ICOWT - 2017

International Conference on Wearable Technologies

Bengaluru,Karnataka

22nd - 23rd June 2017

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Organized at:

Dayananda Sagar University, School of Engineering

Hosur Main Road, Kudlu Gate, Hongasandra Village,
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Karnataka -560068

Welcome Message

On behalf of ***Institute For Engineering Research and Publications (IFERP)*** and in association with ***Dayananda Sagar University, School of Engineering,*** Bengaluru, Karnataka. I am delighted to welcome all the delegates and participants from around the globe to ***Bengaluru, Karnataka*** for the ***"International Conference on Wearable Technologies"(ICOWT - 2017)"*** that will take place from ***22nd - 23rd June 2017***

Transforming the importance of Engineering, the theme of this conference's assembling is ***"International Conference on Wearable Technologies" (ICOWT - 2017)"***

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 & DSU)** 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 ***Bengaluru, Karnataka.***

Mr. R. B Satapathy
Director
IFERP

Preface

The ***" International Conference on Wearable Technologies"(ICOWT - 2017)"*** is being organized by ***Dayananda Sagar University, School of Engineering, Bengaluru, Karnataka.*** India in association with ***IFERP - Institute For Engineering Research and Publications*** on the ***22nd - 23rd June 2017***

Dayananda Sagar University, School of Engineering, Bengaluru, Karnataka has a sprawling student - friendly campus with modern infrastructure and facilities which complements the sanctity and serenity of the divine city of ***Bengaluru in Karnataka***.

With blessings of Chokkanathaswamy, Bengaluru, Karnataka the ***" International Conference on Wearable Technologies"(ICOWT - 2017)"*** was a notable event which brings academia, researchers, engineers, industry experts and students together.

The conference will be a perfect platform to share experience and foster collaborations across industry and academia to evaluate current and emerging trends across the globe.which were given the international values by ***"Institute For Engineering Research and Publication [IFERP]".***

The International Conference attracted over 88 submissions. Through rigorous peer reviews 67 high quality papers were recommended by the Committee. The Conference aply 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.

ICOWT - 2017

CONVENER

Dr. Basavaraji Neelgar

Chairman and Professor, Department of ECE -DSU, Bangalore

MESSAGE

I welcome you to the "***International Conference on Wearable Technologies ICOWT -2017"***. The event is going to be held on 22nd – 23rd June2017, organized by IFERP-International and ***Dayananda Sagar University***, Bengaluru. The ICOWT-17provides an opportunity to research scholars, delegates and students to interact and share their experience and knowledge in technology application. ICOWT-17 also provides an excellent international forum for sharing knowledge and results in Recent Challenges in Engineering Technology. The aim of the Conference is to provide a platform to the researchers and practitioners from both academia as well as industry to meet the share cutting-edge development in the field.

Institute for Engineering Research and Publication (IFERP) is India's one of the largest professional Organization meant for research development and promotion in the field of engineering and technology. IFERP is a paramount body which has brought technical revolution and sustainable development of science and technology. The IFERP-forum constitutes of professional wizards and overseas technical leaders who have left no stones unturned to reinforce the field of science, engineering and technology.

ICOWT-17 was fortunate to attract a high interest among the community, and the high number of submissions provided an excellent opportunity for a high-quality program, but also called for a demanding and laborious paper evaluation process. The main program of ICOWT-17covers two days and includes streams of parallel sessions. The program is further enriched by keynote presentations offered by world-renowned researchers in the field. I am grateful to all authors who trusted us with their work; without them there would be no conference.

The final result would not have been possible without the dedication and hard work of many colleagues. Special thanks are due to the Track chairs, Session chairs, the members of the Technical Program Committees, the General Chair, and to all external Referees for the quality and depth of the reviews, and their sense of responsibility and responsiveness under very tight deadlines. . Thank you all. We hope that the proceedings will serve as a useful reference of the state-of-the-art in application-specific systems research.

Dr.BASAVARAJI NEELGHAR
Chairman and Professor

ICOWT - 2017

International Conference on Wearable Technologies

Keynote Speakers

Dr. T.C.Manjunath,

Professor & HOD.,
Dayananda Sagar
College of Engineering
Bengaluru ,Karnataka.

Message:

The talk gives a brief insight into the recent developments in the field of biological robots in the field of medicine. Robotics is an interdisciplinary field which mixes various engineering disciplines such as electrical, electronics, telecommunications, instrumentation, computer science, information science, mechanical, AI, mathematics, physics, chemistry, biology, human factors, etc… & many other fields into one. In the earlier days, the robots were very huge in size. As technology developed, the machines started to shrink in size, similarly, the electronics also started to move from the macro-electronics world to the nano-electronics world. The mechanical and the electronic components day by day started to shrink in size (keeping in view the Moore's law). Human factors (biological concepts) also started to be getting incorporated into the machines with the development of the computers. A brief introduction to the nanotechnology & some applications is also dealt with to start with the bio-robotics or the bio-nano technology. MEMS, i.e., micro electronics mechanical systems (micro-tech) & NEMS, i.e., nano electronic mechanical systems (nano-tech) deals with the study, design, simulation, fabrication of micro ( ) or nano (n) bots. In this context, numerous applications in the field of nano-sensors in bio medical engineering field is also presented. A mathematical modeling (funded project) from a reputed hospital leading to the constructional features of a - n bot with the simulation, design & development of a nanobot using sophisticated simulation tools & other related works is also presented (undertaken by the speaker as a consultation project w.r.t. the industry-institute interaction). Efforts are also being made to develop the nano-work done as a prototype so that it could be very useful in the medical world. The talk finally concludes with the advantages & dis-advantages of the small artificial wonders of the universe developed by the researchers all around the globe in the beginning of the 21st century.

DR. T.C.MANJUNATH

Dr.P.C.Srikanth

Professor and Head Dept. of ECE,
Malnad College of Engineering, Hassan,
Karnataka, India

Biography

Dr. P. C. Srikanth had his schooling in the same town and graduated in Electronics & Communication Engineering in 1987 from Malnad College of Engineering, Hassan,Karnataka,India securing a first class with Distinction. Dr. P. C. SRIKANTH completed his M.Tech. degree in 1996 from Indian Institute of Technology, Kanpur in the area of LASERS, and obtained his Ph.D. from VTU Belgaum . He worked in the applied photonic lab IISc, Bangalore during his PhD. Starting as a Lecturer 1987, he became Assistant Professor In 1999, Professor in 2011 in Malnad College of Engineering, Hassan,Karnataka,India. Dr. P. C. SRIKANTH had a deep involvement in Optical networks, was awarded as **TOP 100 ENGINEERS-2011** by International Biographical Centre, St Thomas' Place,ELY,CB7 4GG Great Britain. He was Selected for Marquis Who's Who in Science and Engineering 2011-2012 (11th Edition), and also in 2016-2017 (12th Edition) New Providence, NJ 07974,USA . He received Best paper award for the following papers , Modeling of Photonic Crystal Ring Resonator Temperature Sensor during 2014, A Novel Quantum Dot Automata Based Design For Multiplexers during 2015 and Detection of Fluoride Contaminated Water in Dental Applications during 2015 at International Conferences. He has been Awarded as **Outstanding Scientist** in the field of Photonics , by Venus International foundation CARD , on 19th Dec 2015 . His Research areas includes ,Optical Communication and Networks, Photonic Band gap Crystals, Wireless Networks, LASERS and Quantum Electronics. He has Guided/guiding more than 100 BE ,M.Tech and Ph.d students. Dr. P. C. SRIKANTH has so far published more than 100 papers in national and international journals and conferences. He has attended many international conferences in India and Abroad and has chaired many technical sessions. He has organized many international conferences and workshops. He has also given many Key note and Invited talks in international conferences and workshops.Awards and laurels won by Dr. P. C. SRIKANTH run into volumes. So far he has received 12 awards. Dr. P. C. SRIKANTH is Senior Member IEEE (USA), Life Member ISTE, Currently he is secretary IEEE Photonic society, Karnataka Chapter Bangalore.

DR.P.C.SRIKANTH

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ABSTRACTS

ICOWT - 17

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International Conference on Wearable Technologies
Bengaluru, Karnataka on 22nd – 23rd June 2017

Design and Development of Token Generator Toll for future Phone Technologies

Shreekant.Salotagi.,Professor, Dept of CSE, SECAB Institute of Engineering & Technology Bijapur.
ShrideviKembhavi., Professor,Dept of CSE, SECAB Institute of Engineering & Technology Bijapur.
Zarinabegam K Mundargi., Professor,Dept of CSE, SECAB Institute of Engineering & Technology Bijapur.

Abstract:--

"Design and Development of Token Generator Toll for future Phone Technologies" is summarizes the various key areas and technologies and gives a brief history about to Generate the token resource files in different languages with respect to UK English from TMS sheet.The generic requirements for "Tool" that will be used in LG Android Platform for generation of token resource files in XML format. It takes TMS sheet and UK English as a reference tokens and generates token resource files in XML format in more than 80 languages.This Project is implemented by using C++ Language on Qt Platform (Tool).. It also gives a good representation of the organizational and the interconnectivity (communication) of the various Languages between Country to country, Engineering and Services Departments. This project mainly deals with creating XML files for generating resources indifferent languages. Main window of this project contains GUI components like Progress Bar, Token Table, Settings and Help Menu.GUI Window display supports horizontal and vertical scroll bars to view the contents. Token Table is the list of Input and output tokens displayed in the GUI display window. Settings menu shows the Tool version name and the release date. Help Menu shows the information about the tool components usage. Parses the XML files and extracts the tokens from the resource files. The extracted tokens will be stored in a buffer.

Impact of Regenerative Braking System using Flywheel

S.NithyaPoornima.,Assistant Professor , Department of Mechanical Engineering, BMS Institute of Technology and Management Bangalore – 64

Abstract:--

In today's world energy crisis and depletion of resources has become major concern. So, there is need for a technology that recovers energy which usually gets wasted. In the case of automobiles one of these useful technologies is the regenerative braking system. Generally in automobiles whenever the brakes are applied the vehicle comes to a halt and the kinetic energy gets wasted due to friction in the form of heat energy. Using regenerative braking system in automobiles enables us to recover kinetic energy of the vehicle to some extent that is lost during braking process. The present work utilizes flywheel to store the energy which was actually being wasted during braking process. The kinetic energy of a vehicle which is lost during deceleration is used to accelerate a flywheel. This flywheel is subsequently coupled to transmission to assist in starting the vehicle from rest thus conserving the energy. The shape of the flywheel is important and must be designed such that stress in the material is the same throughout. Since regenerative braking results in an increase in energy output for a given energy input to a vehicle thus efficiency is improved. Therefore amount of work done by the person in pedalling the bicycle is reduced.

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Modelling and Analysis of Geom/GI/1/K Queue with Finite Number of Vacations

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K.Anitha.,Department of Mathematics,BMS Institute of Technology& Management,(Affiliated to VTU, Belgaum-18),Post Box No.6443, Doddaballapura Main Road Yelahanka, Bangalore-560064, India

Abstract:--

Discrete-time queueing models have gained prominence in recent years due to its wide applications. These have received much interest due to the emerging broadband integrated services digital network (B-ISDN) which pro-vides the transfer of messages in the form of video, voice and data through high speed local area networks (LAN). The asynchronous transfer mode (ATM) is adopted as the network transport technique in the implementation of B-ISDN. In this paper, we deliberate a finite buffer discrete-time Geo/G/1 queue where the server takes finite number of at most L ($\geq$0) vacations. The server takes vacations whenever the system is empty. After the vacation, the server checks out the system whether to resume the service or to go for another vacation or to be dormant. In this system, jobs arrive according to Bernoulli process and service, vacation times are arbitrarily distributed. We adopt the supplementary variable method and the imbedded Markov chain techniques to attain the queue length distributions at the service completion, vacation termination and arbitrary epochs. The analysis of actual waiting time under the First-Come-First-Served (FCFS) queueing discipline is also carried out. The numerical data and graphs are presented to establish the analytical result. The objective of this paper is to create awareness and better utilization of the queueing theories involved in the analysis of a discrete-time model with at most L vacations.

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E-Cradle with Activity Monitoring and Real Time Alerts to Parents using Bluetooth Terminal

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M.Rohini.,Students,Department of E.C.E, Sambhram Institute of Technology, Bangalore-97
Monu Kumar.,Students,Department of E.C.E, Sambhram Institute of Technology, Bangalore-97
SomnathMahato.,Students,Department of E.C.E, Sambhram Institute of Technology, Bangalore-97
PranitaPalsapure.,Assistant Professor,Sambhram Institute of Technology, Bangalore-97

Abstract:--

The paper cites the Infant Monitoring System with Real-Time Alerts to Parents using Bluetooth Terminal. Activity Monitoring includes Infant's cry detection which makes the cradle swing with pre-recorded song play and alert to parents for their intimidation. The Ultrasound Sensor [1] continuously monitors infant's respiration and if there is no detection for a certain interval of time an alert is sent. A wireless RF Transmitter module with Accelerometers [1] monitors infant's movements which can be attached to infant's hands or legs which are again monitored for a time interval and if there is no movement an alert is sent. A RFID module attached to cradle monitors infant's presence in the cradle, if there is no presence within a time interval an alert is sent to the parents (in case of babysitters to know infant's whereabouts). The types of alert to parents include Infant's Cry Detection, Movements, Apnea Detection and Infant missing alert which are transmitted through the microcontroller via the Bluetooth HC-05 Module to the Smart Phones of the Parents. It provides benefit to parents by taking care of their infants with reduced physical interface.

Keywords:--

Ultrasound Sensor, RF Transmitter with Accelerometers, RFID Module, Bluetooth HC-05.

Correction of Artifacte in MRI Brain Image By Phase Modulation of RF Pulse And Recurrence Solveing

Snehaj.D.,Department of E.C.E,Visvesvaraya Technological University,Belagavi

Abstract:--

Now a day's magnetic resonance imaging is broadly using to recognize tumours and to identify any problems in human body tissues. Magnetic resonance imaging yields images of great- prominence, high- perseverance potential, high tissue contrasts images. Happening usual in magnetic resonance imaging existences of artifacts in spitting image causes shadowing, blurring and drack and white spots appears in image. Zero time echo imaging is favourable method for MRI of short-T2 tissues. Confusing appearance in MRI image due to the presence of artifacts .To solving those complications single point imaging is used PETRA. Radio frequency signal are used in MRI, for short-T2 tissues Zero time echo signal are used, those are modulated using phase modulation. The main reason for atifacts in brain are hardware issues, software problems and some movements of patients like respiration, eye movement, flow of water and blood in body. In this imaging gradient's profile of image are corrected in zero time echo signal imagines. By using MATLAB tool proposed work is simulated.

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Nanorobots – The Future of Medicine

Mokshith B R., DeptOf ECE, DayanandaSagar Academy Of Technology And Management

TriptiKulkarni., Associate Professor, DeptOf ECE, DayanandaSagar Academy Of Technology And Management

Abstract:--

Nanoscale devices are able to perform better with reduced time researches in nanotechnology brought newer approaches in the field of medicine. This context focuses on the components of the nanorobots and the employment of nanorobots for removing the heart blocks, cancer treatment and many more health care applications in more effective and accurate manner. Current diagnostic measures include painful processes like the angiogram. The treatment for the block is also extremely dangerous, time consuming and painful. Angioplasty, although having the higher success rate, is old fashioned. Today's technology promises a lot more than the insertion of a thin tube into the blood vessels. This context focuses the brief study on nanorobots and its benefits, the current process of diagnostics and therapy. Later the idea of curing these heart blocks, cancer tumours and brain aneurysm using nanorobots is discussed in a theoretical and imaginative approach.

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Very Large Object Classification using PNN AndDM Classifiers Along with Pca and Fldfeature Extraction

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Abstract:--

Image data is becoming more and more popular due to the prevalence of image capture devices.Nowadays the main challenging issue is how to retrieve the images efficiently and effectively from a huge number of images. Image classification is a technique of assigning each input vector pertaining to an image to one of a finite number of discrete class or category in large image dataset. In this paper it is examined and explored the thought of mixture models for image categorization. In this paper we first segment all images at segmentation stage in order to find out the color difference or color homogeneity between one pixel to neighboring pixels. Since Gaussian Mixture Models (GMM) is one of the most significant method for clustering in unsupervised context we use the concept for image categorization. Here in this paper we use K-means technique is applied for partitioning image pixels into coordinated clusters. Further transformation matrix for each of the clusters is obtained by applying subspace methods such as Principal Component analysis (PCA) and Fisher's Linear Discriminant (FLD) to all segment classes. The Expectation and maximization (EM) algorithm is applied to Gaussian mixtures. In this paper for better classification we use Distance Measures (DM) and Probability Neural Network (PNN).

The results obtained in this paper gives the improved classification rates when compared to previous methods or traditional methods. The datasets can be used such as Wang, Caltech-101 and Caltech-256.

Keywords:

Image Retrieval; Mixture Models; Principle Component Analysis; Fisher's Linear Discriminant; Distance measures; Probability Neural Network.

Fog Computing: A Platform for Internet of Things(IOT)

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Abstract:--

Fog computing extends the cloud computing paradigm to the edge of the network thus enabling a new breed of applications and services. Fog computing is the appropriate platform for a number of critical Internet of Things namely connected vehicle, smart grid, smart cities, wireless sensors and actuators networks(WSANs).An emerging wave of internet deployments, most notably the Internet of Things(IOTs) requires mobility support and geo-distribution in addition to location awareness and low latency. So a new platform is needed to meet these requirements called fog computing.

Keywords:--

Fog computing ,cloud computing, IOT,WSAN.

A Secure Deduplication Mechanism for Sensitive Data in Public Cloud Storage

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Dr. M.S Rudramurthy., Associate Professor, Department of Information Science Engineering, Siddaganga Institute of Technology, Tumakuru.

Abstract:--

Nowadays, cloud-based services are gaining more importance in leveraging services for large scale storage and distribution. They provide cost effectiveness, time saving and efficient utilization of computing resources. Many enterprises have decided to envision a staged migration for their data to public cloud, for better management of backup data. As data progressively grows, the cloud storage system continuously faces challenges in saving large amount of data. Data Deduplication gives solution to such challenges in cloud storage. It is a data compression technique for eliminating the redundant data. Assuming that cloud service provider may not be fully trustablethe data stored should be protected. The security, bandwidth and latency are of top concerns for an enterprise to save sensitive data in public cloud. Considering these security issues, we propose secure deduplication mechanism for securely storing enterprise data in pubic cloud by providing data confidentiality by double encryption. Managing the convergent key by the user is a tedious task hence the key is secured and the same is outsourced.By following this method, we can save storage space and cost. And also reduces bandwidth and provides confidentiality against unauthorized access.

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LiteratureSurveyonSensors

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Rajeswari R., UG Scholar, Department of ISE, Sri Venkateshwara College of Engineering, Bangalore
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Abstract:--

As we all know that the sensors are the most important part of the embedded system and the robotics world. By using different types of sensors, we can minimize the logic circuits and also make the system more efficient to get output by taking less input. Therefore, here is detailed view of different types of sensors and their applications in the different fields[1].

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Electrodermal Activity (EDA) Based Wearable Device for Drowsy Drivers

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Dr. T.V Prabhakar., Indian Institute of Science, Bangalore-12

Abstract:--

Road safety and road accident mortality rate are a serious concern for the government. With rise in fatal road accidents, whose leading cause is the driver being drowsy behind the wheel, measures to alleviate this problem becomes the prime task. To meet the purpose, methods adopted must be of minimum discomfort for the driver, easy to install, provide good detection accuracy and timely alert to circumvent a probable accident. A good candidate to meet these specifications is EDA. As it detects the level of sweat which directly corresponds to the mental state of the person, using EDA for the purposes of driver safety forms a good option. The novelty of this project lies in making use of EDA as a measure to detect if a person is drowsy or not. Much of the challenge lies in building a device equipped with the necessary sensors and processing the data on real-time. The novelty of this work lies in development of an embedded device interfaced with sensors and actuators to detect and alert a driver when found drowsy using sweat as a parameter.

Index Terms:--

Driver Safety, Drowsiness Detection, Electrodermal Activity, Skin Conductance

Insilicoand Statistical Analysis of Human Toxicogenomic Data of HPV Infection

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Arpitha B.M.,Visvesvaraya Technological University, Belagavi, India

Abstract:--

Human papillomavirus (HPV) causes diseases varying from benign lesions (warts) to intrusive tumours. A subgroup of viruses which are termed as high risk infects the cervix where enduring infection can cause cervical cancer. Regardless many HPV genome have been sequenced, knowledge of virus, gene expression and regulation are still inadequate. HPV gene expression is polycistronic initiating from multiple promoters. Gene regulation occurs at transcriptional, but particularly posttranscriptional levels, including RNA processing, nuclear export, mRNA stability and translation. Aim of this study was to evaluate the infection of HPV by conducting the gene expression profile analysis that involved to identify the gene which lead to HPV infection. The datasets used in this study was acquired from an AffymetrixcDNA Microarray based experiment on expression profiling patterns induced by HPV. The datasets were retrieved from public repositories and it was further processed by Statistically. Differentially expressed genes can be identified and gene network can be constructed by studying gene expression profiling of HPV.

Keywords:--

Human papillomavirus (HPV), Differentially Expressed Genes, Gene Network, AffymetrixcDNA Microarray.

Common Phase Estimation in Coherent OFDM System Using Image Processing Technique

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Abstract:--

OFDM is widely used as the modulation standard in all Wireless transceiver systems and recently optical transceiver systems due to its inherent advantage over other modulation standards. The main drawback of the OFDM system is it suffers from the phase noise errors. Common Phase Error (CPE) and Inter Carrier Interference are the two main errors that occur in OFDM systems as result of phase induced noise. Several techniques have been proposed to combat the CPE, such as RF pilot carrier based, Digital Pilot Aided (PA) based, MBB based etc. In this paper a framework for evaluating the performance of MBB and PA based method in estimating the CPE and correcting it is proposed. The framework is designed and implemented in MATLAB 15 Software and the BER is computed for both the methods to compare their performance.

Keywords:--

OFDM, Common Phase Error (CPE), MBB, PA, BER

Remote monitoring automatic irrigation system for home gardens using GSM

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Abstract:--

In this project we present a prototype for automatic controlling and remote accessing of irrigation motor. Prototype includes sensor node, controller node and mobile phone. In sensor node, soil moisture sensor and wireless transceiver is integrated with ARM cortex microcontroller. In controller node, GSM module, wireless transceiver, keypad, LCD display and a motor is integrated with ARM7 microcontroller. The sensor node can be deployed in irrigation field for sensing soil moisture and the sensed data is sent to controller node. On receiving sensor value, the controller node checks it with required soil moisture value. When soil moisture in irrigation field is not up to the required level then the motor is switched on to irrigate associated agriculture field and alert message is send to registered mobile phone. Mobile phone can also be used for sending request SMS to get soil moisture information in irrigation field and commands can be sent as SMS to switch on/off the irrigation motor. The controller node has navigation keys to set the mode of operation and an LCD display to view sensor data. The prototype is tested by abstracting three pots containing soils with different moisture level as irrigation fields. Results show the proposed prototype is effective in automatic controlling and remote accessing of irrigation motor based on the feedback of soil moisture sensor and commands from mobile phone.

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Wearable Biomedical Device using Telemedicare andTelereporter

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Abstract:--

In this paper, the system development of an integration of several different wearable devices to form a completepackage usable by individuals across all ages is reported. The proposed design comprises of a wearable device thatis made keeping in mind all age groups. For the average adult, one can measure one's heart beat per minute, bodytemperature and a pedometer calculates the number of steps taken by a person. The heart rate, body temperatureand the pedometer can be used via text message or even through Bluetooth. Research has shown that there isusually a rise in physical activity if one's steps are measured since one is motivated to push for better results.Therefore, this helps in keeping a person's health in check. For senior citizens, an electrocardiogram is integratedin the device to measure the electrical activity of the heart and to record the heart's rhythm. As age progresses,constant monitoring of such vitals is important and it would serve them well to be able to measure these within thecomfort of their home. If a particular measurement is below the normal/required threshold, they can alert anemergency contact easily via text message. The ECG can be viewed through Bluetooth. Children can send a timelylocation alert to their parents and the real time location of the child can be found via GSM and GPS. This wouldcome as a rather big relief for parents worried about their children's safety and whereabouts in the city. Thisoverall package is a good example of internet of things as it can transfer the desired data through the internetwithout any human intervention. It can also be worn on the body as a casual fashion accessory.

Keywords:--

Biomedical, Telemedicare, Telereporting, Wearable technology.

Sybils Attacks Detection in Online Social Network(OSN) Based on User Behaviour Pattern in The OSN

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Abstract:--

The social media is fast growing field in the digital world that allow users to share information to their friends and family. At the same time security and privacy concerns is also very important in Online Social Network (OSN) so that it is beneficial to assign a Risk-Score to each OSN user to track the behaviour. To do this the users are grouped together and user behaviour profile is created based on the users Risk-Score. The users day to day activities are consider as "Normal-Behaviour" if it is diverges more it is considers as "Abnormal-Behaviour". Based on the Behaviour Profile pattern attacks are identified and reported to the administrator. In this proposed method some rules are defined and expect users to follow the rules. For this reason the Risk Assessment is organized into two phases: First phase users are grouped together and second, one or more Behaviour Models of "Normal-Behaviour" defined, this experiment is carried out in the OSN model application, in this phase sybils attacks are detected based on the behavioural profile parameters.

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Providing Voice Enabled Gadget Assistance to Inmates of Old Age Home Including Physically Disabled People.

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Abstract:--

Speech recognition is one among the most recently developing field of research, at both industrial and scientific levels. In this paper we have developed a gadget assistance system for an old age home, where the operational commands for a TV was provided as inputs and tested for its performance. This system is configured for both online and offline speech recognition. The online speech recognition uses DNN algorithm, whereas the offline speech recognition uses HMM algorithm. This gadget is also used for automation of devices such as television with the help of a LIRC module. Various speech recognition modules for playing Music, Videos, Games and Television control were written and executed. Accuracy of speech recognition was observed.

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6*6 Radom Color Grid Authentication (2 Step)

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Abstract:--

Security in the computer is largely supported by passwords for authentication process. Use of alphanumeric passwords is the most common Authentication method. This conventional authentication method has been shown to have significant drawbacks. To overcome the vulnerabilities of traditional methods, numerous graphical password authentication systems have been proposed. These graphical passwords are usually seen as complex and time consuming. Furthermore, the existing graphical passwords are susceptible to spyware and shoulder surfing attacks. In this paper we propose this novel graphical password scheme to abolish well known security threats like brute force attacks, dictionary attacks, phishing attacks and spyware attacks.

Keywords:--

Recall based graphical passwords, computer security, authentication, attack patterns.

Secure Sharing of Group Data in Public Clouds

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Dr. R. Aparna.,Professor, Department of Information Science Engineering, Siddaganga Institute of Technology, Tumakuru

Abstract:--

Cloud computing is a rapidly emerging technology that provides storage and computing services to the customers on demand. Due to loss of control over the data and computation, many security issues will arise in cloud computing environment. In case of data shared among group members, there exist certain additional security issues that need to be addressed.The main purpose of this paper is to provide data security and efficient key management in group shared data using multi-clouds for storing the encrypted data in blocks.Secure sharing of data among group members in clouds counters security issues in group shared data by providing data confidentiality, integrity, backward and forward access control, using AES 256 bit encryption technique and efficient key management. The mainkey, which is used for encrypting the data, is not stored anywhere.But the key is divided into two parts, one part of the key is stored in the trusted server and the other part is sent to the user. Encrypted data is divided into blocks and stored in different clouds.Whenever the user requests for the data, he sends his key to the server. The server retrieves the data blocks stored in different clouds and combines it to get the encrypted data. The encrypted data is finally decrypted using the key generated by combining the key sent by the user and the key stored in the server for the corresponding user.

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Role of 4G and 5G Network in Supporting The Connectivity Requirements of Internet of Things

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Abstract:--

In the last few decades, Mobile Wireless Communication networks have experienced a remarkable evolution. Mobile wireless communications applications have a clear impact on improving the humanity wellbeing. From cell phones to wireless internet to home and office devices, most of the applications are converted from wired into wireless communication. Mobile wireless technologies have experience various generations of technology revolution and evolution, namely from 0G to 5G. Current research in mobile wireless technology concentrates on advance implementation of 4G technology and 5G technology. Each generation have some standards, different capacities, new techniques and features which differentiate it from the previous one [1]. The present generation uses data-optimized 4th-generation technologies, with the speed improvements up to 10-fold over existing 3G technologies. The main goal of 4G technology is to provide high speed, high quality, high capacity, security and low cost services for voice and data services, multimedia and internet over IP.4G communicate at 100 Mbps for mobile users and up to 1 Gbps over fixed stations. 4G networks are defined as ones that support amended mobile web access, IP telephony, cloud computing, gaming services, high-definition mobile TV, video conferencing, and 3D televise. Here the user has freedom and flexibility to selectany desired service with reasonable QoS and affordable price, anytime, anywhere.LTE(Long Term Evolution) and WiMAX(Wireless Interoperability for Microwave Access) are considered as 4G technologies. 5G stands for 5th generation mobilewireless communication technology and is going to be a new revolution in mobile market which will change the means to use cell phones within very high bandwidth. 5G network is the real wireless world which would be supported by LAS-CDMA, OFDM, UWB,MC-CDMA, Network-LMDS and IPv6. 5G can be called as the perfect real wireless world or World Wide Wireless Web(WWWW), which has no limitations.The aim of 5G is to provide unlimited access to information and the ability to share data anywhere, anytime by anyone for the benefit of the world.5G technologies covers all the advanced features which makes 5G mobile technology most powerful technology and will be in huge demand in future [1]. 5G technology is the foundation access technology for IoTapplications.This paper brief about the future of 5g technology in the era of IoT. Machine to machine communication has a significant role to play in emerging internet of things paradigm in years and decades to come. The emerging IoT-5G scenario extends sensor based IoT capabilities to robots, actuators and drones for distributed coordination and low-latency reliable execution of tasks at hand.Security is one of the biggest challenges faced by Internet of Things. With devices becoming ubiquitous and pervasive in day to day lives necessitate reliable and secure algorithms. It is estimated that in year 2020, 20 to 40 billion deviceswill be connected to the Internet as part of the Internet of Things. A critical bottleneck for realizing the efficient IoT is the pressure it puts on the existing communication infrastructures, requiring transfer of enormous data volumes [11].

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Implementation of Invisible Digital Watermarking Technique for Copyright Protection using DWT-SVD and DCT

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Abstract:--
The digital watermarking is a process of hiding an information in multimedia for copyright protection. Where, one data is hidden inside another data. We implement the watermarking algorithm in frequency domain by using a combination of DWT (Discrete Wavelet Transform) and SVD (Singular Value Decomposition) with DCT (Discrete Cosine Transform) algorithms. In which the performance analysis of an invisible watermarking can be measured with comparison of MSE (Mean Square Error) and PSNR (Peak Signal to Noise Ratio) with respect to the embedded and extracted images respectively. Here, the invisible watermarking is used to protect copyrights of multimedia contents. The invisible watermarks are the technologies which could solve the problem of copyright protection. Which is required for ownership identification as well as the hidden information can also be identified.

Keywords:--
DWT (Discrete Wavelet Transform) and SVD (Singular Value Decomposition) based transform, DCT (Discrete Cosine Transform), MSE (Mean Square Error), PSNR (Peak Signal Noise Ratio).

Preserving Individual Seclusion in Social Media

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Abstract:--

Social media is a platform where re sharing of post is allowed. This may lead to privacy conflict between the involved users as the post is shared without considering the actual owner's preference. In order to address this issue, here an algorithm is used to automatically detect and resolve the conflicts that occur between the negotiating users. Also tagging permissions are used here so that no user can be able to tag any other user without that user's permission both in textual content and photo. Face recognition system has been used here to recognize the face uploaded by user and to get permission of the user of whom the photo is uploaded. Only if that particular person gave permission then the post will be posted, otherwise it won't get posted. Here timing constraint is one more feature that is added so that up loader can set by how much time response should be received and what action to be taken if response is not received in that time constraint. Through this work an attempt has been done to preserve the privacy of individual users of social media.

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Smart Watch for Blind People

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Abstract:--

Technology posses a challenge for blind people. A blind person cannot read anything that is not in braille script. We have used technology to create smart assistive devices to make things easier, but for people with disability technology will make things happen. Blind people can read books which are in braille form, and can use few other devices to type and read, but major problem in all of the above mentioned ways is that they are not very efficient and portable,and are of very high cost and its not possible to print every book in braille script.So we have come up with a solution- a smart watch which will display characters in braille format through a series of raised dots. In this watch through a number of raised dots series of characters are produced,helping the person read anything from a text message he recieved on his phone to any digital book available online.He can read all of these at his speed. he also pause it or re read the previous set of words. Thus bringing them closer to current technology.

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Security Threat Analysisin Wearable Devices

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Abstract:--

Wearable devices can be anything from small wrist-mounted systems to bulky backpack computers. Wearable device is a combination of devices typically a belt or backpack PC, head-mounted display, wireless hardware and some input devices.The fundamental principle of wearable device is to collect data ubiquitously and continuously, about the individual user and also their surroundings. This can pose many privacy challenges and are hindered by poor security. They are not mature yet in term of device security and privacy acceptance of the public. Low processing power of wearable device leads to developer's inability to implement certain complicated security mechanisms and algorithms on the device. This paper analyzes various security issues and attacks on the user's data.

Keywords:--

Wearable device, Low Processing Power, Security Mechanism, Privacy Concerns, Wearable Computing.

Wearable Technology Regarding Air Pollution

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Abstract:--

This paper aims to study the insights about the wearable technology in the field of air pollution by investigating the current scenario and the advancements coming from past few decades and analyzing their applications. It also focuses on detecting the air quality and the amount of pollution present nearby to you and would present a current map for air pollution. Wearable technology had crossed all the barriers in the perspective of its application as well as in the domain of finding a considerable advancement of enhancing human life through it. But, somewhere it lacks in the use of its consistency and sustainability. This paper first focuses on air quality detection, current pollutants present, present technology and secondly, it deals with air filters, air pollution map guidance. This paper will also guide providing the scale of cause of death from air pollution, major factors affecting pollution and the safety measures to be acquired to get prevented from such cause. Hence we provide a portable technology for measuring fined gained air quality in real time.

Keywords:--

Enhancing human life, sustainability, air pollution mapping, particulate matter.

Optimal data transfer from wearable body sensors

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Abstract:--

With increase in health consciousness among people, wearable devices have gained in size and complexity of data transfer. The transfer of critical data from sensors over the wireless medium involves a careful analysis of the location of the destination and the available bandwidth to reach the same. This non trivial real-time task is performed by the underlying middleware service by exploiting the resources based on the priority In this paper, an architecture of the middleware making use of information feedback is provided.

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Spectrum Sharing Scheme Between Cellular Users

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Abstract:--

In the field of communication spectrum requirement is the biggest issue. To utilize the spectrum resources more efficiently, protocols sharing the licensed spectrum with unlicensed users are receiving increased attention. Spectrum sharing is the technique among the service providers to share the licensed spectrum of the licensed service providers for the Heterogeneous wireless networks in a dynamic manner will be implemented. Here, we can analyze and sense out the unoccupied bands, free bands, allocated bands by calculating the free spectrum metric. If spectrum is free than spectrum sharing technique assigns available channel to new user without harming existing primary users. Hence, providing opportunistic access to the licensed spectrum for unlicensed users that mean other service providers try to access the available spectrum without causing any interference to the primary users. Interference management is a major component in designing these schemes.

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Body Area Network Based Smart Secure Communication System for ATM

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Abstract:--

With the enhancements in Technology every person wants to be connected and access necessary information at their fingertips. Communication plays an important role in modern day life. Red Tacton is a Human Area Networking concept which is coined between wired and wireless, Which enables communication through human body as a transmission medium in turn uses the feeble electrical fields generated from the human body which is harmless, safe and fast. With Communication, protection also becomes an integral part and this requirement has resulted into creation of many authorization tools such as card readers used in ATM, user pin codes etc. But since these tools were not secure enough, We propose unique solution using Red Tacton which improves the security and reduces the chances of theft. The Transmitter part consists of a DTMF encoder which generates both valid and invalid signals and can be transmitted through human body to Red Tacton receiver (DTMF decoder) for further processing. If the signal matches user is allowed to enter 4-digit password to access his/her account, If the entered password is correct then user need to enter the OTP which has sent to his mobile for higher security. This project proposes Red Tacton based smart security card for ATM System.

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Design and implementation of wearable gas detector using ATTINY85

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Abstract:--

Recently, there have been many developments in the area of gas detection. In this article, we design the compact wearable gas detector. The designed gas detector is implemented using ATTINY85 microcontroller, a gas sensor and the OLED display. The gas detector senses Liquefied Petroleum Gas (LPG), natural gas and town gas using MQ-5 gas sensor. To notify the gas concentration to the user the OLED display is used. When the gas concentration reaches the specified threshold the user is notified by an alert message in the OLED display. The gas sensor designed is smaller and cheaper and can be used in household, mining sector and industry.

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An Powerful Instrument Landing System-A Review

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Abstract:--

It is commonly known that the directional pattern of the instrument landing system (ILS)-localizer antenna system, which constitutes the landing-course information for approaching aircraft, can be disturbed by reflections from large aircraft on the ground. Therefore, airport operators are interested in knowing configurations of landed and taxiing aircraft that lead to such ILS disturbance scenarios. Measurements on a real airport for investigating such scenarios are very cost-intensive and not sufficiently possible due to availability reasons. Therefore, a new scaled measurement setup is presented. Scaling down an aircraft by the factor of 144 requires a scaled ILS-localizer operating at a frequency of nearly 16 GHz, the development and realization of which is presented in this paper. Using this scaled ILS-localizer, measurements with an Airbus A380 and a Boeing B747 are conducted showing the feasibility of the scaled approach. Several configurations are shown where those aircraft lead to interferences of the ILS, exceeding allowed tolerances. A comparison of the reflection behavior of both aircraft shows only slight differences. Additionally, this paper presents the derivation of the bistatic radar cross section of both aircraft to be applicable to scenarios with arbitrary ILS patterns. The paper is the result of the seminar report undertaken by Mr. Naveen under the guidance of the faculty & the HOD.

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A Novel Approach Of Face Detection And Recognition In Video Surveillance System Using Raspberry PI

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Mrs. C. Prabhavathi., MS Associate Professor [Dept of Telecommunication] Siddaganga Institute of Technology Tumakuru, Karnataka

Abstract:--

In this paper, a PIR based advanced video surveillance capable of face detection, recognition of the detected face and sending captured images to user is implemented. Here a system is developed using a PIR sensor. Picamera interfaced to raspberry pi 3 to perform video surveillance. Face detection, face recognition, sending images to end user is coded using python and open CV scripting language. When motion is detected by the PIR sensor, picamera gets triggered on and start capturing the videos at the same time face detection and recognition is also done in surveillance area. The recognized face is sent to user through Email and also can see the captured video through android app installed in the smart phone.

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Image Operations in Encrypted Domains

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Dr. H.S. Jayanna, Professor, Department of Information Science Engineering, Siddaganga Institute of Technology, Tumakuru.

Abstract:--

The advancement of cloud computing and a drastic increment in the size of the digital images are reasons to outsource the image into the cloud. Despite of the fact that this outsourcing has many advantages, guaranteeing data confidentiality and the security in the cloud is one of the fundamental concerns.Theencryption schemes for images guarantee theconfidentiality in the cloud,but this scheme don't permit cloud data centres to perform operations over encrypted images. In this project, this problem is addressed by proposing a modified Pailier cryptosystem based image scaling and cropping scheme for multi-client settings to scale and crop an image in the encrypted domain on cloud data centres.

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Rapid Action System for Safety Purpose

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MuhammedArifJalil ., EEE Department, DayanandaSagar College of Engineering

Abstract:--

With augment in the crime rates in major cities, government have various steps to check on the problem at hand .But is not that effective because of various reasons. One of the major reason being easy accesability to the spot because of various geographical reasons. Another reason being delay in the action aginst the crime.Keeping these short coming in mind we have deviced a system that is capable of taking quick action against the crime. The system comprises of a control room, a unmanedvehicle(drone) and a smart watch. The system works when this watch send a danger signal to the control room along with its location, and the control takes a quick by sending the unmanned vehicle which will reach the given location .The drone is controlled and monitored by control room. The drone consists of a camera,atesar gun and accompanied by GPS .Once the drone reaches the spot it will send the live video to the control room and necessary action can be taken and if requires we can momentarily paralyse the suspect with help of teaser gun. Even if location changes the will follow the location. Through this system we can monitor the activities in and around the city.With effective implementation of this system we can bring down the crime rates.

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Digitalised Genetic Chips

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Abstract:--

Genetic chip is a collection of very small test sites arranged on a solid substrate that permits many tests to be performed at the same time in order to achieve higher throughput and speed like a computer chip. Genetic chips helped to dramatically accelerate the identification of genes in human DNA. Developing a genetic chip plat-form incorporates electronics for addressing, reading out, sensing and controlling temperature and in addition, a handheld analyzer capable of multi-parameter identification. The genetic chip includes sensor technology as well for indentifyingblood pressure, sugar level etc. Placing a genetic chip in to a human body will further get rid of carrying ID proofs such as adar-card, driving license etc. The major disadvantage of genetic chips is in critical issues of personal privacy, this also can be eliminated by keeping authenticated password for each and every radiations emitted by the person's body. The genetic chip platform can be plugged in a peripheric standard bus of the analyzer device or communicate through a wireless channel majorly using Wi-Fi and the data will be uploaded to cloud.

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Application of Virtual Reality for Radiologists

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Abstract:--

Virtual reality (VR) is the new technological area, which is having endless possibilities.VR has started changing the health care industry. Healthcare service providers are offering healthcare facilities to reach out to maximum population. High quality home care facilities makes customers comfortable. Advancements in virtual reality adoption will enhance the potential healthcare offerings. Radiologists are principle group in healthcare who plays an important role in diagnosis. The setup for radiology diagnostic rooms are larger in area and costly. With feasible virtual reality devices, applications may provide low cost and portable solutions for viewing displays in large screen area. The work in this thesis is to develop an android-based application for radiologist. The application is a solution for viewing medical images and videos. Depending on the need the user (radiologist) can choose the required option. The application supports viewing 2D and 3D stereoscopic images. It also supports 2D videos, 3D stereoscopic videos and 3D Volume Models viewing. The application is developed in Unity 3D and Google cardboard is the head mounted device which can be used to view the application. A handheld gamepad controller is used to interact with the display modules. Hand gestures are used for selection, translation, rotation and marking on Images and 3D volume models by leap motion controller. The use of VR technology will increase portability and it will enhance the field of viewing of the medical images in 3D. The purpose of this work is to make it possible for multiple radiologists viewing the same screen at the same time at different locations and have discussions by using their own smart phones and a Google Cardboard via live streaming in future.

Keywords:--

Virtual Reality, Radiology, Hand Gestures.

Crowd Analysis using Computer vision Techniques

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Abstract:--

Crowd analysis involves the interpretation of data gained studying the natural movement of groups or objects. Crowd analysis presents a survey using computer vision techniques covering different aspects such as people tracking, crowd density estimation, event detection, validation, and simulation.It also has wide range of applications such as crowd management, public space design, virtual environment, visual surveillance and intelligent environment. The major challenge in crowd analysis is the generation of ground thruthed images or video sequences, which can be used either for training or validation purposes.

Keywords:--

Crowd analysis, tracking, crowd density, crowd synthesis.

A survey on Security Features Based on Some Interactions and Their Respective Cooperations in Handheld Devices forCommunication.

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Abstract:--

Since from the last decade Mobile communication and its usage have grown drastically, also it has become aserious business tool nowadays. Mobile devices are the major platform for the users to transfer and exchange avery huge and critical data for communication. Also most of the communications are based on handheld deviceslike smart phones, palmtops, tablets etc. These devices are variably used for applications like banking sector,personal digital assistance, remote login, m-commerce, e-commerce, internet access, entertainment and alsomedical usage. However due to usage of handheld devices rapidly, there might be a security issues which mightrestrict the usage of mobile devices. It is necessary to provide a reliable and safe method for securing thesemobile devices against unauthorized access and from various attacks.This article survey gives some basicglimpses about the security features such as authentication, authorization, privacy, confidentiality, and datasecurity in handheld devices and it briefs an idea on how to overcome various issues like threats andvulnerabilities that effect the human interactions and their cooperation using handheld devices , and also itprovides various solutions to the mobile devices ensuring security.

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End to End Encryption Based Fingerprint Recognition Using Raspberry PI3

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Abstract:--

Biometric system is an integral part of physical access control system. It ensures that a valid user is using the service. The Biometric system is expanding day by day because of low cost, scalable system with high availability. They are used in many applications. An increased demand of biometric authentication furthermore with automation of system is observed in recent times. Fingerprints are considered as unique identification of a person and due to easy access it is the best and one of the fastest method used in biometric identification system. They are secure and do not change. Fingerprint uses minutiae matching technique which is cheap, reliable and authentic up to satisfactory limits. The system is capable of capturing fingerprint and sends them to the cloud service through encryption process using Advanced Encryption Standard [AES]. Coding is done using python programming language. Thus it can be stated that to establish potent verification system biometric data need to be authentic and error free and the use of raspberry pi3 makes the biometric system commercial and handy.

Keywords:--

Raspberry pi3, fingerprint module, python, AES algorithm, encryption, decryption, cloud.

Fog computing a paradigm: Scenarios and security Issues

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Abstract:--

Fog computing is a paradigm that extends cloud computing and services to the edge of the network.Fog computing provides data, storage, andapplication services toend users. In Fog computing user data is outsourced and user's control over dated is handed over to fog node, which introduces same security threats as it is in cloud computing. Fog computing is well suited for real time analytics and big data. Security incidents regarding fog computing are posed by the hostile attack and main-in-the-middleattacks.

Keywords:--

Fog computing, Security, IOT and Cloud computing.

Mobile Application Services using Cloud Network for Agriculture

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Abstract:--

India is a developing country and more than 50% of the people depend on agriculture for the survival of their family. Agriculture contributes 14% of the Indian economy. In this work we are developing a mobile application which gives the useful information such as weather information, Frequently Asked Questions (FAQ) about the crops, Farmer helpline center numbers, etc. The mobile application acts as a modern technical bridge between farmer and user. This bridge helps the farmer to sell their crops to the people, hence eliminates the intermediate agents and brings more profit to the farmers. We also have provided a platform for discussing their problems through this mobile application. The discussion forum involves farmers, NGOs, agriculture experts and agronomist. The work is carried out using Tizen platform. The simulation results show the efficient usage of application.

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'CAP' – ABLE Assistance for The Visually Impaired.

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Sudha R Karbari.,Assistant Professor, Dept of ECE, R V College of Engineering

Abstract:--

Eye sight is a precious gift to humanity. But unfortunately millions of visually impaired people confront a number of challenges every day which is very difficult for a normal human to appreciate. This inability hinders them to self navigate even in well known environments or even simply walking down a crowded street. The intent of this project was to design a garment to assist the visually impaired in self navigation, mobility and help them to conveniently lead an independent life. The device designed is a practical wearable cap which acts as a virtual eye.When compared to the existing smart devices for blind, this real time operating device provides improved line of sight, uses renewable solar power source, is cost effective and above all has an additional hands free feature. The audio assistance of pedestrian navigation offered by Google maps integrated with this device detects real time obstacles facilitating his commutation. In case of any road mishaps, the location of the person is notified to his kin using GPS tracker. The resources used to create this wearable device include: microcontroller, ultrasonic sensor, vibration motor, cap. The ultrasonic sensor fixed on the cap drives the vibration motor whenever the path is obstructed, signaling the person to stop until the path is clear for him to walk again. A group of five visually impaired students used this wearable device for a week and on a positive note we received four up votes for the device.

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Design & Analysis of Super Agent Node to Detect Malignant Nodes through Event-based Trust Model in Wireless Sensor Networks

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Dr.ReshmaBanu.,Dept. of ISE, GSSS Institute Of Engineering And Technology For Women, Mysuru.
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Abstract:--
The super agent acts as a watchdog to protect other nodes for intrusion so that security of wireless sensor networks is taken into consideration. Here cluster head is identified so that it can monitor group of nodes using LEACH method. Here event based trust model is used to identify the good and bad nodes.

Keywords:--
Trust model using events, Intrusion Detection System.

Pulse Rate Monitor at Pinna

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Abstract:--

The pulse sensor designed in this work, is in the form of a wearable clip, and it is within a circular die that measures less than 1.2cm in diameter. Sensor is backed by a software algorithm, which tracks the peak of pulse signals with 95% accuracy. Pulse rate values from this sensor shows a difference of 1 or 2 beats per minute (BPM), on comparison with chosen commercial devices.

Keywords:--

PPG (PhotoPlethysmoGraph), pulse rate, BPM, Pinna.

Evaluating Machine Learning Algorithm on Cross-Site Scripting (XSS) Security Vulnerabilities in Web Applications

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Dr. H.S.Jayanna.,Professor, Department of Information Science Engineering, Siddaganga Institute of Technology, Tumakuru.

Abstract:--

The project aims at analysing and predicting cross-site scripting (XSS) security vulnerabilities in web application's source code. Cross-site scripting (XSS) is a security vulnerability that affects web applications. It occurs due to improper or lack of sanitization of user inputs. There is no single solution that can effectively mitigate XSS attacks. More research is needed in the area of vulnerability removal from the source code of the applications before deployment. Security inspection and testing require experts in security who think like an attacker, locating vulnerable code locations can be a challenging task. Alternatively, there are also vulnerability prediction approaches based on machine learning techniques, which showed that static code attributes such as code complexity measures are cheap and useful predictors. The main focus is on prediction of XSS vulnerabilities and extracts relevant features to classify vulnerable source code file from benign one. Attack prevention and vulnerability detection are the areas focused in this study.

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A Term Paper on Machine Laboratory Computerization

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Abstract:--

Automation has become technically and economically feasible in various sectors, in many of industrial processes and power generating plants are computerized so that to reduce labour cost, to obtain greater efficiency and improve quality. It is possible to obtain these requirements with use of advanced controlling technique such as Programmable Logic Controller (PLC) and SCADA. With this technical view there is need to introduce computerization of machine lab in educational course. In this paper effort has been made to control and measure parameters such as voltage, current and speed of induction motor through PLC. In this report SCADA and PLC are described and general procedure to design and development of SCADA system is given. Finally application of SCADA system for 'Control of Induction Motor' is described. Thus concluding that, due to recent technological advances,the automation has become technically and economically feasiblefor developing application in various sectors. Hence there is need to introduce SCADA system in advanced educational courses.

Keywords:--

Real time monitoring and controlling,SCADA, PLC.

Genetic Algorithm Implementation in MPSoC

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Abstract:--

Multiprocessor designs are the best substitute for single-core designs, but the new architecture has any kind of architectural problems associated with it. The main problems are the tools and techniques needed to maximize multiprocessors and develop new techniques to produce powerful architecture associated. To overcome the above problems, one of the best techniques is to combine the techniques of planning and management of memory in computer systems. Here, we introduce a genetic algorithm to do the same. This algorithm finds the best solution by performing three operations, namely, mutation, crossover and the fitness function for which the planning of activities on multiple processors is done with the use of adequate memory. By implementing this algorithm in different tasks, the total delay is reduced and an increase is also obtained in terms of performance. The implementation was made with Xilinx.

Keywords:--

Multiprocessor, crossover, mutation, fitness function.

Voice Recognition System for Hindi Digits - A Comparative Study

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Abstract:--

In this study, we have implemented small vocabulary, speaker independent Speech Recognition System. Speech Database has been built by recording speech utterance of Hindi digits (0 to 9) by various speakers. In our experiments, we have implemented Hindi digit recognition system using Mel frequency cepstral coefficients (MFCC) as feature vector. The system is designed to recognize utterances of Hindi digits. MFCC are used as the front end and Hidden Markov Model (HMM) as back end of the speech recognizer. MFCC coefficients are calculated from the log filter-bank amplitudes using the Discrete Cosine Transform. The states of HMM used in the system are assumed to be Gaussian. The system can be extended to function as Hindi language Speech Recognition System. In this study, performance of the system is evaluated and compared based on various parameters such MFCC, MFCC with 0th cepstral coefficients, MFCC along with its first and second order derivatives. Also, variants of HMM with different number of states are used for acoustic modelling. Word and Phoneme level acoustic models have been explored. In speech recognition system using MFCC along with HMM gives very good results over the other methods. In this paper, we have compared the accuracy of various speech recognition systems with different acoustic models (Word level modelling and Phoneme level Modelling), varying number of states in the Hidden Markov Models, and variants of MFCC as feature vector length. In the experiments, it has been found that the best results are obtained for Phoneme level modelling with MFCC along with its first and second order derivatives (Accuracy - 94.26%), and for Word level modelling with 9 states HMM (Accuracy – 89.67 %).

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Spectrum Distribution Technique for Heterogeneous 5G Networks by Network Opting and Channel Allocation Methods

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Abstract:--
The demand for spectrum resources has increased dramatically with the advent of modern wireless applications. Spectrum sharing, considered as a critical mechanism for 5G networks, is envisioned to address spectrum scarcity issue and achieve high data rate access, and guaranteed the quality of service (QoS). From the licensed network's perspective, the interference caused by all secondary users (SUs) should be minimized. From secondary networks point of view, there is a need to assign networks to SUs in such a way that overall interference is reduced, enabling the accommodation of a growing number of SUs. This paper presents a network selection and channel allocation mechanism in order to increase revenue by accommodating more SUs and catering to their preferences, while at the same time, respecting the primary network operator's policies. An optimization problem is formulated in order to minimize accumulated interference incurred to licensed users and the amount that SUs have to pay for using the primary network. The aim is to provide SUs with a specific QoS at a lower price, subject to the interference constraints of each available network with idle channels. Particle swarm optimization and a modified version of the genetic algorithm are used to solve the optimization problem. Finally, this paper is supported by extensive simulation results that illustrate the effectiveness of the proposed methods in finding a near-optimal solution.

Keywords:--
NS (network simulator), 5g heterogeneous, Primary user, Secondary user, GA (genetic algorithm), PSO (particle swarm optimization) algorithm

A Survey :DifferentOpen Source Database for IoT

Keerthi K S.,Assistant professor, Dept of Computer Science and Engineering,Malnad college of Engineering,Hassan

Abstract:--

The Internet of Things (IoT) is growing rapidly, and the data being transmitted through IoT grows extremely along with the network. The previous and regular methods of data management can't use with the growing needs. Because of IoT's inherent nature, requires different features in the databases and presents a new set of challenges to database management systems. This paper gives a idea of open source database management systems that are suits for the IoT.

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Cross Border Verification System For Fishermen on International Water Using Internet of Things.

Apoorva.,Dept. Of Electronics and Communication Engg,St. Joseph Engineering College, Mangalore

Abstract:--

The main aim of my project is to save the life of the fishermen from crossing the border and guide them to go in a right path and improve the safety of the fishermen. GPS(Global positioning system) and GSM(Global system for mobile communication) are used for this purpose. The GPS system is the latest technology which helps us in identifying the fishing boat either inside or outside the border. Global positioning system(GPS) receiver is used to find the current location of the fishing boat. Using GPS present latitude and longitude values is sent to the control unit which is Raspberry pi and then the control unit identifies the current location by comparing the present latitude and longitudinal values with the predefined value and simultaneously message is sent to the base station using GSM. The fishermen can get help from the information centre anytime when they are about to cross the border. This system deals with a system of tracking the location of the boat using GPS and to trigger an alarm which consists of a buzzer when the border is approached or crossed. This system aims at providing a system that will alert the fishermen well in advance and ensures maximum safety and peace at the borders. This entire model of the project is one of the application for the fishermen for other countries border verification using GPS. In future, this system can be taken to the product level, if mobile tower and GSM link is provided for particular area.

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Addressing Security Attacks in AODV Protocol using SHA-3 Standard Algorithms

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Abstract:--

Hash function maps a message of an arbitrary length to an n-bit output known as the "fingerprint" or the "message digest". Secure Hash Algorithm (SHA-3) is a next generation security standard used in the world of electronic communications where the digital messages are transformed into "message digest" for creating digital signatures. Any changes in the original message leads to a change in the message digest and it becomes easy to detect the modifications to the original message. Hash functions are used in message authentication. They are also used in routine software upgrades to make sure that the new software has not been tampered with. SHA-3 is a family of functions based on Keccak, some of them can be implemented with minimal additional circuitry on a chip and are very useful alternatives for providing security in small devices. SHA-3 is not a replacement for SHA-2 but it is offered as a backup. So far, there is no procedure that exists to crack the SHA-2 and still remains secure and viable**.** In this paper, we have implemented HMAC-SHA-3 and HMAC-SHA-3 algorithms for the Data Integrity of the information being sent using an Ad Hoc On-Demand Distance Vector (AODV) routing algorithm for Mobile Ad hoc Networks (MANETs). The Block Hole attack was addressed in AODV using SHA-3 algorithm and the tool used for simulation was Qualnet 7.4. The metrics that we have considered to analyze the performance of the protocol were Throughput, Packet delivery fraction, Jitter and Average End-to-End Delay.

Keywords:--

Hash function, Secure Hash Algorithm, Digital Signatures, HMAC-SHA-3, Message Authentication Code, AODV, Qualnet 7.4.

Image Splicing Detection using Content Based Features and SURF

Prajwal T., M.Tech.,(Cyber Forensics and Information Security), Department of Information Science Engineering, Siddaganga Institute of Technology, Tumakuru.
Dr. Kavitha H., Assistant Professor, Department of Information Science Engineering, Siddaganga Institute of Technology, Tumakuru.

Abstract:--

Nowadays, the reputation of people is under constant threat especially celebrities due toan increased usage of Image Splicing. Image Splicing is the process of cutting and joiningtwo or more imagesto make a composite image which does not exist in space time. By using Illuminant Maps (IMs) image, the tell-tales in the forged image can be extracted efficiently to distinguish between visual properties for an effective automated detection of image forgeries. Based on features i.e. color, texture and shape information, it is efficient to distinguish inconsistencies in the image. In this paper, focus is on detecting image forgeries containing people and present a method for locating the forgery, specifically, the face of a person in an image.

Automatic Waste Segregator

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Abstract:--

These days wastes are dumped as landfill waste and the major problem in solid waste disposal is plastic bottles, glass bottles, metal can separation. They are separated manually and recycled. So it is necessary to have a suitable solid waste treatment plant. The economic value of waste is best realized when it is segregated. This paper describes an automated waste segregation; the aim is to develop a prototype for separating wet and metal cans from solid waste material using arduino. . This paper proposes an Automated Waste Segregator which is a cheap, easy to use solution for a segregation system at households, so that it can be sent directly for processing. This project will be using different capacitive, proximity sensors etc. to detect each object which is moving on a conveyer belt and will be segregated into different bins with help of stepper motor.

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Object Tracking and Detection for Computer Vision Applications

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Anuradha G.S., Associate professor, cse department,Rao Bahadur Y Mahabaleshwarappa Engineering College

Abstract:--
Object tracking is to estimate locations of target in an image sequence, it is the most challenging aspect in the computer vision applications with difficultiesthat arise due to intrinsic, extrinsic factors like deformation, camera motion, motion blur.It plays vital role in human-computer interaction,surveillance,robotics and overcomespractical problems of disturbance and effective noise.Object detection is the task of identifying the physical movement of an object in a given region. itischallenging role to detect the shape of the object as dynamic scene changes accordingly.

Keywords:--
Object detection, tracking,surveillance.

DWT based Joint Compressive Sensing and Recovery of MECG Signals

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RajashekarKunabeva.,Professor ,Electronic Engineering,G M Institute of Technology, Davangere
Dr R Srinivasa Rao Kunte., Professor, Electronic Engineering ,Jawaharlal Nehru National College of Engineering, Shivamogga

Abstract:--

Remote Health Monitoring is an emerging technology because of the technological breakthroughs in bio-medical field. One such promising Health care application is ECG monitoring to detect cardiac diseases. This is made possible through Wireless Body Area Network (WBAN) which consists of wearable intelligent sensor nodes on human body. These nodes are responsible for acquiring and sending the signals to healthcare centres. Huge data is difficult to store as well as to transmit over energy constrained sensor nodes. Energy-efficient compression techniques offer promising solutions to overcome these drawbacks. The algorithms uses joint compression of Multi-channel ECG signals through compressive sensing and joint reconstruction by solving convex optimization problem through Mixed Norm Minimization (MNM). Two channel ECG signals are collected from MIT-BIH Arrhythmia database record 109. Discrete Wavelet Transform is applied for both channels to make signals sparse. Sparse Signals are jointly compressed using sensing matrix and are jointly reconstructed using MNM. Matlab simulation shows good reconstruction quality of 2-channel ECG signals with PRD of 1.34 and 1.01 for channel 1 and channel 2 respectively.

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IOT Based Smart Inverter using Raspberry PI

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Abstract:--

In this paper we are proposing for smart inverter integrating with raspberry pi which makes smart home. In this work a bi-level (Supervisory-Local) PV based micro grid configuration is proposed for low power residential applications. In the supervisory level a long-term control scheme is assigned to define the set points for local controllers. The local level is mainly formed from a set of controllers which are basically responsible to control the power electronic interfaces and converters. Within the supervisory level a dynamic price scheduling framework with load and solar energy forecasting is implemented using time series-based regression technique. In the local level, adaptive double mode controllers are developed to realize intelligent inverters with smart grid-tied (GT) capabilities and smooth transition between GT and stand-alone modes.

Online Signature Verification for Personal Authentication

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Abstract:--

Signature is a behavioral biometric: it is not based on the physical properties, such as fingerprint or face, of the individual, but behavioral ones. Signature verification is split into two according to the available data in the input. Offline (static) signature verification takes as input the image of a signature and is useful in automatic verification of signatures found on bank checks and documents. Online (dynamic) signature verification uses signatures that are captured by pressure-sensitive tablets that extract dynamic properties of a signature in addition to its shape.The paper presents online signature verification on touch interface mobile devices for personal identification and authentication. The proposed system uses set of attributes such as x, y coordinates and pressure of all signature points of each user as an input. An online signature is represented by a set of histograms. These histogram features are designed to get essential attributes of the signature as well as relationships between these attributes. These set of histograms are widely used as a feature set to capture attribute statistics in recognition process. The feature extraction will begin by converting Cartesian coordinates to polar coordinates and deriving positional invariant features from those attributes. At last output is compared the existing method with SVM classifier.

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Less cost and superior operational architecture of VSLI designed with Multiplication of Montegomery

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Abstract:--

This paper is suggested forth with simple and efficacious montogomery kind multiplication algorithm such that it is budgetory. Superior performance Montogomery modular multiplier can be enacted in congruence. The suggested multiplier acknowledges and turnouts of the data with the representations of binary utilised one level of CSA to prohibit at the transmission at each summation type procedure. The CSA can be premeditated to achieve the respective operand at pre –guesstimation and the reformation of format basically from the format of carry_save is to binary kind demonstration, which is following to a cost of low hardware and short cantankerous path lagging at extra clock cycles cost for making a culmination at one modular-multiplication. To overawed this particularised fault, configurable kind CSA can be one full-adder or two of the sequential half-adders, which is suggested forth to lessen especially at the additional clock sequences for the pre-guesstimation operand and the arrangement in reformation by a partial. A mechanism is worked to investigate and consider skipping the unnecessary carry-save-addition operations in the level one CCSA type design, while managing the small cantankerous flow lagging, which has progressed. As the consequence, extra clock sequences for an operand pre-guesstimation and reformation of the respective format can be kept unrevealed and greater throughput can be procured. Exploratory results do exhibits the suggested multiplier realises for greater presentation and substantial region time. Product amelioration once made comparison with the earlier type designs.

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A Mobile Ad Hoc Network(MANET)

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Abstract:--

A Mobile Ad Hoc Network(MANET) is a acquisition of wireless mobile nodes without any fixed infrastructure. In MANETs, all nodes are energy constrained. It is important factor to reduce the nodes energy consumption. In this paper, the network coding aware energy efficient cluster based routing protocol(ECCRP) :a survey is introduced In this scheme, network coding technique is applied to existing cluster based routing protocol. The energy rich cluster head is selected, and the coding is done at cluster head to reduce the energy consumption of the nodes and to enhance the throughput of the network. The flow based structure is also introduced to further increase the coding opportunities.

Li-Fi: Audio And Data Communication using Visible Light

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Abstract:--

Because of the huge growth in the number of mobile phones subscriptions in recent times, over the past few years there has been a rapid growth in the utilization of the RF region of the electromagnetic spectrum. This has been causing a rapid reduction in free spectrum for future devices. Light-fidelity (Li-Fi) operates in the visible light spectrum of the electromagnetic spectrum i.e. it uses visible light as a medium of transmission rather than the traditional radio waves. Li-Fi stands for Light-Fidelity. Li-Fi is transmission of data using visible light by sending data through an LED light that varies in intensity faster than the human eye can follow.This paper discuss the implementation of the basic Li-Fi based system to transmit audio signal and serial data from one device to another through visible light. This model will demonstrate how the notion of one-way communication via visible light works, in which Light emitting diode (LED) used as the light source or transmitter. The model will transmit digital signal via direct modulation of the light. The emitted light will be detected by receiver.By using visible light as transmission medium, Li-Fi provides wireless indoor communication. Dr. Herald Haas, the professor of mobile communications at the University of Edinburgh School of engineering, first time publically displayed the proof of Light Fidelity (Li-Fi), a method of Visible Light communication (VLC).

Keywords:--

Li-Fi (Light-Fidelity), LED (Light Emitting Diode), LDR (Light Dependent Resistor),Microcontroller, AudioPowerAmplifier.

Pomegranate Leaf Disease Detection using Image Processing with Support Vector Machine Classifier

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Abstract:--

India is an agricultural country where most peoples in the India are farmers. Economically agricultural field is very much important. The crops are affected by uneven climatic conditions, Because of that diseases on plant is increased and agriculture yield is decreased. Which restrict the growth of plant and quality and quantity of plant also reduces. Now days, the conditions become worst because of bacterial diseases. Detection of diseases and prevention is much more needed for that modern agriculture techniques and systems are designed.The studies of the pomegranate plant diseases mean the studies of visually observable patterns seen on the plant. It is very difficult to monitor the pomegranate plant diseases manually. Hence, image processing is used for the detection of pomegranate plant diseases. Image processing is best way for detecting and diagnosis the diseases. Disease detection involves the steps like image acquisition, image pre-processing, image segmentation, feature extraction and classification. K-means clustering algorithm is used for segmentation and support vector machine is used for classification of disease.

Keywords:--

Image Processing, K-means Clustering, Segmentation, SVM (Support Vector Machine), Classification, Disease Detection, Feature Extraction.

Demonetizationsolution

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Abstract:--

The project deals on the device looks like a smart card but include GPRS and RFID which is connected to network. All the users are given with this type of card, which is unique from one another. Here the two main technologies used are Nearfield communication (NFC) and Farfieldcommunication(FFC). The transaction occurs just by scanning of two cards.The main advantage of this project is complete elimination of corruption which now mainly relaying on hard cash.

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Cross-Layer Operation Model That Can Improve The Energy Consumption and System

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Abstract:--

IEEE 802.15.4 mobile wireless sensor networks(MWSNs) have been investigated in literature. One major findingis that these networks suffer from control packet overhead anddelivery ratio degradation. This increases the network's energyconsumption. This paper introduces a cross-layer operationmodel that can improve the energy consumption and systemthroughput of IEEE 802.15.4 MWSNs. The proposed modelintegrates three layers in the cross layer approach: 1) network (routing); 2) medium access control(MAC); and 3) physical layers. The Application layer used to security purpose.The location of the mobilenodes is embedded in the routing operation after the routediscovery process. The location information is then utilizedby the MAC layer transmission power control to adjust thetransmission range of the node. This is used to minimize thepower utilized by the network interface to reduce the energyconsumption of the node(s). The model employs a mechanism tominimize the neighbor discovery broadcasts to the active routesonly. Reducing control packet broadcasts between the nodesreduces the network's consumed energy. It also decreases theoccupation period of the wireless channel. The model operationleads the network to consume less energy while maintaining thenetwork packet delivery ratio. The transmission power control mechanism is only active when the route is established; therefore, its effect is guaranteed at the data transmission state. Combined together results in energy efficiency, higher throughput and lower end-to-end delays than the standard model.

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Development of Computer Aided Diagnosis System (CADx) for Detection of Anomalies in Breast using Textural Features with PNN Classifier

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Abstract:--

High False Negative Rate (FNR) is a very significant problem in a Computer Aided Diagnostic System as false negative answer may lead to a very high increase in the number of deaths. The main aim of this paper lies in the development of a new Computer Aided Diagnosis (CADx) system for the proper identification of breast masses. It also focuses at extraction of textural features. The input images are pre-processed by using Adaptive Median Filter and then segmented by using Gaussian Mixture Model i.e. GMM segmentation and further are subjected to feature extraction, selection and finally classification by using PNN classifier. MIAS database is used for research purpose which contains 322 mammogram images out of which 60 images as 20 of benign, 20 malignant and 20 normal are taken into consideration for feature extraction. 22 texture features are extracted and are further classified. PNN classifier with 80-20 train-test partition is used for classification. The Sensitivity, Specificity and Accuracy obtained by the selected features are 100%, 100%, and 100% respectively.

Keywords:--

Mammogram, Pre-processing, Adaptive Median Filter ,Gaussian Mixture Model (GMM), EM algorithm, MAP algorithm, Image segmentation, Texture features, Classification, PNN classifier.

Speech File Detection by a Rule Based System

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Abstract:--

This paper discuss about detecting speech files in a real world speech recognition task. Detecting files with small background speech or noise, changes the overall behaviour of the Interactive Voice Response System. We experiment with neural networks trained to recognize phonemes, and outline a very simple yet effective approach to discriminate files that contains speech from that of noisy files. We use some popular publically available dataset, to validate our approach.

Keywords:--

Noise Robustness, neural networks, Interactive Voice Response Systems

Improve Energy Efficiency in Cognitive Radio Ad Hoc Networks by Selecting Secondary User

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Abstract:--

Wireless networks combining the advantages of both mobile ad-hoc networks and infrastructure wireless networks have been receiving increased attention due to their ultra-high performance. Users have capability to sense available spectrum in Cognitive Radio Networks (CRNs).Users can opportunistically access to the spectrum. Paper proposed for energy consumption for CRNs, Which is higher in traditional Cognitive Radio Ad Hoc Network (CRAHNs). Users mainly depend on spectrum access so the requirement of network architecture is user spectral. In the proposed network architecture, only parts of user's are equipped with Cognitive Radio (CR) module. Additionally user management done, a minimum number of users are selected to sense available spectrum, which aims at reducing the energy consumption further. The minimum number of user's selection problem is formulated as a optimal routing algorithm problem under the constraints of energy efficiency and the real-time available spectrum information. Hence, a distributed optimal routing algorithm is proposed to calculate the optimal solution. The optimal routing algorithm in the proposed network architecture outperforms and traditional Cognitive Radio Ad Hoc Networks in energy efficiency.

Keywords:--

Wireless Networks, Routing Algorithm, Load Balancing, Congestion Control, Energy Efficiency

Shortest Back off Delay Routing in Wireless Sensor Network

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Abstract:--

Major technical challenges in the respective wireless sensor networks observed especially at the industrial IWSNS with those of dynamic and discordant environment. In this particular project, we herein present R3E basically to ameliorate the resilience that is to link the dynamics that is for WSNs/ IWSNs. R3E is fundamentally designed to enhance and improve with the existing kind reactive routing type protocolsprimarily to provide reliable and energy efficient kind packet in delivery, that is against the unreliable links for utilizing the local path in diversity. Specifically, we commence forth with biased back off kind of scheme that is especially at the route- discovery phase that is along to find a robust kind guide path, which does provides more of coordination at forwarding opportunities. Along this particular path, packets of data, this is progressed in greediness that is towards the destination along through nodes cooperation without those of utilising the location type information. In WSN, packets should be necessarily routed from respective origin to terminal within the restrained storage of power. The sensor type nodes of WSN are herein is highly mobile and reckoned on the dynamic type scenarios in the respective routing type path and the network in topology amends frequently. A node in the routing path, which should be known of the respective information regarding the node at the vicinity. In traditional kind protocols of routing, every respective node in the exchanges of network periodic type one-hop beacons can be expected. In the existing approach, few of the problems, does occur especially during the furthering of data. Hence, to overcome the problems of routing, which are energy efficient approach, it is suggested forth in this particular paper. In the suggested modelling, new kind algorithm has been named as Discrete in delay function which is commenced. In this kind algorithm, RTS or CTS kind message, mechanism of handshaking is utilized for furthering of data. By utilizing the respective mechanism, the existing type approaches restrictions are extensively reduced. Results of simulations exhibits that EER kind scheme does significantly outperforms existing protocols in the sensor networks with higher dynamic kind network topologies.

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