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1ST INTERNATIONAL CONFERENCE ON
EMERGING TRENDS IN ENGINEERING, SCIENCE AND MANAGEMENT

04TH - 05TH APRIL 2019 | RYMEC, BALLARI

ICETESM - 19

RYMEC
CANTONMENT BALLARI
KARNATAKA, INDIA.

Organized By
Department of Electronics and Communications Engineering
Rao Bahadur Y Mahabaleswarappa Engineering College (RYMEC)
&
Institute For Engineering Research and Publication (IFERP)

ICETESM-19

1st International Conference on Emerging Trends in Engineering, Science and Management

Ballari, Karnataka

04th & 05th April, 2019

Organized by:

Department of Electronic and Communication Engineering,
Rao Bahadur Y Mahabaleswarappa Engineering College (RYMEC)

Associated with

Institute For Engineering Research and Publication (IFERP)

Rudra Bhanu Satpathy,
Director,
Institute For Engineering Research and Publication.

On behalf of ***Institute For Engineering Research and Publications (IFERP)*** and in association with ***Rao Bahadur Y Mahabaleswarappa Engineering College (RYMEC),*** Ballari, Karnataka. I am delighted to welcome all the delegates and participants around the globe to ***Rao Bahadur Y Mahabaleswarappa Engineering College (RYMEC), Ballari, Karnataka*** for the ***"1st International Conference on Emerging Trends in Engineering, Science and Management (ICETESM-19)"*** Which will take place from ***04th -05th April'19***

Transforming the importance of Engineering, the theme of this conference is ***"1st International Conference on Emerging Trends in Engineering, Science and Management (ICETESM-19)"***

It will be a great pleasure to join with Engineers, Research Scholars, academicians and students all around the globe. You are invited to be stimulated and enriched by the latest in engineering research and development while delving into presentations surrounding transformative advances provided by a variety of disciplines.

I congratulate the reviewing committee, coordinator **(IFERP & RYMEC)** and all the people involved for their efforts in organizing the event and successfully conducting the International Conference and wish all the delegates and participants a very pleasant stay at ***Ballari, Karnataka.***

Sincerely,

Rudra Bhanu Satpathy

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Preface

The **"1st *International Conference on Emerging Trends in Engineering, Science and Management (ICETESM-2019)"*** is being organized by ***Department of ECE, Rao Bahadur Y Mahabaleswarappa Engineering College,*** Ballari, Karnataka in association with ***IFERP-Institute for Engineering Research and Publications*** *on the 04th – 05th April, 2019.*

Rao Bahadur Y Mahabaleswarappa Engineering College has a sprawling student –friendly campus with modern infrastructure and facilities which complements the sanctity and serenity of the major city of Ballari in Karnataka.

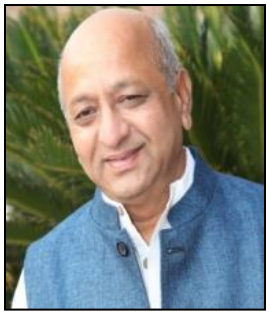
The ***"1st International Conference on Emerging Trends in Engineering, Science and Management"*** was a notable event which brings academia, researchers, engineers, industry experts and students together.

The purpose of this conference is to discuss applications and development in area of **"Engineering, Science and Management"** which were given international values by ***Institute for Engineering Research and Publication (IFERP).***

The International Conference attracted over 113 submissions. Through rigorous peer reviews 60 high quality papers were recommended by the Committee. The Conference aptly focuses on the tools and techniques for the developments on current technology.

We are indebted to the efforts of all the reviewers who undoubtedly have raised the quality of the proceedings. We are earnestly thankful to all the authors who have contributed their research works to the conference. We thank our Management for their wholehearted support and encouragement. We thank our Principal for his continuous guidance. We are also thankful for the cooperative advice from our advisory Chairs and Co-Chairs. We thank all the members of our local organizing Committee, National and International Advisory Committees.

ICETESM-2019



Chairman's Message

I am really happy to know that the Department of Electronics and Communication Engineering, RYMEC, Ballari is Organizing 1st INTERNATIONAL CONFERENCE ON EMERGING TRENDS IN ENGINEERING, SCIENCE AND MANAGEMENT (ICETESM-2019) on 4th & 5th of April 2019. I hope that this Conference would surely induce Modern ideas among the Participants paving way for new inventions. I wish that deliberations of conference with innovations shall be useful to scholars and technocrats. New findings of technical conference should always help to solve society related problems.

Sri J. S. Basavaraj
Chairman
RYM Engineering College, Ballari.

Principal's Message

It is indeed a matter of immense pleasure to announce that Rao Bahadur Y Mahabaleswarappa Engineering College, Ballari is organizing 1st INTERNATIONAL CONFERENCE ON EMERGING TRENDS IN ENGINEERING, SCIENCE AND MANAGEMENT (ICETESM-2019). I am confident that the conference discussion and the publication of the conference proceeding will bring opportunities among the academicians, corporate delegates, research scholars and students to present their innovative ideas, most up-to-date findings, and technical proficiency in the various fields of Emerging Trends in Engineering, Science and Management. On behalf of RYMEC, I heartily welcome the Honorable Keynote Speakers, eminent academicians, corporate delegates and all the paper presenters to ICETESM-2019.

I wish all the success for the ICETESM-2019 conference.

Dr. Kuppagal Veeresh
Principal
RYM Engineering College, Ballari.

Vice Principal's Message

It is quite inspiring to watch and witness the potential of our staff and student of E&CE Department in organizing 1st International Conference ICETESM-2019 in association with IFERP. The organization of the conference will improve the academic ambience of the department which is the main pillar for any technical institution. It is an opportunity to update ourselves on what is the latest and best in the field of Engineering, Science and Management.

I whole heartedly congratulate and wish all the success for the ICETESM-2019 conference.

Dr. T. Hanumantha Reddy
Vice Principal & Head
Department of CSE,
RYM Engineering College, Ballari.

Conference Chair & Vice Principal's Message
on occasion of 1st International Conference on
"Emerging Trends in Engineering, Science and Management" (ICETESM-2019)

We are happy to note that E&CE department is organizing 1st INTERNATIONAL CONFERENCE ON EMERGING TRENDS IN ENGINEERING, SCIENCE AND MANAGEMENT (ICETESM-2019) on 4th and 5th April 2019. This conference is a venue for researchers to deliberate and exchange new findings in research areas of Engineering, Science and Management and its allied fields. The topics of the conference are very important and will help researchers to enhance their Knowledge. We thank the Veerashaiva Vidyavardhaka Sangha, Ballari, Management, Chief Patrons and Patrons who are always supportive for the Department to reach the pinnacle of perfection through various such activities. Congratulations to the Delegates for presenting their papers in the conference and publishing the best papers in the UGC refereed, Google Scholar and Scopus Indexed Journals. Best wishes to the Editorial Team for their determined efforts in bringing out the Conference Proceedings and Thanks to IFERP team for their invariable support.

Dr. Savita Sonoli
Vice Principal & Head
Department of E&CE,
RYM Engineering College, Ballari.

ICETESM-2019 Conference Convener's Message

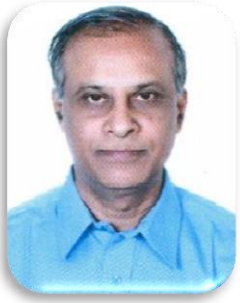
I am gratified being as the convener for 1st International Conference on Emerging Trends in Engineering, Science and Management (ICETESM-2019). The conference is jointly organized by the Institute for Engineering Research and Publication (IFERP) and RYMEC, Ballari. The aim of the conference is to bring together researchers, scientists, engineers and practitioners to share and exchange their experiences, new ideas and research results. After rigorous peer review process, the submitted papers are selected on the basis of originality, significance and clarity for the process of conference. I am grateful to all those who have contributed to the success of ICESTEM-2019, especially all the authors and the participants who responded to our call for papers. My sincere gratitude, for the efforts made by the conference technical committee, program committee, organizing committee and advisory committee members.

Dr. S. Prabhavathi
Professor
Department of ECE,
RYM Engineering College, Ballari.

ICETESM-19

1st International Conference on Emerging Trends in Engineering, Science and Management

Keynote Speakers



Dr.B.K. VENKATARAMU,
Prof. Sathish Dhawan Scientist,
Liquid Propulsion Systems Centre,
Indian Space Research Organisation,
Bangalore – 560008.

BIOGRAPHY:

Shri. B.K. Venkataramu, graduated from University Visvesvaraya College of Engineering (UVCE), Bangalore in Mechanical Engineering in 1976 and later obtained his MS from IIT Madras.Starting his carrier in ISRO, Bangalore in 1977, Shri. Venkataramu has specialized in the field of Propulsion Systems for Spaccraft. He is responsible for total indigenization of propulsion systems for a range of Satellites, for interplanetary mission (Chandrayaan-1 and Mars orbiter mission), Space capsule recovery experiments etcHe also played a major role in the success of the Chandrayan-1 & Mars orbiter missions.

Dr. Gopal Hegde,
Professor
(IISC -Indian Institute of Science)

BIOGRAPHY:

Gopalkrishna Hegde received his M.Sc and Ph. D in Physics, all in India. He is currently faculty with the BioSystems Science Engineering, Indian Institute of Science, Bengaluru. He was an Assoc. Prof. in UK Open Univ. Singapore, and Research Director at the NP-AEM Centre of Innovation, Singapore (2002-2007). He has over 150 publications in international journals and conference proceedings and has granted/filed six patents. He has guided many MS/MTech and Ph.D students. He has presented invited talks/key notes at various institutions and at international conferences. He has been advisory/review/organizing member of many international and national conferences. He has been a reviewer for many international and national journals. He has completed many sponsored research projects in Indian and in Singapore. He was a consultant to many industries in Singapore. He was Visiting Professor in the FEMTO-ST Institute, Université de Franche-Comté, France, Univ. of Rennes France, Univ. of California, LA USA and La Trobe University Australia, NTU Singapore. His current research interests are in the areas of photonics, optical sensors, optical flow visualization, biophotonics, nanofabrication and microfluidics.

ICETESM-19

1st International Conference on Emerging Trends in Engineering, Science and Management

Ballari, Karnataka, 04th - 05th April , 2019

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ICETESM-19

1st International Conference on Emerging Trends in Engineering, Science and Management

Ballari, Karnataka

4th & 5th April, 2019

ABSTRACTS

Organized by:

Rao Bahadur Y Mahabaleswarappa Engineering College (RYMEC)

Associated with

Institute For Engineering Research and Publication (IFERP)

A Numerical Approach for the Telegraph Equations using Haar Wavelets

A. Padmanabha Reddy, Department of Studies in Mathematics, V. S. K. University, Ballari.
Nagaveni K, Department of Studies in Mathematics, V. S. K. University, Ballari.

Abstract:--

In this paper, we present a numerical scheme to solve the telegraph equations based on Haar wavelets. Haar wavelets with the aid of collocation method have become very useful in providing highly accurate solution to the telegraph equations. Some illustrative examples are included to demonstrate the validity and applicability of the present technique. Based on the obtained results, we concluded that the proposed method has good accuracy and efficiency compared to Sinc-collocation method (SCM), Adomian decomposition method (ADM) and Modified Adomian decomposition method (MADM).

Keywords:--

Telegraph equations; Haar wavelets; Collocation method.

AMS Subject Classification: 35L20; 65T60; 65L60.

NANOFIBRES APPLICATIONS IN SOFT TISSUE ENGINEERING

Aishwarya T, UG Students, Dept of ECE,RYMEC Ballari
G S Kavitha, UG Students, Dept of ECE,RYMEC Ballari
G Shilpa, UG Students, Dept of ECE,RYMEC Ballari
Pooja K, UG Students, Dept of ECE,RYMEC Ballari

Abstract:--

The main aim of this paper is to highlight importance of the latest technology of nanofibres. Nanofibers are the natural or synthetic fibres the diameter in nanometer range and has many applications potentials.Nanofibres were produced via electrospinning more than four centuries ago.In 1887, British physicist charles vernon boys published a manuscript about nanofibre development and production due to there high porosity and large surface area to volume ratio, nanofibres are widely used to construct scaffolds for biological applications. this paper basically describes how nanofibres are used in tissue engineering, a highly porous artificial extra cellular matrix is needed to support and guide cell growth and tissue regeneration.Nanofibres are also used in cancer diagnosis. Patients with metastatic cancer are more likely to have detectable CTC's in bloodstream.these nanofibres are used to capture CTC's.Nanofibres have become a leading revolution in medical field and in many other fields.A nanofiber is 200 times smaller a strand of hair posses life saving property.

Joule heating effect on continuously moving thin needle in MHD Sakiadis flow with thermophoresis and Brownian moment

Ashwinkumar G.P, Assistant Professor,Dept. of Mathematics, Vijayanagara Sri Krishnadevaraya University, Ballari-India.

Abstract:--

In the current study, we investigated the impact of thermophoresis and Brownian moment on the boundary layer analysis of a 2D forced convection flow of magnetic-nanofluids along a persistent moving horizontal needle with frictional heating effects. Various pertinent parameters are convoluted in the present analysis, namely, the thermophoresis and Brownian moment, uneven heat source/sink, Joule heating and frictional heating effects. To check the variation in the boundary layer behavior, we presumed the two distinct nanoparticles namely, Al50Cu50 (alloy with 50% Alumina and 50% Copper) and Cu with water as pedestal liquid. Numerical solutions are procured for the reduced system of governing PDEs by employing the shooting process. Computational results of the flow, energy and mass transport are interpreted with the assistance of tabular and graphical illustrations. Obtained results indicate that increase in the needle size significantly reduces the flow and thermal fields, but, improve the concentration fields of both nanofluids. In particular, velocity field of Cu-water nanofluid is highly depreciated when equated with the Al50Cu50-water nanofluid. Also, we highlighted that the thermophoresis and Brownian moment parameters are capable of enhancing the thermal conductivity to the greater extent.

Keywords:--

MHD, Nanofluid; Thermophoresis; Brownian moment; Joule heating; Frictional heating.

Comparative Study on De-Noising the MRI images for Alzheimer's disease.

Aziz Makandar, Department of Computer Science, Akkamhadevi Women's University, Vijayapura, India
Rashmi Somshekhar, Department of Computer Science,Akkamhadevi Women's University, Vijayapura, India

Abstract:--

In medical imaging de-nosing of the images plays an important role in analyzing the images. Now days there are many imaging modalities available for identifying the disease. The MRI imaging modality is one which is used to identify the Alzheimer's disease. Due to transmission error, while capturing and storing the images the images are liable to find some common noises like Gaussian noise, salt and pepper noise and speckle noise where it is difficult to trace out the region of interest for the diagnosis of the disease. So, it's important to de-noise the images for proper identification of the diseases and for the further treatment plans. The study shows the comparative analysis of different noises added to the MR images of Alzheimer's disease and noise removed by using the de-noised techniques. We have, considered all the two common noises present in the MRI images and the two filtering techniques like median and wiener filters which are commonly used in medical images for de-noising the image. The results are compared with the PSNR values.

Keywords:

Alzheimer's disease, MRI images, Gaussian noise, salt and pepper noise, median filter and wiener filter.

Human Behavior Detection in real-time video streams using skeleton Graph

Bhagya jyothi K L, KVG College of Engineering,Sullia,D.K ,Karnataka
Dr. Vasudeva, Shri Madhwa Vadiraja Institute of Technology & Management (SMVITM), Vishwothama Nagar, Bantakal,Udupi District,Karnataka.

Abstract:--

This paper presents a novel approach of skeleton graph based human behavior detection in real video streams. The key objective of this paper is to provide a frame work for the overall process of human behavior analysis and classification. In real time environment video streams, understanding human behavior whether it is abnormal or normal behavior is becoming more and more important nowadays. Human activity recognition is a current research topic since it is important to detect dangerous events or to monitor abnormal activities in different situations. Understanding and classifying the human behavior in video streams is highly based on the concept of digital image processing and video processing. Core technologies of Digital Image processing and video processing are used in this task. The processing steps includes in this task includes frame generation of video, background subtraction, occlusion detection, object tracking, behavior and classification etc. In this paper we proposed a skeleton based human action recognition technique. In this model skeleton graph with key points of human object are generated and modelled. The proposed modeled is tested against MSRAction 3D dataset.

Opportunites and Challenges of Vertical Farming - A Survey

Dikshita Patil, M.tech. student, 2nd sem Dept. of CSE, RYMEC Bellary
Dr. Veeragangadhara Swamy TM, Professsor Dept. of CSE, RYMEC Bellary

Abstract:--

A new method that has been proposed to address the issue of sustainability and growing food demand is vertical farms. Vertical farming is the practice of planting the plants in vertically stacked layers which optimize the land usage. This study is a critical review survey from related published papers from relevant journals and scientific online databases. The main idea of vertical farming is to use a controlled-environment agriculture (CEA) technology, where all environmental factors can be controlled. Vertical farms were conceptualized to provide food security and as it requires power to operate, renewable energy source is an essential component. With photovoltaic cells as the main source, sufficient power storage will make sure to provide all power needed by plants. Vertical farming is a concept that involves cultivating plants with livestock on vertically inclined surfaces such as in skyscrapers in urban areas, where there is a lack of available land and space. This is one of the ideal decisions in modern agriculture technique when the land area for the plantation activities have become the major concern especially in the urban area. Vertical Farming can be potentially beneficial in increasing food production, maintaining high quality and safety and contributing to sustainable urban farming.

Comparison Analysis of Different Classifiers for Early detection of Lung Nodules

Neelima.N, Department of Electronics & Communication Engineering,Amrita School of Engineering, Bengaluru, Amrita Vishwa Vidyapeetham, India.
Madan.K, Department of Electronics & Communication Engineering,Amrita School of Engineering, Bengaluru, Amrita Vishwa Vidyapeetham, India.
Bhanu Anusha K, Department of Electronics & Communication Engineering,Amrita School of Engineering, Bengaluru, Amrita Vishwa Vidyapeetham, India.
Pavan Kalyan .P, Department of Electronics & Communication Engineering,Amrita School of Engineering, Bengaluru, Amrita Vishwa Vidyapeetham, India.

Abstract:--

Lung cancer is one of the most common deadliest disease which has highest death rate as per the recent medical research. However, research indicates that early detection of lung cancer improves chances of survival. The disease is identified using nodules attached to lung walls and lung parenchyma. Nodules plays significant role in identifying cancer in lungs. The proposed approach to determine lung nodules has three stages preprocessing, feature extraction and classification. Segmentation is the preprocessing technique involves two phases namely lung parenchyma segmentation and lung nodules segmentation. Then, texture features and geometric features are extracted using feature extraction algorithms. Lastly, using classification techniques the nodules are classified as benign or malign. TCIA dataset was used for validation of the proposed approach. Form the dataset, CT images were used which have high density resolution and adequate information which helps to find every small detail easily. The proposed method helps in improving accuracy to find number of the lung nodules in lung region and also helps is differentiating benign and malign nodules using CNN architecture. Different classifiers such as SVM, MLP and CNN classifiers are used in comparison analysis. As the result, we conclude that the approach of feature extraction with CNN decreases the false positive rate significantly compared to the existing classification approaches.

Keywords:--

lung nodules, thresholding, morphological operators, segmentation, CNN classifier

Design and Comparative Analysis of Algorithm of Processing Time, Data Aggregation Time, Packet Delivery Ratio and Energy Consumption

Dr. S. Prabhavathi, Professor Dept of ECE, RYMEC Ballari
Kiran S, UG Scholar, SJBIT Bengaluru
Channaveerana Gouda, Asst. Professor Dept of ECE, RYMEC Ballari

Abstract:--

This paper presents the preliminary information of research that deals with communication protocol for Wireless Sensor Network (WSN) with retention of energy efficiency. The motive of this research is to accomplish a common goal of energy efficiency, using different forms of methodologies. Hence, the adoption of different methodologies and a common goal of energy efficiency in WSN are achieved. This paper explains the outcome accomplishment the proposed ENLPL Algorithm, Globular topology, load balancing technique of Processing Time, Data Aggregation Time, Packet Delivery Ratio and Energy Consumption pertaining to optimizing energy using probabilistic technique, and Dynamic Reconfiguration. . The work also explains about the comparative analysis among the models to showcase the best scenario of usage in sensor-based applications.

Key Words:
WSN, Load Balancing, LEACH, Globular Topology

IoT Based Remote Health Monitoring System

Dr. Savita Sonoli, Vice Principal and HOD of Department of ECE, RYMEC, Bellary
Kommineni Kavya, Students of Department of Electronics and Communication Engineering, RYMEC, Bellary
Esther Rani Kanagaselvam .D, Students of Department of Electronics and Communication Engineering, RYMEC, Bellary
C.Vijay Mahantesh, Students of Department of Computer Science and Engineering, SVCE, Bangalore.

Abstract:--

The Internet of things is increasingly allowing to integrate devices capable of connecting to the internet. One main area of research that has seen an adoption of technology is healthcare sector. As a result, this article is an attempt to solve a healthcare problem currently society is facing. It provides information on the state of health of patient and real time to doctors to assist. It is clear that chronic diseases such as diabetes, cardiovascular diseases among others, are prominent in the world economic and social level problems. The aim of this article to develop an architecture based on an analogy capable of monitoring the health and workout routines recommendations to patients with chronic diseases. We have proposed an intelligent IoT based patient monitoring system for monitoring the patient's health condition automatically through sensor connected networks. Pulse rate sensor and temperature sensor are used for gathering the biological behaviors of a patient and this information is forwarded to IoT cloud. The system is more intelligent that can be able to detect the critical conditions of a patient by processing sensor data and instantly provides push notifications to doctors/nurses as well as relatives. Immediate care can be taken by implementation of panic button which when pressed by patient sends a message to the intended whose details are installed prior and ask to take convenience action to take patient's health into control. IoT health monitoring provides useful physiological information in the home. This monitoring is useful for elderly or chronically ill patients who would like to avoid long hospital stay.

Keywords:—

Mobile apps, Sensor networks, Monitoring, Multiple health parameters, Wireless data transfer.

Dynamic Traffic Light Control System for Ambulance Based on IOT

Dr.S.Prabhavathi, Professor, Department of Electronics and Communication Engineering, Rao Bahadur Y.Mahabaleshwarappa Engineering College, Ballari
Padmashree, UG Student, Department of Electronics and Communication Engineering, Rao Bahadur Y.Mahabaleshwarappa Engineering College, Ballari
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Anitha.T, UG Student, Department of Electronics and Communication Engineering, Rao Bahadur Y.Mahabaleshwarappa Engineering College, Ballari
Megha S.S, UG Student, Department of Electronics and Communication Engineering, Rao Bahadur Y.Mahabaleshwarappa Engineering College, Ballari

Abstract:--

Now a day's traffic controlling is Venture because the population growing day by day, also in emergency condition traffic controlling in very difficult. In emergency condition each and every second is important in saving a human's life. The Theme of this paper is to use the each and every second to save the persons. In present days many patients life's expired before reaches the hospital in ambulance or life is lost to lack of basic information about the condition of the patient and delay caused due to traffic .In this paper we have designed a prototype which could decreases the delays and save the life at the earliest. The paper severs the delays caused by the lack of basic information about the patient and delay caused by the ambulance at the traffic signals. The main theme of the project is that when the patient is in ambulance in emergency condition the ambulance should reach the hospital utmost fast and to send each and every basic information and condition about the patient to for the prior arrangements for the treatment. It consists of two sections: (i) the basic information and condition of patient is collected in the ambulance by the means IOT (Internet of Things) and make it available to hospital before ambulance reaches the hospital. (ii) The second section is control of traffic lights from the ambulance and makes clearance for its path dynamically. Thus this paper allows us to save the time of major delay aspects in more efficient and economical manner and save the life.

Keywords:—

Arduino Uno board, ESP 8266, IDE tools, Emergency Medical Service, IOT, and Google Cloud APP Engine.

IOT Based Water Purity Monitoring System Using ARDUINO and GPRS

Gayathri J, Asst. professor,E&IE, Rymec
Chaitanya C, UG Student Dept of E&IE, Rymec, Ballari
Nandini J, UG Student Dept of E&IE, Rymec, Ballari
Prithvi Raj D, UG Student Dept of E&IE, Rymec, Ballari
Selvarious J P, UG Student Dept of E&IE, Rymec, Ballari

Abstract:--

Water pollution is one of the biggest threats for the green globalization. Water pollution affects human health by causing waterborne diseases because most of the Indian rivers starve for water during the non-monsoon period, which extends at a stretch for almost nine months. A situation of fresh water sharing from surface water to groundwater reserves below aquifers is virtually non-existent during the non-monsoon period due to non-availability of water in rivers. A recent survey of CPCB indicated that only about 22% of the total sewage generated in the country are treated before it is discharged to water bodies and the rest 78% receives no treatment. . The rivers thus can no longer serve fresh water to humanity as their self-assimilative capacities are exhausted. As a result, water famine, especially during summer months, has become a non - news item in this vast sub-continent. so to prevent the water pollution, necessary steps are to be taken. First step is to estimate the water parameters like pH, turbidity, conductivity etc., as the variations in the values of these parameters point towards the presence of pollutants. In the present scenario, water parameters are detected by chemical tester laboratory test, where the testing equipment's are stationary and samples are provided to testing equipment's. Thus, it is a manual system with tedious process and is very time consuming. In order to minimize the time and to make the system automated, the testing equipment's can be placed in the river water and detection of pollution can be made remotely. To ensure the safe supply of drinking water, the quality should be monitored in real time for that purpose Arduino based water quality monitoring has been proposed. In this project, the design of Arduino based water quality monitoring system that monitors the quality of water in real time is presented. This system consists of different sensors which measures the water quality parameter such as pH, conductivity, muddiness of water, temperature. The measured values from the sensors are processed by microcontroller and the processed values are transmitted using IOT to the concerned authority.

Keywords:—

Arduino, GPRS, PH Sensor.

Green Touch Green Meter Core Network Energy-Efficiency Improvement Measures and Optimization

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Abstract:--

In the present day scenario due to the limited availability and depletion of conventional energy sources relying on non- conventional energy source is the best alternative for this problem .On the other hand better utilisation of non-conventional energy sources has to be made to bring down the power consumption cost .In this prototype a relevant solution is being made by automatic transfer switch and it can be implemented for household appliances. The automatic transfer switch is microcontroller based platform where the switching between utility service and solar PV system is made to power up the devices in such a way that cost of power consumption decreases. In this prototype Arduino platform based Atmega 328 p-pu microcontroller is used to control the switching operation .According to the voltages of utility and solar the switching action takes place. So in order to measure the voltages of utility service and solar powered batteries voltage divider circuits are being used and these analog values are given to microcontroller and upon comparison of these two values the switching i.e powering up of devices takes place in such a way that the electricity bill decreases as compared to conventional processes such as off-grid system. In this project the switching of devices is done using basic components in order to minimize the cost and one other hand meet the aim with accuracy.

Index Terms:—

Hybrid grid system, off–grid system, arduino, priority loading.

Performance Analysis and Comparison of Iterative Motion Deblurring Algorithms

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Abstract:--

This paper introduces the iterative image restoration algorithms for the elimination of linearly varying blurs from the images degraded by motion blur and additive noise. Iterative algorithms are very operative for this applications since they include different types of prior knowledge about the class of reasonable solutions. These algorithms are robust in nature to the errors in estimating the blurring operators and can be used to remove the non-stationary blurs. Performance analysis and limitations of traditional approaches such as Inverse filters, Wiener filters and Constrained Least Square filters (CLS) are discussed with respect to the iterations. Role and choice of imposing a constraint on the solutions of the algorithms which gives better restoration results are discussed. Regularization methods are debated to Minimis extreme noise amplifications due to ill-posed conditions in the inverse deblurring problems and it is shown that the reduction of noise effects can be achieved by terminating the algorithm after finite number of iterations. It is discussed that restoration algorithms with constraints and spatial adaptability reduces the effects of ringing artifacts in the restored images significantly. The rate of convergence of the algorithms based on the variations in the number of iterations are discussed and performance analysis, limitations and comparison with the experimental results are presented.

Index Terms:—

Algorithm, Adaptable, Blur, Constrained, Comparison, Convergence, Deblurring, Restoration, Iterative, Ill posed, Image, Least Squares, Performance, Regularization, Ringing, Spatially.

IOT Paralysis Patient Healthcare Monitoring System

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Abstract:--

We come across hospitals and organization that servers disabled people as these people are not capable of full body movement as compared to a normal person. In such a situation this system helps disabled person display a message by just simple motion of any part of his body. This system works by reading the tilt direction of the user part. This device needs to be mounted on the user finger of hand. The user now just needs to tilt the device in a particular angle to convey the message. Tilting the device in different directions conveys a different message and the collected data is sent to the registered android device through the internet.

Keywords: IoT, Paralysis, Monitoring Wrist Band.

Farming Stock Trading Android Application

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Abstract:--

Farmer Trader Application is an android application developed for farmers/seller's and retailers. This application gives support to the village farmers who want to use this facility and who want to learn how it is possible and how they can use e-farming to sell their products.

If the farmers have knowledge of computer then they can directly register in the application and sell their product otherwise, they can contact company's computer professional who will schedule classes to teach them basics of computers and internet. They can know how they can open this site, register with it, and sell their products online etc. Farmer Trader Application is a project developed, which will help farmers from to sell their products to different cities through online. Farmers can use this facility and can learn how it is possible and how they can use e-farming to sell their products. This application will act as unique and secure way to perform agro-marketing.

APPLICATION OF IoT IN AQUACULTURE

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Abstract:--

Internet of things is one of the rapidly growing fields for delivering social and economic benefits for emerging and developing economy. The field of IoT is expanding its wings in all the domains like medical, industrial, transportation, education, mining etc. Now a days with the advancement in integrated on chip computers like Arduino, the technology is reaching the ground level with its application in Agriculture and Aquaculture. Water quality is a critical factor while culturing aquatic organisms. It mainly depends on several parameters like dissolved oxygen, ammonia, pH, temperature, salt, nitrates, carbonates etc. The quality of water is monitored continuously with the help of sensors to ensure growth and survival of aquatic life. The sensed data is transferred to the aqua farmer mobile through cloud. As a result preventive measures can be taken in time to minimize the losses and increase the productivity.

Keywords:—

pH, Ammonia, Dissolved Oxygen (DO), Temperature, Nitrates, Salt, Carbonates , Sensors, Internet of Things (IoT), Wi-Fi Module.

ELECTRONIC TOLL COLLECTION SYSTEM AND THEFT DETECTION USING RFID

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Abstract:--

In this synopsis we will discuss RFID based Smart Toll Collection System as a solution to solve the traffic problems and also to maintain transparency of the toll collection system. Our aim is to make a digital toll collection system which will be less time consuming and automated. This project focuses on an electronic toll collection (ETC) system using radio frequency identification (RFID) technology. The proposed RFID system uses tags that are mounted on the windshields of vehicles, through which information embedded on the tags are read by RFID readers; the proposed system eliminates the need for vehicle owners and toll authorities to manually perform ticket payments and toll fee collections, respectively. Data information are also easily exchanged between the vehicle owners and toll authorities, thereby enabling a more efficient toll collection by reducing traffic and eliminating possible human errors. In addition, in this project we will measure weight of the vehicles using a weight sensor. Over weight transport will be blocked, they will not get access. In calculation, Economical analysis of the automatic toll collection system is also presented and is compared with the manual ticketing base system.

Keywords:—

Arduino, RFID,WIFI

PID CONTROLLER FOR THERMAL CONTROL IN SATELLITES

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Abstract:--

The paper gives the application of PID controller in satellite launching; it gives out the different technique which involves PID controller. It involves the temperature control (thermistor) in heater which are situated in the satellite.PID controller is implemented by using programmable logic controller (PLC). Temperature control is very difficult to be implemented by using ordinary control techniques; hence the purpose of proposed research is to implement PID controller design using programmable logic controller (PLC) in order to control the temperature and maintain the output in such a way that there is zero error between process variable and set point/desired output by closed loop operations in the satellite by avoiding the manual monitoring system. A complete analysis using different kind of PID parameters is presented in terms of system response. Performance of the controller is examined in terms of duty cycle, average current and power dissipation. Finally, a comparative assessment of the PID controller for thermal control in satellite is presented and discussed.

Flood Monitoring System with SMS Notification

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Abstract:--

The main problem in India with respect to floods is inundation, drainage congestion due to urbanization and bank erosion. The problem depends on the river system, topography of the place and flow phenomenon. Flooding occurs when an extreme volume of water is carried by rivers, creeks and many other geographical features into areas where the water cannot be drained adequately.Floods cause extremely large numbers of fatalities in every country, but due to India's extremely high population density and often under-enforced development standards, a large amount of damages and many deaths which could be otherwise avoided. India witnesses flood due to excessive rain which then results in overflow of rivers, lakes and dams, which adds to cause large amounts of damage to people's lives and property. Hence this novel approach is used to monitor and alert floods using Arduino in affecting prone areas.

Keywords
Arduino Uno; GSM modem; SMS notification; Solar Panel; Battery; ULN2003 IC.

Domotics Based On EEG Waves and OCUL Gestures for Physically Challenged

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Abstract:--

Domotics based on (ElectroEncephaloGram) EEG waves and Ocul gestures for physically challenged people is a project that is designed for the people who are physically challenged. Domotics is just and Greek word given for 'smart home' and EEG waves are nothing but brain waves and Ocul is the medical name given for the human eye. So as the title tells the smart home or home automation is done or the devices are controlled using the brain waves and the eye gestures of a physically challenged person or a completely paralyzed person. The people who are physically challenged or are paralyzed could not help themselves at times, a helper or an assistant is always required for them on their side to take care of them. Then a question arises, "what if there's no one to help???", "cant that person help himself??", the answers for all these questions is this project itself which help the physically challenged person to turn ON or OFF the devices or move the wheelchair towards the direction he/she wants. This can still be updated to play a buzzer such that if the person is in any danger it must indicate the other person who is in the remote place. The project is carried out with a simple Raspberry pi 3 board, a small CPU like architecture that makes the project simpler and cheaper.

Smart Street Lighting with Light Intensity Control using Power Electronics

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Abstract:--

This paper proposes a smart system for efficient control of intensity of street lights. The aim of automated street light management system using IOT is the conservation of energy by reducing electricity wastage as well as to reduce the manpower .Streetlights are the elemental part of any city since it facilitates better night vision, secure roads and exposure to publish areas but it consumes a quite large proportion of electricity. In the manual streetlight system lights it's powered from sunset to sunrise with maximum intensity even when there is sufficient light available. This energy wastage can be avoided by Switching off lights automatically .The saved Energy can be efficiently utilized for other purposes like residential, commercial, transportation etc. This can be achieved using an IOT enabled streetlight management system. The project uses Light Emitting Diode(LED) that do not consume an enormous amount of electricity to replace power consuming traditional HID lamps. LED lights along with LDR enables the intensity variation which is in feasible with the HID lamps. As LEDs are directional light sources it can emit light in specific direction there by optimizing the efficiency of the street lights. It ensures high reliability and excellent long term stability.

Keywords-
IOT,Arduino microcontroller, Lightningsystem

Conservation of trees in forest based on IOT

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Abstract:--

Tree conservation and wildlife conservation (Bio-diversity conservation) has become an important practice due to the negative aspect such as smuggling of trees, global warming, deforestation, forest fires, etc. From the few years we are been reading in the news papers about the cutting and smuggling of the trees like teak, sandal, oak, etc. These trees are very costly and less obtainable in the market.Even in the name of development many trees are been cutting unnecessarily due to the lack of coordination between the departments. In the many cases in the forest department could not able to track the trees that have been cut. As a result of these many species of trees are in the endangered situation and even few species are readily extinct. To avoid the smuggling of trees and to save a system "conservation trees in the forest using IOT". The system is based on the internet of things in which the different sensors such as temperature sensor, smoke sensor, vibration sensor, GPS are been interfaced with the microcontroller connecting them to internet, monitors and collection of the data into the cloud based platforms such as THINGSPEAK, cayenne and alerting technologies in case of any illegal activities are been carried out by intruders. The real time data is been uploaded from tree unit to the server unit using internet. This ensures data security and provides assurance for privacy.

Keywords:--

IOT, GPS, THINGSPEAK.

Smart Bus Tracking System

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Abstract:--

Smart Bus Tracking System uses an application that tracks a bus and gathers the distance to each station along its route. Tracking System involves the installation of an electronic device in a bus, with an installed Android App on smart phone to enable the Administrator/student to track the bus location. Based on IoT this project is implemented as an android application. GPS devices are located in the bus to track their positions. IR sensors are used to count the number of filled seats in the bus so that the student gets to know the seat availability. All these information is made to display on LCD in the bus and at the bus stop. The tracked positions will be periodically updated to the server. The android application displays location showing the position of bus. It shows where buses are located currently on the location and provide the updated information at different time interval. The server will monitor location and will store its data in the database. It is a real-time system as this method automatically sends the information on the GPS system to a system & smart phone. he entire software and hardware is controlled by the Arduino mega and uno. The data is received to the android app via cloud and also received through the Zigbee module and made to display on LCD at the bus stop. Simple mode of communication is the key feature of the Bus Tracking system. This application can be easily extended for central tracking system to track all the buses.

Keywords:--

GPS, IR sensor, LCD, Arduino, Zigbee,Internet Of Things

Advanced Headlight Monitored and Collision Prevention System in Automobiles

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Abstract:--

This paper focuses on the design and working of Arduino based Adaptive Headlight System (AHS) for automobiles. The main purpose of this system is to Present a cost effective technique to illuminate blind spots while driving in the Night and during the times when the visibility is reduced significantly so as to make The objects visible in those darkened locations and there by prevent accidents. Vehicle technology has increased rapidly in recent years, particularly in relation to Braking systems and sensing systems. The wide spread introduction of anti-lock Braking has provided the building blocks for a wide variety of braking control systems. In parallel to the development of braking technologies, sensors have been developed that are capable of detecting physical obstacles, other vehicles or pedestrian around the vehicle. This project focuses on building a user-friendly device that specializes in detecting intrusions besides doing closer an geobstacle detection. Automobile safety can be improved by anticipating a crash before it occurs and thereby providing additional time to deploy safety technologies. Warnings can be like buzzer if the driver is approaching a pothole or any obstruction, driver may be warned in advanced regarding what the road entails. The project's ultimate aim thus finalized as, one to build a general, easy-to-use and versatile system that can prevent fatal accidents.

Keywords:--

Ardunio Microcontroller, Adaptive headlight system

Solid Waste Management Planning

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Abstract:--

In the recent decades, urbanisation has increased tremendously. At the same phase there is an increase in waste production. Waste management has been a crucial issue to be considered. This paper is a way to achieve this good cause. In this paper smart bin is built on a microcontroller based platform 8051 microcontroller board which is interfaced with GSM modem and IR. IR is placed at the top of the dustbin which will measure the statue of the dustbin. The threshold state is set as 10cm. 8051 microcontroller will be programmed in such way that when the dustbin is being filled, the remaining height from the threshold height will be displaced. Once the garbage reaches the threshold level IR will trigger the GSM modem which will continuously alert the required authority until the garbage in the dustbin is squashed. Once the dustbin is squashed, people can reuse the dustbin at regular intervals dustbin will be squashed. Once these smart bins are implemented on a large scale, by replacing our traditional bins present today, waste can be managed efficiently as it avoids unnecessary lumping of wastes on road side. Foul smell found these rotten wastes that remain untreated for a long time, due to negligence of authorities and carelessness of public may lead to long term problems. And breeding of insects and mosquitoes can create nuisance around promoting unclean environment this may even cause dreadful disease.

A Low Power Comparator Design for 8-Bit Flash ADC IN 90-nm CMOS

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Abstract:--

The main focus of this paper is to design a "LOW POWER FLASH ADC" For ultra-wide and applications using CMOS 90-Nm Flash ADC consists of a reference generator, array of comparators, 1-out-of N code generator, fat tree encoder and output D-latches. The demanding issues in the design of a low power flash ADC is the design of low power latched comparator. The proposed comparator in this paper is designed using 90-nm technology at 0.8V DC voltage source using Cadence tool. The simulation results of a 8-bit ADC is shown for a sampling frequency up to 1.2GHz showing an average power dissipation of 7.67mW.

Key Words: -

Flash ADC, preamplifier based latch comparator, low power consumption

Smart Parking Guidance System Using WSN

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Abstract:--
Wireless sensor network (WSN) has received intense attention in recent years and has been applied in industrial areas. Based the Open WSN platform, we design and intelligent parking system to help avoid the crowd jam of parking lot in city. Both theoretical analysis and practical simulation are presented in this paper. Due to energy limitations of wireless sensor networks and the objective circumstances of the parking lot, novel network protocols (MAC and NET lawyers) are proposed to handle the above situations. Detailed experimental design and simulation are evaluated in the experiment section to show the effectiveness and efficiency of the new scheme.

Key Words: -
Wireless sensor networks; Parking guidance.

Detection of review spam using machine learning technique

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Abstract:--

Nowadays with the increasing popularity of internet, online marketing is going to become more and more popular. This is because; a lot of products and services are easily available online. Hence, reviews about these all products and services are very important for customers as well as organizations. Unfortunately, driven by the will for profit or promotion, fraudsters used to produce fake reviews. These fake reviews written by fraudsters prevent customers and organizations reaching actual conclusions about the products. Hence, fake reviews or review spam must be detected and eliminated so as to prevent deceptive potential customers. In our work, supervised and unsupervised learning techniques have been applied to detect review spam. The different data sets in the research area of review spam detection have been used in proposed work. For supervised learning, we try to obtain some feature sets from different automated approaches such as N-gram etc. and unsupervised learning we use clustering techniques etc, that can best distinguish the spam and non-spam reviews. Along with these data mining and opinion mining technique have also been applied. This paper analyze to detect the review spam from the available dataset and also deleting review that is replica of other review from same id using the classifiers such as Decision Tree.

Braille System Implementation to Assist Blind

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Abstract:--

The aim of this paper is to expand the electronic travel aid for the blind and visually impaired pedestrians by emerging into the ultrasonic technology and the other application is the usage of braille pad using GSM module. The paper represents an innovative design and implementation of an Ultrasonic Navigation system in order to provide fully automatic obstacle avoidance with audible notification for blind pedestrians. This blind guidance system is safe, reliable and cost-effective.

Index Terms: -

Ultrasonic Sensor, Sound Sensor, Moisture Sensor, Gsm Module, Braille Pad.

IOT based Smart-Multi assistive device for visual, hearing and vocal impaired people

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Abstract:--

Solving the problems of People with Visual, Hearing and Vocal Impairment through a single aiding system is a difficult task. Many recent researches focus on addressing the issues of one of the above challenges, but not all. The present work focuses on identifying a unique technique that aids the visually impaired by letting them hear what is represented as text, and it is achieved by the technique that captures the picture through a camera and converts the text available as voice signals. The present work provides a way for the people with deaf to visualize or read which is in audio form by speech to text conversion technique, and we also provide a way for the dumb to represent their sign language by the aid of sign to text conversion technique, and for the blind person colour detection method is implemented so colour image can be captured and output will be generated in the form of voice and text. All these four functions were modulated to be in a single unique system. All these five functions are coordinated with the use of Raspberry Pi. The blind people are helped by the process in which the image to text and text to speech is given by the Tesseract OCR(online character recognition) and colour detection method. The deaf people can read the text which displays on the screen using app which makes them to understand what the person says can be displayed as the message. Dumb people can convey their message by sign so the other people can read the text message on a screen.

Key Words: -

Tesseract, Python, Espeak, Noobs, OpenCV.

Data Communication Framework for Authenticity and Integrity in IoT

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Abstract:--

Internet of Things has been widely applied in everyday life, ranging from transportation, healthcare, to smart homes. As most IoT devices carry constrained resources and limited storage capacity, sensing data need to be transmitted to and stored at resource rich platforms, such as a cloud. IoT applications retrieve sensing data from the cloud for analysis and decision making purposes. Ensuring the authenticity and integrity of the sensing data is essential for the correctness and safety of IoT applications. We summarize the new challenges of the IoT data communication framework with authenticity and integrity and argue that existing solutions cannot be easily adopted. We present two solutions, called Dynamic Tree Chaining (DTC) and Geometric Star Chaining (GSC) that provide authenticity, integrity, sampling uniformity, system efficiency, and application flexibility to IoT data communication. Extensive simulations and prototype emulation experiments driven by real IoT data show that the proposed system is more efficient than alternative solutions in terms of time and space.

Key Words: -

IoT, Cloud, Authentication, Partial Data Retrieval, Sampling

Key Issues in Cloud Computing Security: A Review

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Abstract:--

Mobile Cloud computing applications are the new extensions of cloud technologies. Nowadays, these clouds technologies have rapid growth in IT Industry.using cloud, mobile devices can store and retrieve any kind of data from cloud networks. Despite the many benefits of these technologies, there are some issues such as security and privacy that degrade the efficiency of mobile cloud computing. In the first part, we discussed data sharing in mobile cloud computing. In the second part, we discussed the detailed literature review of various algorithms and methodologies. The purpose of the review is considering the problems and limitations of previous research gaps in terms of secure optimal data sharing with limited resources security paradigms such as using public key cryptographic systems

Index Terms

AES algorithm, DES algorithm, Proxy-Re-encryption

IoT Based Air Quality Monitoring System

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Abstract:--

Air pollution is the largest environmental and public health challenge in the world today. It leads to adverse effects on human health, climate and ecosystem. Air is getting polluted because of release of toxic gases by industries, vehicular emissions and increased concentration of harmful gases and particulate matter in the atmosphere. Particulate matter is one of the most important parameter having the significant contribution to the increase in air pollution. This creates a need for measurement and analysis of real-time air quality monitoring so that appropriate decisions can be taken in a timely period. This paper gives the survey of various methods used so far to detect air quality along with overview of our project which results into real-time standalone air quality measuring parameters like temperature, pressure, relative humidity, PM 2.5, PM10. We make use of Internet of Things (IoT) which is nowadays finding profound use in each and every sector.

Key Words: -

Air Pollution, Air Quality Monitoring System, Internet Of Things, Particulate Matter: PM2.5, PM10.

Analysis of Combination of Swing Wing with Canard and Tail used in Fighter Aircraft

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Abstract:--

The present work discloses the new design of a fighter aircraft. Better performance of a fighter in the combat as well in its ground activities is the main vision of our work. It is concentrating on the aircraft short distance take off and landing, stalling controlling, as well as different maneuverings of the aircraft. Many fighter aircraft are having its own working parameters and configurations. Every aircraft shown its own characteristics in flight like maneuverings, stalling etc.The major problem of them is prohibiting some of these characteristics in some angle of attack. So to control we have implemented some modifications. To achieve all these characteristics, we have selected the combination of swing wing with canard and tail configuration. By using this technology we can increase the flight ability to its maximum. So all the characteristics are in the control as we have designed.

Wireless Serial Data Synchronization Methodology for Secured Money Transaction Using Multi Account Embedded ATM Card

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Abstract:--

The need of money can only be satisfied when you are carrying money with you. That also increases the risk of getting robbed. This research focuses on how to enhance security of transactions in Automatic Teller Machine system using a multi-factor authentication system (PIN and Fingerprint). This research proposed a highly secured Automatic Teller Machine banking system using an optimized Advanced Encryption Standard (AES) algorithm. This research proposes two levels of security. Firstly we consider the security level at the client side by providing biometric authentication scheme along with a password of 4-digit long. Biometric authentication is achieved by considering the fingerprint image of the client. Secondly we ensure a secured communication link between the client machines to the bank server using an optimized energy efficient AES processor. The fingerprint image is the data for encryption process and 4-digit long password is the symmetric key for the encryption process. To get a low power consuming Automatic Teller Machine, an optimized AES algorithm is proposed in this research. In this system biometric and cryptography techniques are used together for personal identity authentication to improve the security level.

Smart Vehicle Using Arduino

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Abstract:--

Safety and driver comfort are the essential goals of new trends in automobile industry. An automatic wiper controller helps not only in increasing safety by reducing distractions but also increases the overall comfort. Such an automatic control is available, however it has limitations of high cost and low efficiency. In this Paper, we aim to provide an automatic wiper controller, based on resistive rain sensor which is cost effective, efficient and has a wide range of output. A complete windshield controlling system has been developed to increase human comfort and flexibility. The wiper has been controlled by a water level sensor which regulates the wiper motor through sensing the level of water or rain. A dust sensor has been integrated to spill some water in the windscreen and then wipe it. It senses when a certain level of dust get accumulated in the screen. The sun visor which is mounted inside the car to shade the driver's eye from sun would be easier to control by a servo motor.

Design of High Speed 32-bit Floating Point Multiplier using Urdhva Triyagbhyam Sutra of Vedic Mathematics

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Dr Niranjana S, Manipal Institute of Technology,MAHE,Manipal

Abstract:--
Multiplication of floating point(FP) numbers is greatly significant in many DSP applications. The performance of the DSP's is substantially decided by the speed of the multipliers used. This paper proposes the design and implementation of IEEE 754 standard single precision FP multiplier using Verilog, synthesized and simulated in Xilinx ISE10.1. Urdhva Triyagbhyam Sutra of Vedic mathematics is used for the unsigned mantissa calculation. The design implements floating point multiplication with sign bit and exponent calculations. The proposed design is achieved high speed with minimum delay of 3.997ns.

Key Words:-
Floating point numbers, IEEE 754, Urdhva Triyagbhyam Sutra, Vedic mathematics.

Cochlear Implant

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Abstract:--

As the most successful neural prosthesis, cochlear implants have provided partial hearing to more than 120000 persons worldwide. First, the cochlear implants are system designed and specifications are laid out. Second, the design goals, principles, and methods of subsystem components are identified from the external speech processor and radio frequency transmission link to the internal receiver, stimulator, and electrode arrays. Third, the system integration and functional evaluation are presented with respect to safety, reliability, and challenges facing the present and future cochlear implant designers and users. Finally, issues beyond cochlear implants are discussed to address treatment option for the entire spectrum of hearing impairment as well as to use the cochlear implant as a model to design and evaluate other similar neural prosthesis such as vestibular and retinal implants.

Key words:-

Cochlear implant, external speech processor, radio frequency, internal receiver, stimulator, electrode array, hearing impairment, neural prosthesis.

IOT based Intelligent Speech guidance tool for visually impaired people

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Abstract:--

This paper describes the development of a prototype in order to help visually impaired people to have a safe and independent travel. This prototype will detect any static or moving object and guide the person in his mobility. The proposed system has a microcontroller, three ultrasonic sensors, and two vibrators mounted on a belt. This prototype is able to give information to visually impaired person about walking routes and distance of obstacle within eight meters along the path ahead of a user. This system is responsible for sensing the surrounding environment via ultrasonic sensor, detects closest obstacle around the user in almost 360 degrees with speech output through head phones and vibration feedback in order to guide the user in a proper way.

Implementation of Drowsiness, Vehicle Safety and Alcohol Intoxication Detection Using Raspberry PI

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Abstract:--

Drowsiness and drunken driving causes the road accidents. This paper proposes a real time detection of driver's drowsiness as well as alcohol intoxication and subsequently alerting them. The main aim of this proposed system is to reduce the number of accidents due to driver's Drowsiness and alcohol intake to increase the transportation safety. This proposed system contains 8-megapixels digital USB camera, Raspberry-pi loaded with Raspbian-OS, Alcohol sensor (MQ-3) is used to detect the intake of alcohol in percentage if the intoxication matching fails GSM get triggered on and transmits warming message. The Raspberry-pi system board is serially interfaced with Arduino Uno. GSM, Bluetooth, relay circuitry and buzzers are interfaced with Arduino Uno. This will perform some task like the alarm notification and switching off the car power source.

Recently every individual person preferring to use own vehicle for transportation rather than public transportation because of flexibility in schedule. Thefts are happening on parking and sometimes driving insecurity places like highways. Hence the security and safety become a basic necessity for the urban population and also everyone. In recent days vehicle security and accident prevention are more challenging. The proposed system gives an alarm which represents vehicle tracking and accident detection when theft and accident identifying. Raspberry-pi is the heart of the system, which is connected to any moving vehicle, these make an easy option to track any moving vehicle for that it matters in real time on Google-maps. An alert will be received to the authorized person, the vehicle will be moved to stop mode through the GSM-GPRS or Wi-Fi Module connected to the raspberry-pi kit which is kept on inside of the vehicle. Which consist of rasp-pi-camera, sensors, and android phone. The camera is used to take pictures when the vehicle is open or closed mode. This system helps find-out the exact location of an accident with the server and sent the information to an authorized person, give an alarm signal to save the human life. This system also detects the behavior of the driver through the sensors whether he/she drowsy/drunk, the speed vehicle is stopped. This system more securable reliable and economical.

IndexTerms–

RaspberryPI, Zigbee, MQ-3 Sensor, Logistic Camera

Wireless Capsule Endoscopy

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Abstract:--

Wireless Capsule endoscopy (WCE) has been developed to allow direct view of the entire small bowel in human body in a non -invasive manner for the first time. But the visual inspection of a large number of video frames produced in each examination poses a tedious task to physicians. In this paper, we propose a novel scheme aiming for reduction of the number of frames in a video so as to partially solve this problem. To achieve this goal, the original WCE video is first divided into different segments by detecting video boundary among the video sequence. Key frames from different segments are then extracted to summarize the video with k-means clustering. Preliminary experiments on our present video data verify that it is promising to employ the proposed scheme to abstract a WCE video.

Key words:-

WCE, video frames, clustering, novel scheme, medical .

Smart Crop Protection System from Animals and Fire Using Arduino

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Abstract:--

Crops in farms are many times ravaged by local animals like buffaloes, cows, goats, birds, and fire etc. This leads to huge losses for the farmers. It is not possible for farmers to barricade entire fields or stay on field 24 hours and guard it. So here we propose automatic crop protection system from animals and fire. This is aarduino Uno based system using microcontroller. This system uses a motion sensor to detect wild animals approaching near the field and smoke sensor to detect the fire. In such a case the sensor signals the microcontroller to take action.

The microcontroller now sounds an alarm to woo the animals away from the field as well as sends SMS to the farmer and makes call, so that farmer may know about the issue and come to the spot in case the animals don't turn away by the alarm. If there is a smoke, it immediately turns ON the motor. This ensures complete safety of crops from animals and from fire thus protecting the farmer's loss.

Keywords —

GSM, Smoke Sensor, PIR Sensor, DC Motor, Buzzer Arduino Uno

Event Management System

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Abstract:--

Event management is the application of project management to the creation and development of large or small scale events such as festivals, conferences, ceremonies, formal parties, concerts, or conventions. The last few years have seen arapid growth in the event management industry. Considering the existing system problems related to event management weare developing an android application for event management. This application will be accessible only for android. Application will mainly focus on birthday party, marriage functions and social events. The application will be developed using Android studio and backend will be managed In SQL database .Application will have easy and feasible GUI for all type of users. User needs to Login at the initial phase, set his/her profile details including location, choices, email id, etc. User can modify or change His/her profile at any stage. The core phase of the application will display list of events based on the user profile details. This event will further contain description about event, its exact location, ticket rates(ifany), date and time. These details will be firstly verified by the administrator to fulfill the security protocols .In this paper we present an android mobile phone application to make it easier for a layman to plan an event in a hassle-free manner. This application will assist him/her in planning a successful and fun event

Key words:-

Events, AndroidStudio, Java, SQL Server.

A Novel Visible Spectrophotometric Validated Determination for the Assay of Doxycycline Hyclate in Pure and Pharmaceutical Samples

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Abstract:--

A new introduced and sensitive method for the assay of Doxycycline hyclate has been proposed in pure and pharmaceutical samples. The current method is based on the reaction between Doxycycline hyclate and Ethylene diamine tetraacetic acid (EDTA) with ammonia which leads to the formation of a yellow colored complex having a λmax =444nm. The reaction conditions were optimized to obtain the complex of high sensitivity and longer stability. Under these optimum conditions, the absorbance of the complex were found to increase the linearly with increase in concentration of the drug, which was verified with correlation coefficient value .The system obeyed Beer's law in the concentration range and Sandell's sensitivity. The purpose of this review article is to present into the analyte in pharmaceutical preparations were in agreement with those of the obtained from a comparison method, as revealed by statistical analysis of the reported results using Student t-test and the variance F-test.

My Friend-A Personal Assistant for Driver

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Abstract:--

Safety is the most important factor to be considered for driving. A single fault of the driver can lead to severe physical harms, deaths and major economic losses. Today's various systems presented in automotive industries like Navigation, Sensors, Antibreaking system, Stability Control system etc. to make driver's effort easy. There are numerous reasons especially human mistakes which gives increase to road accidents. One of key objectives of this project to develop this application is that the digital society is at an immense risk to road safety and there is a need to fix this, to ensure driver and others safety during the use of Smart phone. In order to perform various task on phone like attending/rejecting calls, SMS, WhatsApp messages, play music, email and Navigation. In my project I have focused at getting accurate routing instructions, during navigation, receiving customized information about live traffic, which helps individual drivers to drive to their destination. The smart navigation employs an on-line traffic simulator which provides traffic predictions and improves the accuracy of existing navigation systems which rely on limited traffic data. The intelligent assistant system shows incoming messages and calls which can be answered without using mobile phone, rather using inactive voice assistant and hand gesture. The system (My Friend) uses machine learning technology to have an interactive assistant with the driver. It is capable of listening to the driver command, and processing it and providing the appropriate answer. This device is capable of showing the destination set with traffic update and ensuring that the driver reaches the destination at min duration.

Solar Panel Electronic Voting Machine

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Abstract:--

Electronic Voting Machine (EVM) is a device that is used to count ballot and record votes instead of doing it manually using human resource to record and count votes. The many problems associated with manual counting of votes that it laborious, erroneous and time consuming. This makes the entire system very inefficient. As voting is a sensitive issue, mismanagement can lead to issues as large and complicated as political unrest. The debilitating effect that political unrest can eventually lead to needs no describing. Bangladesh, being a developing nation cannot afford to be held up in its economic development due to mismanagement in elections. A solar powered EVM addresses all the above concerns. This paper discusses in detail the design of a solar powered EVM prototype which is efficient and allows the user a relief from the laborious act of vote collection and counting. Furthermore, it also removes the errors from the system, since it is a digital device. One of the biggest concerns of EVM is the security system which includes insider threats, network vulnerability and challenges to auditing. To limit these issues the prototype has been developed with a three stage security encryption.

Key words:-

Electronic Voting Machine, Solar Power, Arduino Mega

Intelligent Speed Monitoring For Autonomous Cars

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Abstract:--

Internet of vehicles is a vital part of the smart city is a complex integrated network system, which bridges different people with things that are automated with different environments in cities. This is different from Telemetric and carting, in which vehicles can alter speed within the RFID zone and obtain control on speed by interacting with environments.

This is unique from Telemetric and carting, in which vehicles can run within the connected network and obtain various services by interacting with environments. The vehicle has been the most superior invention of early man which was obedient his commands. Recent breakthrough inventions in latest technologies have changed this model, leading to the way to a better world.

In today's date car has become powerful platform, for obtaining information using sensor devices from the particular zone and system will control car speed according to the zone information. In this we are monitoring driver condition with the help of sensors. If driver is having unusual health condition then the system will give notification to him with the help of Bluetooth device.

Key words:-

Arduino, RFID, Bluetooth, Temperature, Alcohol sensor etc.

Wireless Operating ROBO A Smart Choice to Save Life at Risk

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Abstract:--

The existing robotic systems which can combat in war times also known as "Security Warrior" includes the features of vision and motion. This paper proposes a new approach for designing and constructing a robotic vehicle in which multiple features can be embedded into a single model using a low cost autonomous robot. The features like live human detection, bomb detection, fire detection and gas detection can be achieved using our smart robo. This smart robo is embedded with PIR sensor, metal(bomb) sensor, fire sensor and gas sensor respectively. Our main aim is focused on achieving multiple operations using a single prototype.

Study on Tensile Properties of Friction Stir Welded Joints of 6061-T6 Aluminium Alloys

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Abstract:--

Friction stir Welding (FSW) is a solid state joining process used to weld similar and dissimilar materials which are difficult to weld by conventional welding process. Weld quality is mainly affected by welding input parameters such as tool probe geometry, tool rotational speed, welding speed and also the forces during welding. This paper presents a systematic approach to study the effect of parameters of Friction Stir Welding of thin aluminum alloy sheet. An attempt has been made to join the aluminum alloy of 6061-T6 of 2.0 mm thick by FSW using conventional milling machine. It was found that joints with rotational speed of 1000 rpm showed maximum tensile strength (UTS). Also joint strength shows an increase with respect to welding speed.

Key words:-

FSW, Tool Geometry, Welding Speed, Axial Force, Tensile Strength

Influence of Stone Dust Powder on Compressive Strength of Geopolymer Concrete

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Abstract:--

A new type of geopolymer composite was synthesized from the stone dust powder with association of Ground-granulated blast-furnace slag (GGBS). The stone dust is procured from stone polishing industry, in the stone polishing industry this powder is generated as water product. This waste product is dumping in and around the factory and causes environment problem. In order to utilize effectively to construction industry an experimental investigation aimed to utilize the stone waste powder in the geopolymer concrete. The concrete mix is prepared with stone powder as 75% and the reaming 25% with GGBS. The compressive strength is conducted at 7, 14, 28 and 90 days and for comparison purpose GGBS (100%) mix has been consider. The mix is aimed to compressive strength of 20MPa and this strength has been attained with 75% stone dust rather than the 0%. From the test results it is observed that as the age of the concrete increases the strength is increasing and good remarkable strength is noticed at 7 days. To support the test results XRD and SEM images are incorporated in this article along with detailed analysis.

Key Words:

Stone dust powder, GGBS, Compressive Strength, XRD and SEM

Protection of Transformer Using Arduino with Voice Alert

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Abstract:--

Transformers are the important parts in the power system. So, development of better protection device for Transformers is essential. Differential relay technique can be employed to protect the Transformers. In this paper we have used differential relay mechanism with Arduino. By programming in the Arduino the protection of transformers can be done. Programming is quite efficient than differential relay mechanism, so it is better to use Arduino instead of differential relay. The working of transformer is verified by Arduino every time. It senses the condition of transformer each and every second. If it founds any error then it sends commands to the circuit breakers to trip the main potential transformer. So it is the efficient and best method to protect the transformers under abnormal conditions.

Local Spectral Component Decomposition for Multi-Channel Image Denoising

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Dr Savita Sonoli, Professor RYMEC Ballari

Abstract:--

The propose a method for local spectral component decomposition based on the line feature of local distribution. The aim is to reduce noise on multi-channel images by exploiting the linear correlation in the spectral domain of a local region. The first step is to calculate a linear feature over the spectral components of an M-channel image, which we call the spectral line, and then, using the line, we decompose the image into three components: a single M-channel image and two gray-scale images. By virtue of the decomposition, the noise is concentrated on the two images, and thus our algorithm needs to denoise only the two gray- scale images, regardless of the number of the channels. As a result, image deterioration due to the imbalance of the spectral component correlation can be avoided. The experiment shows that our method improves image quality with less deterioration while preserving vivid contrast.The method is especially effective for hyperspectral images. The experimental results demonstrate that our proposed method can compete with the other state-of- the-art denoising methods.

Keywords:--

Spectral line, local spectral component decom- position, denoising, hyperspectral image.

Smart E-Notice Board

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Abstract:--

Smart E-Notice Board is a place where people can leave messages and notifications of any kind, such as advertising, reporting events or providing information. It can be placed on digital devices such as computers, tabs, cell phones, etc. This project is for all types of users, eg. Existing users and new users are very helpful. This allows the administrator to leave the notification and delete it so others can read and view it. The E-Notice Board may submit relevant notifications and announcements and keep users up to date from time to time. It is one of the applications to improve the use of college poster advertising by providing it online. The project adds, deletes, and displays all updates, giving the user the most up-to-date information about the E-Notice Board.

The main objective of our project is to substantially simplify the dissemination of information in a paperless community, as the world tends to interact with the online scoreboard.

Smart Devices based on User Behavior Prediction

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Sumit Raj, Computer Science and Engineering, SRM Institute of Science and Technology, Chennai, Tamil Nadu
ShubhamTiwari, Computer Science and Engineering, SRM Institute of Science and Technology, Chennai, Tamil Nadu
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Abstract:--

The client works the savvy home gadgets year in year out, have delivered mass activity information ,however these information don't be used well in past. Presently a days these information can be utilized to anticipate clients conduct custom with the advancement of enormous information and AI advances, and after that the expectation results can be utilized to upgrade the insight of a keen home framework and furthermore a more noteworthy intrigue emerges in decreasing our vitality needs as electrical vitality turns out to be all the more expensive and the ecological impacts of fossils turn out to be progressively beguiling. Burden Monitoring (LM) is basic for vitality the executives and cost fixing. Disaggregation of burden is basic for acquiring machine explicit vitality utilization insights. Our undertaking proposes a novel unsupervised client conduct expectation calculation, which utilizes a counterfeit neural system and proposes an overlooking component to beat the weaknesses of the past forecast calculation.

Keywords –

Machine Learning; Neural Network; Internet of Things; Forgetting Factor; Load Monitoring.

Food and Water Quality Analysis System Based on IoT

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Abstract:--

The quality supervision platform for food & water quality measurement with the use of the technology of Internet of Things (IOT). With the development of the food industry in recent years, the security problems of food quality have received more and more concerns. Although countries all around the world have been established different types of food security supervision organization through legislating, the executing process would lead to the lack of compactness and scientificity of supervision due to human factors and technical errors. With the emergence of IOT it would be easy to solve these problems. IOT can collect the real-time data and transmit them efficiently. And also it has wide control autonomy.Our project also addresses the water quality analysis to suggest about the purity water. Water quality analysis is carried on various parameters like pH, Alkalinity and Conductivity etc. Its results are verified with samples of contaminated water, salt water, pure water and other samples performace is studied.

Automatic LPG Cylinder Booking and Leakage Detection using Arduino UNO

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Abstract:--

LPG cylinders have become an integral part of every home. Our kitchens are occupied with LPG cylinders which help us make delicious food. But it can be dangerous and life threatening. Therefore, it requires constant vigilance to reduce the danger. The aim of this project is to design a safety-oriented system which will alert the user about any threat in the kitchen through mobile and also capable of performing required action immediately. This system will detect leakage of LPG and send an alert message to the user, at the same time it will switch off the gas supply of LPG by switching regulator-switch using BO motor. It ensures safety from any gas leakage accident like suffocation and explosion. As an additional advantage, this system has a weighing sensor which can measure the weight of the cylinder and regularly update user about gas left in the cylinder. This system will also help customers to know whether they are being cheated by gas agency by providing less amount of LPG. In the present time, everyone is busy in their daily life and it is difficult to know the status of the gas cylinder. Further, it will register your booking through GSM technology by sending SMS to the distributor company and also send an alert to user at the same time. It will be helpful for those aged people who live alone and are dependent on others, by making them independent and secure them from any kitchen hazardous.

Advanced Electronic Voting Machine Using Internet of Things (IOT)

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Abstract:--

Electronic Voting Machine (EVM) is a device that is used to count ballot and record votes instead of doing it manually using human resource to record and count votes.This is a long time-consuming process and prone to errors. voting is a sensitive issue, mis-management
can lead to issues as large and complicated as political unrest. The debilitating effect that political unrest can eventually lead to needs no describing.this situation mis-management and the other hand, for a power-starved , the gap between demand and supply of electricity remains large. A good majority of the people are deprived of this basic facility. Over-dependency on electronic devices for sensitive purposes might not seem like a viable option either. However, renewable energy-based systems can be the solution to tackling such crisis. A solar powered EVM addresses all the above concerns. This paper discusses in detail the design of a solar powered EVM prototype which is efficient and allows the user a relief from the human resource act of vote collection and counting. Furthermore, it also removes the errors from the system, since it is a digital device. One of the biggest concerns of EVM is the security system which includes insider threats, network vulnerability and challenges to auditing.

Keywords:

Electronic Voting Machine, Renewable Energy, Solar Power, and Microcontroller.

Performance Oriented Design of a Hexapod Robot

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Abstract:--

The necessity to utilize the usage of the robot cannot be denied since there are a lot ofnatural disasters occur everywhere around the world. The robot that can be used in thissituation may be a remotely controlled by human or moves autonomously. Hexapod robot isone of the robots used in this situation because of its stability and flexibility during the motionon any type of surface. Hexapod robot is a robot that has six legs to walk or move. Since therobot has many legs, the robot is easily programmed to move around because it can beconfigured to many types of gait such as alternating tripod, quadruped and crawl. There arevarious designs of hexapod with certain function and advantages. In this research, a hexapodrobot with manoeuvrable wheel is designed and developed. The purpose of the hexapod robotwith manoeuvrable wheel is to ease the movement either on the flat surface or on the inclinedsurface. On the flat surface, the robot will move using the manoeuvrable wheel while onincline surface, the robot will climb using its legs. The decisions for the robot to use eitherwheel or legs are based on the sensory devices and algorithm develops at the controllerattached to the robot.

Gateway Supported Security Enhancement in the Internet of Things (IoT)

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Abstract:--

Now a days, the popularity of the Internet of Things (IoT) has led to a very rapid development and significant advancement of ubiquitous applications seamlessly that are integrated within our daily life. Owing to the accompanying growth of the importance of privacy, a great deal of attention has focused on the issues of secure management and robust access control of IoT devices. In this paper, we propose the design of a blockchain connected gateway which adaptively and securely maintains user privacy preferences for IoT devices in the blockchain network. Individual privacy leakage can be prevented because the gateway effectively protects sensitive data from being accessed without their consent. A robust digital signature an encryption mechanism is proposed for the purposes of authentication and secure management of privacy preferences. Furthermore, we adopt the blockchain network as the underlying architecture of data processing and maintenance to resolve privacy disputes.

Keywords:
Internet of Things(IoT), Blockchain network, BlockChain Gateway(BC Gateway).

Study and Improvement of Recirculation Fan in Direct Reduced Iron (DRI) Plant Gas Heater

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Abstract:--

The paper focuses on optimum operation of Recirculation Gas (RC)/Flue Gas Fan in Direct Reduced Iron Plant Process. Gas Heater is used to increase temperature of reduced gas from 50 Deg C to desire temperature upto 850-900 Deg C. Gas heater has four chambers namely, D01, D02, D03 and D04. D01 and D02 are the horizontal chambers, D04 is a vertical chamber. In D01 Combustion Chamber, Tail Gas is used as main fuel with Combustion air and LPG is burnt using Main Burner. Between D01 and D02 there is shield called Radiant Shield. The purpose of using radiant shield is to regulate the temperature of flue gas from D01 to D02. D02 chamber has 4 tube bundles installed in series inside which Pressure Swing Adsorption (PSA) Product/Reduced gas (enriched CO & H2) coming at 40°C from PSA unit will be made to pass. Flue gas from Gas chamber is cooled by Recirculation Fan and passed through radiant shield to regulate temperature from D01 to D02 chamber. Problem due to high vibration at Recirculation Fan Drive end bearing restricted the fan speed for optimum operation. To solve the problem the existing operation of Recirculation Fan (RF) was studied and used TQM tool (Brainstorming) to identified the problem and decision is taken to change Material of Construction (MOC) of the impeller and revised the Standard Operating Procedure (SOP) to improve the performance of the Recirculation Fan in Direct Reduction Iron (DRI) plant gas heater.

Keywords:

Direct Reduced Iron, Recirculation Fan, Impeller, Cross over Temperature, Speed, Vibration, TQM tool (Brainstorming)

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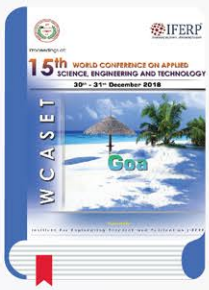

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