarajeswari Harini. R Jeba Mary. G Kaleeswari. M Keerthika. S	CSE	Saranathan College of Engineering, Trichy - 12	A simple statictical analysis approach for security risk management and cyber insurance coverage for cloud services
133	S. Mohana Darshna. S Fouzia Ishwarya. S Madhumitha. K	CSE	Saranathan College of Engineering, Trichy - 12	Driver exhaustion detection based on facial nodal points
134	R.Thillaikarasi Alagu. S	CSE		Secure document transfer application using Image

	Beryl Susanna. B Bhavadarani. M Keerthana. S		Saranathan College of Engineering, Trichy - 12	Steganography and Visual Cryptography
135	R.Thillaikarasi Dhivakar. S Dinesh. T Kisore. S	CSE	Saranathan College of Engineering, Trichy - 12	Online Purchase System using Cryptography and Steganography
136	N. Kavitha Bhuvaneswari. M Janani. R Jayashree. S Kasthuri. B	CSE	Saranathan College of Engineering, Trichy - 12	Automatic Prediction of Lung Cancer using Deep Learning Approach
137	R Senthamil Selvi Nandha gopala krishnan. C Sagul Hameed. M Suhail Yusuff Azees. A Vignesh. K	CSE	Saranathan College of Engineering, Trichy - 12	Voicepad, Java Programming by Voice
138	V Punitha Naveen. K.S.R Nirmal. R Prasanna Kumar. R Raaja Vignesh.	CSE	Saranathan College of Engineering, Trichy - 12	Defense Method for DDoS Attack by Detecting IoT Botnet Devices
139	P L Rajarajeswari Nithyasri. K Rajalakshmi. G Revathi. A.U Shalini. S	CSE	Saranathan College of Engineering, Trichy - 12	Enhancing and Evaluating the Privacy of the User in Bitcoin Transaction
140	V Punitha Pragadeesh. P Prasanna Venkatesh. S Sri Gopala Krishnan. R Sriram. S	CSE	Saranathan College of Engineering, Trichy - 12	Disease Prediction using Machine Learning Techniques
141	S Mohana Prakash. V Sanjay. D Venkatramanan. A.S	CSE	Saranathan College of Engineering, Trichy - 12	An Approach for Job Recommendation by Exploring Job Portal

	Vinoth. M			
142	S A Sahaaya Arul Mary Rohit Raj Thayalan. G.R Vatsala. R Surya Prakash.	CSE	Saranathan College of Engineering, Trichy - 12	NVEDU
143	Dr.C.Shanmuga Sundaram, Dr.A.Joseph Basanth	EEE	Manakula Vinayagar institute of Technology, Pondicherry	Algorithmic Skeleton for coupled numerical analysis of switched reluctance motor using soft magnetic composite iron poweder

SARANATHAN COLLEGE OF ENGINEERING

Venkateswara Nagar , Panjappur,
Tiruchirappalli-12,
Tamilnadu,India.
www.saranathan.ac.in
iceces20@gmail.com
contact : 8489915204