iCARTE'15

INTERNATIONAL CONFERENCE ON ADVANCE RESEARCH IN TECHNOLOGY AND ENGINEERING

31st March, 2015

INTERNATIONAL JOURNAL FOR TRENDS IN ENGINEERING AND TECHNOLOGY
ISSN:2349-9303

ORGANIZED BY

INTERNATIONAL JOURNAL FOR TRENDS IN ENGINEERING AND TECHNOLOGY

in Association with

SRI RANGANATHAR
INSTITUTE OF ENGINEERING AND TECHNOLOGY
Approved by AICTE, New Delhi and Affiliated by Anna University, Chennai
Athipalayam, Coimbatore-641 110

Souvenir of

INTERNATIONAL CONFERENCE

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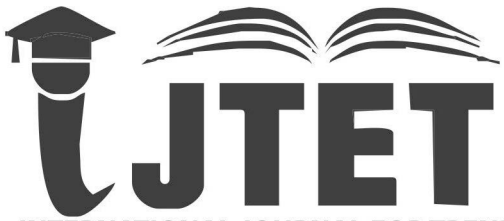

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CHAIRMAN MESSAGE

The enhancement of design with skills has always been reflected behind every technology and equipment. It is the togetherness of associated efforts that helps to develop the skills and harness the potential in everyone, regardless of gender and social background.

The efforts are well reinstated through education and training to bring the metamorphosis of life.

In a world of evolving changes, challenges make you play many roles in the society. It is the stance where you become the nation-builders, movers of technology and agents of change. It is our fervent hope that the years that you spend in SRIET would enable you to be the sophisticated users of technology and equip you with leadership skills.

At SRIET, we put our efforts in making the students equipped with knowledge, meritorious qualities and technical skills that encourage the responsible citizen in you to contribute your part to society, nation and above all, to your parents.

I strongly believe in the pursuit of discovering more, you as members of techno-generation of India have a long way to go in the context of embracing technology, scaling new heights of creativity and innovation. Ultimately, it's all the learning experience that leads us to become exemplary human beings. There are many challenges to be turned off but it is inevitable to reminisce that great effort bears the sweet fruit of success.

Best Wishes
V.Narayanasamy

EDITOR-IN-CHIEF MESSAGE

I take great pleasure in inviting you to the International Conference on Advance Research in Technology and Engineering on 31.03.2015, Tuesday Organized by International Journal for Trends in Engineering and Technology (IJTET) in association with Sri Ranganathar Institute of Engineering and Technology. On behalf of the ICARTE'15, it is my great honor to invite all to attend and Present Research Work in ICARTE'15. I am really delighted to see the overwhelming response from the scientific community and budding researchers that we received from all around the globe. We received 400 research papers from 120 Institutions within a short span of time from the call of papers. This clearly reflects the truly international stature of ICARTE'15. All papers were rigorously reviewed internationally by an expert technical review committee. I would also like to thank the authors for having revised their papers to address the comments and suggestions by the referees. I would like to thank the Program Committee members and additional reviewers for their hard work in reviewing papers carefully and rigorously. I believe that ICARTE'15 delivered a high-quality, stimulating and enlightening technical program. I hope that you will find these proceedings to be a valuable resource in your professional research, and educational activities whether you are a student, academic, researcher, or a practicing professional.

PAPITHA VELUMANI
EDITOR-IN-CHIEF,
IJTET

PROGRAMME SCHEDULE

31.03.2015 – TUESDAY

08.00 a.m. – 09.30 A.M. Registration

10.00 a.m. – 11.00 A.M. Inaugural Function

11.00 a.m. – 12.30 P.M. Technical Session – I

12.30 p.m. – 02.00 P.M. Lunch

02.00 p.m. – 03.30 P.M. Technical Session - II

03.30 p.m. – 04.00 P.M. Certificate Distribution

ABSTRACTS

Effective Feature Selection for Mining Text Data with Side-Information

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Abstract— Many text documents contain side-information. Many web docuents consist of meta data with them which correspond to different kinds of attributes such as the source or other information related to the origin of the document. Data such as location, ownership or even temporal information may be considered as side-information. This huge amount of information may be used for performing text clustering. This information can either improve the quality of the representation for the mining process, or can add noise to the process. When the information is noisy it can be a risky approach for performing mining process along with the side-information. These noises can reduce the quality of clustering while if the side-information is informative then it can improve the quality of clustering. In existing system, Gini index is used as the feature selection method to filter the informative side-information from text documents. It is effective to a certain extent but the remaining number of features is still huge. It is important to use feature selection methods to handle the high dimensionality of data for effective text categorization. In the proposed system, In order to improve the document clustering and classification accuracy as well as reduce the number of selected features, a novel feature selection method was proposed. To improve the accuracy and purity of document clustering with less time complexity a new method called Effective Feature Selection (EFS) is introduced. This three-stage procedure includes feature subset selection, feature ranking and feature re-ranking.

Index Terms— Effective Feature Selection (EFS), feature subset selection, feature ranking and feature re-ranking.Side-information.

An Efficient Concurrent Access On Cloud Database Using SecureDBaas

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Abstract—Cloud services provide high availability and scalability, but they raise many concerns about data confidentiality. SecureDBaas guarantees data Confidentiality by allowing a database server for execute SQL operation over encrypts data and the possibility of executing concurrent operation on encrypts data. It's supporting geographically distributed clients to connect with an encrypt database, and for execute an independent operation including those modifying the database structure. The proposed architecture has the advantage of eliminating proxies that limit the several properties that are intrinsic in cloud-based solutions. SecureDBaas that support the execution of concurrent and independent operation for the remote database from many geographically distributed clients. It is compatible for the most popular relational database server, and it is applicable for different DBMS implementation. It provides guarantees for data confidentiality by allowing a cloud database server for execute SQL operation over encrypts data.

Index Terms — Database, SecureDBaaS, Cloud, Security

Efficient Utility Based Infrequent Weighted Item-Set Mining

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Abstract— Association Rule Mining (ARM) is one of the most popular data mining techniques. Most of the past work is based on frequent item-set. In current years, the concentration of researchers has been focused on infrequent item-set mining. The infrequent item-set mining problem is discovering item-sets whose frequency of the data is less than or equal to maximum threshold. This paper addresses the mining of infrequent item-set. To address this issue, the IWI-support measure is defined as a weighted frequency of occurrence of an item set in the analyzed data. This Infrequent weighted item set mining discovers frequent item sets from transactional databases using only items occurrence frequency and not considering items utility. But in many real world situations, utility of item sets based upon user's perspective such as cost, profit or revenue is of significant importance. In our proposed system we are proposing the High Utility based Infrequent Weighted Item set mining (HUIWIM). High Utility based Infrequent Weighted Item set mining (HUIWIM) to find high utility Infrequent weighted item set based on minimum threshold values and user preferences. The proposed system is used for efficiently and effectively mine high utility infrequent weighted item set from databases and it can improve the performance of the system compared to the existing system.

Index Terms—Data Mining, Frequent item -set, infrequent item set, FP- growth Algorithm, HUIWIM

Grading Diabetics in Retina Using Wavelet Transforms

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Abstract— Detection of grading diabetics in retina has been developed to classify the retinal images using wavelet transform has been presented in this paper. These weakened blood vessels will leak blood to spread over the retina, which in turn forms micro aneurysms, hemorrhages, hard exudates, cotton wool spots and Large Plaque Hard Exudates (LPHE). Severe stage of diabetic retinopathy leads to blindness. The goal of this project is, thus to automatically classify normal eye images and diseased diabetic retinopathy eye images based on the distribution of average texture features obtained from three prominent wavelet families. Hence, the objective is to evaluate and select prominent features for enhanced specificity and sensitivity of retinal image classification. For this purpose, the DWT is applied to the input images In this project, the effectiveness of different wavelet filters on a set of diabetic retinopathy images by employing the standard 2-D-DWT is examined. The use of three well-known wavelet filters such as the Daubechies filter (db3), the symlets filter (sym3) and the bi orthogonal filters (bio3.3, bio3.5, and bio3.7) are proposed.

Index Terms — DWT discrete wavelet transform, symlets filter, orthogonal filters

A New Visual Cryptography Technique for Color Images

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Abstract— Visual Cryptography (VC) is an emerging cryptography technology that uses the characteristics of human vision to decrypt encrypted images. This cryptographic system encrypts it by dividing a secret image into n number of share and decryption is done by superimposing a certain number of share (k) or more. The secret information can be retrieved by anyone only if the person gets at least k number of share. No clue about a secret image is revealed if less than k-1 share are superimposed. The Visual cryptography technique is not only applied for binary messages, grayscale images, but also for color images such as scenic photos or pictures. Color visual cryptography (VC) is used to generate a color halftone image share by encrypting a color secret image. In order to preserve the visual quality and size of the color share without expansion, the concept of size invariant Visual Secret Sharing (VSS) scheme and error diffusion is introduced. Experimental result shows that the proposed method can improve the reconstructed image quality compared with previous techniques. Also, it produces clearer and higher contrast for all kinds of color images.

Index Terms— Error Diffusion, Halftone, Size invariant VSS, Visual cryptography, Visual secret sharing.

Free-Space Optical Networking Using the Spectrum of Visible Light

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Abstract—Wireless communication is currently dominated by Radio Frequency (RF) technologies. However, constraints such as limited bandwidth and electromagnetic interference, limit the applications of RF technologies in certain scenarios. Meanwhile, recent developments in solid-state Light Emitting Diode (LED) materials and devices are driving resurgence into the use of Free-Space Optical (FSO) wireless communication. LED-based network transceivers have a variety of competitive advantages over RF including high bandwidth density, security, energy consumption, and aesthetics. They also use a highly reusable unregulated part of the spectrum (visible light). Many opportunities exist to exploit low-cost nature of LEDs and lighting units for widespread deployment of optical communication. The prime focus is to reducing cost, and for that, we have to make appropriate selection of system's components, e.g. modulation, coding, filtering. The objective is to describe the viability of an optical free-space visible light transceiver as a basis for indoor wireless networking and to achieve acceptable bit error rate (BER) performance for indoor use, with a low cost system.

Index Terms — Free-space optics, Light Emitting Diode, Optical communication, Optical modulation techniques, Visible light spectrum, Wireless communication

Smart Sensor Configuration for Security System Automation Using FPGA

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Abstract— Automation in industrial control and monitoring systems plays a vital role in maintaining smooth work environment and handling perilous situation that may occur in work area. The available systems mostly use physical cables for signal transfer between the sensors and the control system. These systems have some significant problems such as the cable installation and maintenance costs associated with moving and replacement of cables during machinery maintenance, configuration and re-configuration. While the technological evolution of sensors is reflected in sensors getting smart, small, light weight, and cheapest, another key development is taking place in the sensors industry in the growth of wireless sensor use in industrial applications. The proposed wireless sensor-based controls provide industry attention in order to reduce costs, better power management and ease in maintenance. Wireless sensors have been successfully implemented in many industrial applications because of its performance, monitoring, security development and control the sensor system etc.

Index Terms— Temperature sensor, Turbidity sensor, light detecting resistors, GSM Wireless Module.

An Optimized Diminished One modulo 2^{n+1} High Power Static and Dynamic Adder Using Circular Carry Selection

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Abstract— The diminished-one modulo 2^{n+1} addition is an important arithmetic operation for a high-performance residue number system. In this paper, we propose a new circular-carry-selection (CCS) technique for modulo 2^{n+1} addition in the diminshed-one number domain. The architecture design of CCS is technique for modulo 2^{n+1} addition in the diminished-one number domain. The architecture design of CCS modular adder is simple and regular for various bit-width inputs. Low power static and dynamic adder technique is used for actual VLSI implementation; the proposed modular adder can demonstrate its superiority of savings up to 39.5% in Areax Time and 46.3% in Timex Power performances over those of the previous existing solutions under 180-nm CMOS technology. Finally, the chip area and the clock rate of CCS diminished-one modulo 2^{16}+1 adder are 26746μm2 and 476MHz, respectively.

Index Terms — circular carry selection (CCS) modulo 2n+1 adder, residue number system (RNS), VLSI design.

Design and Implementation of Low Cost Smart Web Sensors for Electric Power Quality Monitoring

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Abstract— The paper presents a low cost virtual instrument for monitoring the power quality events. The problem of power quality concerns the interferences which can be present in the mains. These electromagnetic disturbances can overcome a large interval of frequencies and can be present in industrial, domestic as well as commercial system .As main negative effects we can mention the high order harmonics, voltage fluctuations, flickers and disturbances with high slew-rates It is frequently indispensable to measure power quality indexes in wide electric power plant or in industrial zones. To this aim a low cost smart web sensors has been designed and implemented to acquire, process and transmit data over 802.3 network .It is organized in multi micro controller system. The first one dedicated to the data acquisition and the other to data processing, dynamic HTML pages construction and TCP/IP stack management. Key features of realized devices are low cost, data processing and remote communication capabilities, the possibility to provide data with any internet browser.

Index Terms— Power quality, power system transient, distortion, voltage measurement, signal analysis, smart web sensors

Dual – MPPT Control of a Photovoltaic System

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Abstract—This paper proposes an efficient solar tracker system using a dual MPPT controller. It consists of three step DC to DC converter, which has been controlled by a microcontroller based unit. MPPT (Maximum Power Point Tracking) is used in photovoltaic system to maximize the PV array output power, irrespective of temperature, irradiation conditions and electrical characteristics of the load. The first MPPT controller is a dual axis solar tracker, which ensures optimization of the conversion of solar energy into electricity by properly orienting the PV panel in accordance with the real position of the sun to track azimuth and elevation angles. The second MPPT controller controls the duty cycle of the converter using modified Incremental Conductance algorithm to enable the PV array operate at maximum operating power at all conditions. The proposed control scheme eliminates oscillations and tracks the global maximum power point (GMPP) accurately. The simulation has been accomplished in MATLAB software.

Index Terms — Dual–axis Tracking, Incremental Conductance (IncCond), Maximum Power Point Tracking (MPPT), Microcontroller, Photovoltaic (PV) system

Weibull Distribution Based Channel Prototype for Decrease of Rain Attenuation in Satellite Communication Links Beyond 10GHz

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Abstract— Current satellite communication networks will workat frequencies above 10GHz for transmission and reception of signals. At these frequency bands, the most prevailing fading mechanism, is rain attenuation. In this paper, a unique channel prototype, a synthesizer for generating rain attenuation time series for satellite links operating at 10GHz and above is offered. The proposed channel prototype modifies M-B model since it generates rain attenuation time series that follow the Weibull distribution. The novel dynamic model is based on the first-order Stochastic Differential Equations (SDEs) and deliberates rain attenuation induced on a slant path as a Weibull-based stochastic process. Moreover, the theoretical terminologies for the computation of the exceedance probability of hitting time random variable are presented. The synthesizer is substantiated in terms of the exceedance probability and the speculative CCDF of hitting time comparing to these derived from the simulations in the hitting time section. The hitting time statistics may be engaged for the prime strategy of Fade Mitigation Techniques (FMTs).

Index Terms—Satellite communications, Weibull distribution, stochastic differential equations, hitting time statistics, Brownian motion.

Efficient Design of Higher Order Variable Digital Filter for Multi Modulated Signals

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Abstract— The electrocardiogram (ECG) analysis is commonly used technique in clinical examination proposes a method of designing reconfigurable warped digital filter with various low-pass, high-pass, band-pass and band-stop responses. The warped filter is obtain by replacing each element interruption of a digital filter with an all exceed filter. It is widely used for various video and audio processing applications. Warped filters require first-order all pass conversion to obtain low-pass and high-pass responses, and by using second-order all pass conversion to obtain variable band-pass and band-stop responses. To overcome this drawback, proposed method combines warped filters with the coefficient decimation technique. In VLSI circuits in order to reduce hardware cost Command Signals Decoder (CSD) based shift-and-add approach is used for multiplication. It offers extensive savings in opening count and power utilization more than other approaches.

Index Terms—Variable Digital Filter, Warped Filter, All Pass Filters, Command Signals Decoder

Enhancing the Privacy Protection of the User Personalized Web Search Using RDF

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Abstract— Personalized searches refers to search experiences that are tailored specifically to an individual's interest by incorporating information about the individual beyond specific query provided. User may not aware of some privacy issues in search results where personalized and wonder why things that are interested in have become so relevant. Such irrelevance is largely due to the enormous variety of user's contexts and backgrounds, as well as the ambiguity of texts. In contrast, Profile-based methods can be potentially effective for almost all sorts of queries, but are reported to be unstable under some circumstances. The amount of structured data available on the web has been increasing rapidly, especially RDF data. This proliferation of RDF data can also be attributed to the generality of the underlying graph-structured model, i.e., many types of data can be expressed in this format including relational and XML data. For a Personalized Semantic Web Search the semi structured data should be indexed with RDF. This proposed RDF technique not only enhances the privacy and security of the user profile and optimizes query for efficient filtering of data. The user profile access is been avoided by means of placing a proxy in the client side, so profile exposure avoided. The proxy generates a random profile at each time. The contents will be sent back to the proxy and only the relevant contents will be sent over to the client. In this RDF framework the queries are semi structured for personalized web search.

Index Terms — Resource Description Framework (RDF); Customizable Privacy Preserving Web Search.

Design and Analysis of Rectangular Micro Patch Antenna for WLAN Communication

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Abstract— In this new communication era the increase of communication devices increases the demand of antennas which are low cost for fabrication and easy for integration. Micro patch antenna is a narrow band wide beam antenna fabricated on a dielectric substrate like PCB. The fundamental idea behind this paper is to design and analyze patch antenna which has specifications of Operating frequency of 2.4GHz, Dielectric permittivity of 3.38 with a simple shape of rectangle. The antenna is simulated in a method of moment, based electromagnetic simulation software called sonnet lite .This antenna is more suitable for WLAN enabled devices.

Index Terms—Micro Patch Antenna, Printed Circuit Board (PCB), Sonnet lite, Wireless Local Area Network (WLAN).

Attribute Based Encryption with Privacy Preserving and User Revocation in Cloud

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Abstract— Cloud computing is an emerging IT service that can create, configure and manipulate applications online. It is a computing in which large groups of remote servers are networked to allow centralized data storage and online access to compute services or resources. Cloud data security plays a major role in the cloud computing. Many privacy preserving and auditing system have been implemented earlier, but those systems hardly support security and data access control. Here, a new decentralized access control scheme for secure data storage in cloud is introduced, that supports anonymous authentication. It verifies the authenticity of the user without knowing the users' identity before storing data. Also an additional feature like access control is added, in which only valid users are able to decrypt the stored information. This may prevent replay attack and support creation, modification and reading of data stored in the cloud. Like that it addresses, user revocation. Moreover, authentication and access control scheme is robust and decentralized, unlike other access control schemes designed for clouds which are centralized.

Index Terms—Cloud computing; Security; Attribute Based Encryption; Replay Attack; Authentication; Access control.

Source Anonymous Message Authentication and Source Privacy using ECC in Wireless Sensor Network

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Abstract— The unauthorized and corrupted messages being forwarded in the wireless sensor networks (WSN) can be prevented by using the message authentication. For this many conventional methods have been developed, they are symmetric key and public key cryptosystem. But they have their own limitations of high computational overhead, communicational overhead and lack of scalability. To overcome these problems a polynomial based scheme was developed but they have the limitations with the threshold value ie, the number of messages transmitted should be less than the threshold value .In this paper ,we propose a source anonymous message authentication scheme based on elliptic curve cryptography which enables intermediate authentication. By this scheme any node can transmit an unlimited number of messages without threshold problem and also provide message source privacy.

Index Terms — Authentication, Public key cryptography, Symmetric key cryptography, Source privacy

Parameter Optimization of Wire EDM in a Range of Thickness for EN8 Die Steel

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Abstract— Wire Electrical Discharge Machining (WEDM) is also known as an electro thermal production process in then, nor electricity) allows the wire to cut through the metal by the use of heat from electrical sparks. The present work process approach to parameter optimization in wire electric discharge machining of EN-8 die steel (of thickness 50 and 75mm) using Taguchi method which optimizes four process parameters (factors) such as pulse ON time, pulse OFF time, current, voltage and two important response such as material removal rate (MRR) and in surface roughness (Ra –average roughness) of machined workpiece is considered in this study. Taguchi is an efficient search technique, is used to obtain the optimal setting of the desired responses and to avoid the conflicting nature of response. Taguchi designs focus on reducing variability, as well as setting the mean to target.

Index Terms— EN8 die steel, Thickness, Material removal rate, Surface roughness, Taguchi technique.

Robust Human Emotion Analysis Using LBP, GLCM AND PNN classifier

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Abstract—The project presents recognition of face expressions based on textural analysis and PNN classifier. Automatic facial expression recognition (FER) plays an important role in HCI systems for measuring people's emotions by linking expressions to a group of basic emotions such as disgust, sadness, anger, surprise and normal. This approach is another version made to protect the network effectively from hackers and strangers. The recognition system involves face detection, feature extraction and classification through PNN classifier. The face detection module obtains only face images and the face region which have normalized intensity, uniformity in size and shape. The distinct LBP and GLCM are used to extract the texture from face regions to discriminate the illumination changes for texture feature extraction. These features are used to distinguish the maximum number of samples accurately. PNN classifier based on discriminate analysis is used to classify the six different expressions. The simulated results will provide better accuracy and have less algorithmic complexity compared to facial expression recognition approaches.

Index Terms — Distinct Local Binary Pattern (LBP), First Ordered Compressed Image, Gray Level Co-occurrence Matrix (GLCM) and Probabilistic Neural Network (PNN) Classifier, Triangular Pattern

Auxetic Materials

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Abstract— Auxetic materials are known for their peculiar behavior unlike conventional materials the thickness of these materials increase under the action of axial pull. In this paper we are going to study the properties of Auxetic materials , their occurrence in nature, methods of synthesis, applications. Our ideas of other possibilities to make use of these materials. The current status of research into auxetic (negative Poisson's ratio) materials is reviewed, with particular focus on those aspects of relevance to aerospace engineering. Developments in the modelling, design, manufacturing, testing, and potential applications of auxetic cellular solids, polymers, composites, and sensor/actuator devices are presented. Auxetic cellular solids in the forms of honeycombs and foams are reviewed in terms of their potential in a diverse range of applications, including as core materials in curved sandwich panel Composite components, random applications, directional pass band filters, adaptive and deployable structures,MEMS devices, filters and sieves, seat cushion material, energy absorption components, viscoelastic, damping materials and fastening devices.

In this paper we are going to put forward our proposals of using auxetic materials in helmet, seat of a bike, car bumpers.

Index Terms— Auxetic Materials, Auxetic foam , Formation of Dome shape, Negative Poisson's Ratio, Novel behavior.

Analysis of leakage current calculation for nanoscale MOSFET and FinFET

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Abstract— This paper presents logic level estimators of leakage current for nanoscale digital standard cell circuits. Here the proposed estimation model is based on the characterization of internal node voltages of cells and the characterization of leakage current in a single Field-Effect Transistor (FET). Finally the estimation model allowed direct implementation of supply voltage variation impact on leakage current and output voltage drop (loading effect).The technique is feasible for implementation in Hardware Description Language (HDL) and HDL cell models supporting leakage estimation at simulation time.

Index Terms — FET, HDL, Leakage current, Standard cell

ARM Based Climate Controlled Wearable Jacket

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Abstract— Thermo-electric (TE) technology is used in both electricity generation and air-conditioning. The Thermo-electric coolers(TEC) uses Peltier effect which converts the electrical energy applied from the ends of the Thermo-electric module into the temperature difference. The main objective of the work is to design a highly reliable and wearable jacket that controls extreme temperatures say working in thermal power plants, within the jacket. The extreme temperatures can be monitored using temperature sensors placed on both sides of the Thermo-electric cooler module and controlled using ARM LPC2148 Microcontroller. In Industries, this jacket provides a more practical and safer solutions for human working under extreme temperatures. Furthermore, this jacket can also be applied as a good warmer one for human beings working in cold regions(say Polar regions).

Index Terms— ARM7 LPC2148 Microcontroller, Heat dissipation, Monitoring and Controlling Temperatures, Peltier effect, Temperature Sensor, Thermo-electric Cooler (TEC) Module, Wearable Jacket.

Surveillance Robot For Military Application Using ARM

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Abstract—In the modern day robotics development in many field as too that enrich in military applications also as per that this robot SURVEILLANCE MONITORING ROBOT FOR MILITARY APPLCATION USING ARM monitor the defense area that is in our country borders. It is an forest area and every time commanders were not available in same area they move over different places at that time terrorist can easily enter into our nation. This robot perform main role there that PIR sensor in the robot will send the intimation and danger warning to the control room that unauthorized person entering that time we alert our soldiers to move to that place this operation were control using ARM7 controller. Another important component GPS exactly say which position the robot is now monitoring then it will be easy to soldiers to survey the area soon.And for communicating between control room and robot we are using ZIGBEE.Another one sensor TEMPERATURE SENSOR LM35 is used to monitor temperature in that area that is used to intimate us what is the temperature level in that area if any BOMB BLAST OR FIRE ACCIDENT in that area.

Index Terms — ARM7(LPC2148),PIR,ZIGBEE, GPS,TEMPERATURE SENSOR LM35,IR SENSOR

Design and Analysis of Turbine Blades in a Micro Gas Turbine Engine

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Abstract— This paper is based on the design and analysis of turbine blades in a micro gas turbine engine. Micro-gas turbine engines offer advantages over the other technologies for small-scale power generation. A combustor is the heart of any engine; where in the micro gas turbine, it should be compact, simple, inexpensive and robust in construction. The burned gases from the combustor pass through the turbine blades. The designing and manufacturing of the turbine blades are very difficult when the blade angle, blade size and shape are considered. The design of the turbine blade passages is broadly based on aerodynamic considerations and it is to obtain optimum efficiency, compatibility with compressor and combustor design. For this, the specifications of many micro gas turbine engines are taken by conducting a literature survey to get the design data for an apt turbine blade. By these values, the flow parameters of the engine are obtained and are taken for analyzing purposes to get increased momentum thrust. Here, the design is done by using the software CATIA and it is then exported to FLUENT for analyzing. The result shows that the estimated design and performance is achieved.

Index Terms— Blade angle, CATIA, FLUENT, Micro Gas Turbine engine, Turbine blades.

Segmentation and Classification of Lung Nodule in Chest Radiograph Image

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Abstract— Image segmentation plays a vital step in medical image processing. Lung cancer is the largest cause of tumor deaths. Since the nodules are commonly attached to blood vessels, detection of lung nodules is the challenging task .By early detection the lung cancer can be completely recovered. Especially in the case of lung nodule detection Computer Aided Detection (CAD) is effective for the improvement of radiologists' diagnosis. In this paper an efficient lung nodule detection scheme is developed by performing nodule segmentation through Fuzzy C-Means (FCM) and Virtual Dual Energy (VDE). Here the input image is considered as an radiograph image, then the lung is segmented by using Multi segment Active Shape Model (MASM). Finally neural network classifies as a nodule or non-nodule candidates.

Index Terms — Chest Radiography (CXR), Computer Aided Diagnosis (CAD), Fuzzy C-Means (FCM), Virtual Dual Energy (VDE), Multi Segment Active Shape Model (M-ASM).

Survey on Error Control Coding Techniques

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Abstract—Error Control Coding techniques used to ensure that the information received is correct and has not been corrupted, owing to the environmental defects and noises occurring during transmission or the data read operation from Memory. Environmental interference and physical effects defects in the communication medium can cause random bit errors during data transmission. While, data corruption means that the detection and correction of bytes by applying modern coding techniques. Error control coding divided into automatic repeat request (ARQ) and forward error correction (FEC).First of all, In ARQ, when the receiver detects an error in the receiver; it requests back the sender to retransmit the data. Second, FEC deals with system of adding redundant data in a message and also it can be recovered by a receiver even when a number of errors were introduce either during the process of data transmission, or on the storage. Therefore, error detection and correction of burst errors can be obtained by Reed-Solomon code. Moreover, the Low-Density Parity Check code furnishes outstanding performance that sparingly near to the Shannon limit.

Index Terms— Error control coding (ECC), Forward Error Correction (FEC), Reed-Solomon (RS) code, Redundancy,Low- Density Parity Check (LDPC) code.

Comparative Study on Watermarking and Image Encryption for Secure Communication

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Abstract—Over the past decades, research in security has concentrated on the development of algorithms and protocols for authentication, encryption and integrity of data. Despite tremendous advances, several security problems still afflict system's. In this android app watermarking and encryption is being applied on images and data. Because of the human visual system's low sensitivity to small changes and the high flexibility of digital media, anyone can easily make small changes in digital data with low perceptibility. Here watermarking and encryption are being performed in wavelet domain. Here in watermarking, the coefficients of watermarks are being embedded with the coefficients of the original image. Encryption is being done in wavelet domain so that the probability of an intruder trying to access the contents is very much minimized. Thus, this model provides a high level of security.

Index Terms — Security, wavelets, watermarking, encryption, intruder.

Efficient Optical Burst Switched Networks using Ant Colony Optimization

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Abstract— Usage of internet is increasing day by day which also increases the consumption of energy. With increasing number of high bandwidth application devices used in optical network (backbone network), optical technologies play a vital role in improving the energy efficiency. A self-organizing ant colony optimization(ACO) is implemented for networks where traffic is dynamic or heavy and network topologies frequently changes. In this paper ACO technique is introduced in optical networks by using optical burst switching (OBS).The routing assignment (RA) problem encountered in optical burst switched network is investigated through Ant Colony Optimization (ACO) technique.Optical burst switching (OBS) is an optical networking technique used in this paper which is a compromise between optical packet switching (OPS) and optical circuit switching (OCS). Simulation results demonstrate that ACO successfully supports various multimedia services with diverse delay requirements while increasing the network throughput .This also show that ACO autonomously redistributes the congested traffic and resists the unexpected network failures.

Index Terms— Ant colony optimization, Optical fiber communication,Optical burst switchingalgorithms, routing path,routing assignment (RA).

Activity Recognition From IR Images Using Fuzzy Clustering Techniques

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Abstract— Infrared sensors ensure that activity recognition is possible in the day and night times. It is used especially for activity monitoring of older adults since falls are more prevalent at night than during the day. This paper focus on an application of fuzzy set techniques and it is capable of accurately detecting several different activity states related to fall detection and fall risk assessment and it also includes sitting, standing and being on the floor to ensure that elderly residents get the help they need quickly in case of emergencies. Fall detection and fall risk assessment is used for an aging in place facility for the elderly people. It describes the silhouette extraction process, the image features , and the fuzzy clustering technique.

Index Terms — Activity labeling, Fuzzy clustering, Image moments, Infrared camera.

Secure Transmission of Patient Physiological Information in Point of Care System

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Abstract— With an increase in the population of aged people with health issues, nowadays the significance of ECG based remote patient monitoring system as a point of care (PoC) application in the hospitals is getting increased. Patient ECG signal and other physiological information like body temperature, blood pressure, and glucose level, etc., collected by the body sensor networks will be transmitted to the central hospital servers. After processing this information, the system sends the alerts to the doctors if any abnormal condition arises. The major problem with this scenario is, the confidentiality of these information must be potted while the transmission over public channel and storing in the hospital servers. In this paper, an ECG steganography based cryptographic technique is proposed to preserve the confidentiality of the information. The proposed algorithm conceals the encrypted patients' information in the ECG signal without affecting the quality of that signal. It uses the cryptography and ECG steganography techniques to preserve the confidentiality of the patients' information. The effectiveness of the proposed algorithm is evaluated by comparing with the existing algorithms. It is proved that the proposed algorithm is more secure with high processing speed and low distortion of data and host ECG signal.

Index Terms— Point of care system, ECG, cryptography, wavelet, confidentiality, steganography

A Research Based Study on Evolution of 5G

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Abstract—This paper is a platform in the mobile computing philosophy with respect to end user associated to customary 3G connectivity and almost on the edge of entering 4G mobile network technology and this speed technology is known here – the 5G. We are aware of wireless network and mobile networks which have made outstanding development in the past twenty years. At present, 3G mobile networks are preserving IP connections worldwide for all real and non-real time operations. Afterwards, the platform of 4G is already consulted and it is sure that 4G constitutes contrasted standards, as in 3G but there is one exception of IEEE 802.XX wireless network connection which is present in this network from the initial progress phase. Our future minds are actively waiting for fifth generation technology which is based on the user is the topmost preference of system. Each network in 5G mobile phones will be capable of handling user mobility. There will be new and advance error avoidance methods which protects network from destructive attacks. As a whole, growth in technology reaches our lives to step forward ahead.

Index Terms — cellular generations, analog, digital, 5G, mobile users

Text Categorization Using Improved K Nearest Neighbor Algorithm

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Abstract— Text categorization is the process of identifying and assigning predefined class to which a document belongs. A wide variety of algorithms are currently available to perform the text categorization. Among them, K-Nearest Neighbor text classifier is the most commonly used one. It is used to test the degree of similarity between documents and k training data, thereby determining the category of test documents. In this paper, an improved K-Nearest Neighbor algorithm for text categorization is proposed. In this method, the text is categorized into different classes based on K-Nearest Neighbor algorithm and constrained one-pass clustering, which provides an effective strategy for categorizing the text. This improves the efficiency of K-Nearest Neighbor algorithm by generating the classification model. The text classification using K-Nearest Neighbor algorithm has a wide variety of text mining applications.

Index Terms—Text Categorization, K Nearest Neighbor classifier, One-pass clustering, document class, training data, test data, classification model

Wearable Sensors For Healthcare With An Intelligent formation Forwarder

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Abstract— A system is presented using wearable sensor[3] which is based on the combination of ontology's, rules, web services, autonomic computing paradigm for the purpose of continuously monitoring a person's health parameters. The system not only integrates the user's clinical data management but also technical data management of all devices that are included in the scenario. A challenge in this system is the development of context awareness through the multidimensional, dynamic, and nonlinear sensor readings that have a weak correlation with observable human behaviours and health conditions. In order to address this challenge, a sensor system with an intelligent information forwarder (IIF)[3]is used. The intelligent information forwarder is implemented using hidden Markov model (HMM)[7][9] for human behaviour recognition. The IIF can provide sensors with context awareness by transmitting only the important information to corresponding server for analytics. A s ensitive hashing technique is also used to provide an efficient mechanism to learn sensor pattern. Hence the proposed system monitors the user's health and provides an alert signal when the health parameters are critical.

Index Terms — Ontology, Sensitive Hashing, Hidden Markov Model.

Cloud based MED search application

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Abstract— To find a medical shop that contains the item which user want to buy is rare .So we develop this project that is used by the users to find the medical shop that contains their needed medicine. The authentication of the query results at the client remains a challenging problem. This allows a client to verify the correctness and completeness of the result set. The approach is based on neighborhood MED shop information derived from underlying medical item data and can handle fundamental spatial query types.

Index Terms— Spatial query, SQL, geometries, MED, database

Moving Object Detection Enhanced with Background Subtraction

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Abstract—The investigation system in the past deals with the persistent and transient objects within selected atmosphere. This will be applied not solely to numerous security systems, however additionally to environmental police investigation. The essential principle of moving object is given by the background subtraction algorithmic program. Then, a self-adaptive background update automatically adapt to the changes in atmosphere. Once the subtraction of this captured image along with the background reaches a definite threshold, a moving object is taken into account, and also automatically informs the central unit or the user through telephone, SMS (Short Message System).

The proposed system enables very little memory consumption and memory space. In this low price hardware are used and used with simple mobile phones. In projected system we had implemented background subtraction for extracting moving object by (SVM) Support Vector Machine algorithms. The topics are acquiring completely different angles to the camera plane, on completely different image scales. This trained SVM is that the core of an individual's detection algorithmic program that searches optical flow pictures for human-like motion patterns. A SVM builds a collection of hyper planes in a very high or multi-dimensional house is used for regression and classification. Top quality of the separation is gained by generating a functional-margin which provides the suitable distance between the closest computer file points.

Index Terms — Support Vector Machine algorithms, memory consumption, memory space

Improving Efficiency of Security in Multi-Cloud

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Abstract— Due to risk in service availability failure and the possibilities of malicious insiders in the single cloud, a movement towards "Multi-clouds" has emerged recently. In general a multi-cloud security system there is a possibility for third party to access the user files. Ensuring security in this stage has become tedious since, most of the activities are done in network. In this paper, an enhanced security methodology has been introduced in order to make the data stored in cloud more secure. Duple authentication process introduced in this concept defends malicious insiders and shields the private data. Various disadvantages in traditional systems like unauthorized access, hacking have been overcome in this proposed system and a comparison made with the traditional systems in terms of performance and computational time have shown better results.

Index Terms— Cloud Computing, Cloud Security, Cloud Performance, Multi Cloud.

Robotic System For Upper Limb Rehabilitation

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Abstract— Currently, cerebrovascular diseases are one of the main health problems. Part of the patient's rehabilitation process, affected by this disease, is manually performed by a physiotherapist, which, due to physical exhaustion, could affect the performance of patient recovery. In this paper is proposed a robotic exoskeleton for upper limb rehabilitation, which enables assist or supports the therapist's work. In the first stage, the exoskeleton is controlled passively through programmed commands and routines. Later, a second stage is proposed for biofeedback control system using the exoskeleton and signals acquired through bioinstrumentation equipment. This system will allows the acquisition of the surface electromyography signals (sEMG), as well as proprioceptive information for signal processing and movement's intention detection of upper limb. As results, are presented the implementation of robotic arm commanded passively and the bioinstrumentation equipment is presented. In the rehabilitation field, this assistive technology will enable to medical staff, to contribute to recovery and welfare of the patient, affected by some kind of muscular dysfunction, with major effectiveness.

Index Terms— robotic exoskeleton, bioinstrumentation system, muscular rehabilitation, surface electro-myographic signals.

An Effective Method of VOC Parameter Monitoring and Controlling using Wireless Sensor Network

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Abstract— In indoor environment several volatile organic compound(VOC) pollution levels are to be maintained for health and comfort of individuals. The primary aim is to design a low-power wireless sensor network for use in the real time data acquisition, communication and controlling of data concerning air pollutants levels from VOCs in hazardous zones. The preliminary experimental system demonstrate the wsn system with high level of monitoring which is suitable for automated environmental monitoring. Here we have proposed the formation of wireless sensor network that uses a wireless transceiver device which operates at the industrial, scientific and medical (ISM) radio band and consumes less power and a receiver containing system which can monitor voc concentration and automatically take the necessary control actions. The network consists of sensors with photo ionization detectors (PIDs), routers that propagate the network over long distances, the network also consists of computer system connected to the receiver system through a serial port where the levels of VOC are continuously updated. This system can be used in industries and mine fields for keeping the indoor VOC level under safe limit.

Index Terms— Monitoring, photo ionization detector, transceiver, wireless sensor network, VOC.

Enhancing Productivity by Adopting Lean Concepts in Compressor Packing Area

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Abstract—Assembly Line production is one of the widely used production systems. The difficulty of assembly Line Balancing deals with the allocation of actions among the workstations which guide to the maximum utilization of human resources and amenities without troubling the work progression. Assembly lines are conventional and still attractive means of large-scale production. Since the time of Henry Ford, numerous developments have been taken place in production systems which changed assembly lines from firmly paced and straight single-model lines to more flexible systems as equivalent workstations, customer-related mixed-model and multi-model lines, U-shaped lines and unpaced lines with in-between buffers. In this paper a problem of line balancing in compressor packing area has been discussed using ranked position weighted (RPW) method.

Index Terms — Assembly line balancing, RPW method, Productivity, Takt time, Cycle time

Effectiveness of Increased and Efficient Sine wave in PWM Architecture

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Abstract— The pure sine inverter, which is also referred to as a "true" wave, utilizes so as to produce your appliances with power. A wave, that is created by rotating AC machinery, is that the sort of wave that is usually provided by the utility company with the assistance of a generator. The benefits of using a pure sine wave inverter includes Square wave output is sometime harmful for the electrical devices. All equipment currently on the market is designed for use with function waves. Some appliances, notably microwaves and variable speed motors, won't turn out full output if they are doing not use sine wave power. Some appliances, such as light dimmers and bread manufacturers, won't work all while not wave power. A real wave supply is created most simply for prime power applications through rotating electrical machinery like armed services gas-turbine generators, house-hold diesel or gasolene backup generators, or the varied generators utilized by power firms that use a shaft source to make associate AC current.

Index Terms— PWM, Pure Sine Wave Inverters, PSIM

Quality Prediction in Fingerprint Compression

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Abstract — A new algorithm for fingerprint compression based on sparse representation is introduced. At first, dictionary is constructed by sparse combination of set of fingerprint patches. Designing dictionaries can be done by either selecting one from a prespecified set or adapting a dictionary to a set of training signals. In this paper, we use K-SVD algorithm to construct dictionary. After computation of dictionary, the image gets quantized, filtered and encoded. The resultant image obtained may be of three qualities: Good, Bad and Ugly (GBU problem). In this paper, we overcome the GBU problem by prediction the quality of image.

Index Terms — Compression, DCT, DWT, Fingerprint, Histogram, K-SVD, Sparse representation.

Implementation of GPS and Sensor Assisted System for Secure Navigation of Fishermen

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Abstract— Frequent incidents of fishermen from Tamil Nadu getting shot in the Sri Lankan's maritime boundaries have enraged all citizens of the state. From the fishermen's point of view, straying takes place inadvertently, due to sheer ignorance about maritime boundaries. The main aim of the system is to help the fishermen not to navigate beyond other country's border. If the fisherman approach border it gives voice message /LED display/alarm indicating that the fisherman has nearing the border. If they try to move forward then automatically motor of the ship/boat will stop. Additionally, there is an emergency switch available on the boat that can be used during danger / hijack. If the switch is pressed, a message transmitter is interfaced with the device will send a message to base station/coastal guard about location and the boat number using GPS. As well as other information such as Tsunami and weather can be indicated to the fishermen by using vibration and humidity sensor. On the whole, it is an attempt to build a suitable device for safe and secure navigation of fishermen around The Indian ocean at a reasonably low cost.

Index Terms— GPS, Hijack alert system, RF, Sensors

Study on Microstructure and machining characteristics of 7% B_4C_p reinforced in Aluminium6061 MMC produced by stir casting

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Abstract—The specimen was casted with the reinforcement B_4C_p (7wt. %) and matrix Al6061 by Stir casting method to study its microstructure and machining characteristics. The microstructure was observed by using computerized optical microscope. The machining characteristics of Al6061-B4Cp depend on different parameters like depth of cut, feed rate and cutting speed. Therefore the effects were studied by varying one of the parameters and keeping the other two as constant. After machining, the surface was examined by using Insize digital optical microscope analyzer to know the condition of the machined surface.

Index Terms — Reinforcement, Matrix, Stir casting, Microstructure Machining, Depth of cut, feed rate, cutting speed, BUE.

The use of composite materials in Aviation industry-An Insight into recent trends in composite materials

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Abstract— In the recent decade a paradigm shift occurred in the engineering materials domain and bountiful innovations were done in the area of material research. Certain engineering application requires high strength materials which cannot be substituted by a single engineering material. Composite materials are heterogeneous engineering construction materials which are revolutionizing engineering industries and rapidly replacing conventional materials. One such industry which is highly demanding and requires most advanced construction materials is aviation industry. The recent increase in the number and varieties of aircraft paved the way for most advanced research works in the area of materials. Many materials were invented in the recent decades which are rapidly substituting conventional materials. In this article an attempt is made to analyze various composite materials used in aircraft construction. An insight is given about various composite materials, alloys, composite plastics which are used in aircraft construction. Various engineering properties of the newly invented material and also their pro's and con's were also discussed in detail.

Index Terms—Composite Materials, Nano Material, Nanoplastics, Fiber reinforced plastics,Applications.

A 9 Bit Pipelined Time to Digital Converter Using Time Register

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Abstract— Time to digital converter has applications as a time interval measurement device which converts input time interval into a digital output code. It is used in the laser ranger finder, positron emission tomography, digital storage oscilloscopes. The ultimate aim of the project is to increase the speed of conversion and to increase the dynamic range. For this, pipelined operation is used and time-register is used to store time information with a clock signal. Along with a pulse train time amplifier, a 2.5 bit pipeline stage and a 3 bit delay line stage is implemented in 180 nm CMOS process achieves dynamic range of 1760ps per stage.

Using pipelined architecture, we can achieve high speed. Pipelined architectures rely heavily on the storage and processing of analog signals. This can be easily implemented in CMOS or BiCMOS technologies, where sampling switches and high-input-impedance devices are readily available.

Index Terms — gated delay cells,time to digital converters, time registers,time amplifers, pipeline , pulse train time amplifier.

Design of Rear wing for high performance cars and Simulation using Computational Fluid Dynamics

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Abstract— The performance of a sports car is not only limited to its engine power but also to aerodynamic properties of the car. By decreasing the drag force it is possible to reduce the engine power required to achieve same top speed thus decreasing the fuel requirement. The stability of a sports car is considerably important at high speed. The provision of a rear wing increases the downforce thus reducing the rear axle lift and provides increased traction. In this study an optimum rear wing is designed for the high performance car so as to decrease drag and increase downforce. The CAD designed baseline model with or without rear wing is being analyzed in computational fluid dynamics software. The lift and drag coefficient are calculated for all the design thus an optimum rear wing is designed for the considered baseline model.

Index Terms— CAD, CFD, downforce, drag, lift, rear wing, traction

EETA: Enhancing and estimating the transformation of attacks in android application

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Abstract— Android app security plays a major role in the entire mobile development industry. We tend toevaluate theindustrial mobile anti-malware merchandise forAndroid and take a look athowever resistant they're against numerous commonobfuscation techniques (even with identified malware). Such anevaluation ensureout theredefense against mobile malware threats, howeverconjointly proposing effective,next-generation solutions. We tend to use DroidChameleon,a systematic framework with numerous transformation techniques is used for enhancing and evaluating the attacks. The majority of the existing toolswill be triviallydefeated by applying slight transformation over identified malwarewith very little effort for malware developers. Finally, in light-weight of ourresults, we tend to propose potential remedies for upthisstate of malware detection on mobile devices.

Index Terms — Android App security, Antimalware, Transformation attacks

Two Step Design for Personal Authentication Using Finger Vein Recognition and GSM Technology

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Abstract— This paper has proposed another methodology of constant implanted finger vein distinguishment alongside GSM innovation for individual validation and security is made. [1]Unique human attributes are utilized to distinguish an individual or to confirm a character. Finger vein recognizer, is utilized as a first level security for a confirmation process furthermore for showing or alarming unapproved individual if entered. The equipment is the procedure with the assistance of Finger vein recognizer and transformed utilizing MATLAB programming, which is modest and dependable in all the structures. GSM innovation is utilized as a second level security, where the client sends a Novel code to the GSM recipient which on distinguishment sends a secret key to the Client for opening. [2]The proposed framework takes just 0.5 seconds to confirm one info finger vein test and the normal mistake rate (ERR) of 0.06.

Index Terms— finger vein technology, GSM SIM 300 technology, Security, MATLAB, Personal authentication.

DSM based low over sampling using SDR transmitter

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Abstract— The oversampling recruitment is a limiting factor in high frequency application such as software defined radio. This project is a high frequency processing and low oversampling ratio. A single bit semi parallel processing is proposed in this paper. Using this single bit PDSM Architecture, high speed, high complexity computations are executed in parallel. The single bit DSM is to build an RF transmitter that includes a one bit quantifier with two level switching power amplifier for high linearity and high efficiency. Performance analysis by using the MATLAB simulations by reducing the oversampling ratio by same signal to noise ratio. The DSM implemented on field programmable gate array and using a signal code division multiple access signal. This project will give bandwidth of the low oversampled signal increased four times without increasing frequency. Finally they can be achieved signal to noise ratio is very low and also oversampling ratio is small

Index Terms — Delta sigma modulator, PDSM, SDR, oversampling.

Design and Analysis of Helical Coil Spring in Suspension System

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Abstract— In a vehicle, problems happen while driving on bumping road condition. The aim of our project is to design and analyze the performance of Shock absorber by changing the wire diameter of the coil spring. The Shock absorber is one of the Suspension systems is designed to handle shock impulse and dissipate kinetic energy. It decreases amplitude of disturbances leading to increase in comfort and improved ride. The spring is compressed when the wheel strikes a bump. The compressed spring rebound to its normal dimension which causes the body to lift up. The spring goes down below its normal length when the weight of the vehicle pushes the spring down. The spring bouncing process occurs again and again, until the up-and-down movement finally stops. Hence, spring design in a suspension system is utmost crucial. The analysis is performed by considering the bike mass and with persons seated on the bike. Comparison is done by changing the wire diameter of the coil spring to check the best dimension for the spring in shock absorber. Modeling and Analysis is done by using Pro/ENGINEER and ANSYS respectively

Index Terms— CAD, CFD, downforce, drag, lift, rear wing, traction

An Efficient System of Electrocardiogram Data Acquisition and Analysis Using LABVIEW

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Abstract— The Electrocardiogram has a vital role in the diagnosis of heart related diseases. Through the technology has improved a lot, still we cannot reduce a death because of patient gets delay in reaching the hospital. In medical emergency, saving a single minute is worthwhile. The ultimate aim of this work is to develop a handy cost effective Data Acquisition (DAQ) and analysis system for ECG. This DAQ comprises of several modules like Analog to Digital Converter (ADC), power supply, amplifiers, isolators, filters and interfacing circuits. This system chiefly intends to collect the ECG signal is highly useful in clinical application such as diagnosing the problems like tachycardia, bradycardia, IInd degree heart block, myocardial infarction, etc. ECG signal will be collected from the patient using 3 lead ECG sensors and given to NI ELVIS DAQ will then transfer the signal to laptop through NI6008 data acquisition card. The Graphical User Interface (GUI) in LabVIEW software is also developed to incessantly monitor the ECG signal traces and record the ECG data with high accuracy, and from the ECG signal is analyzed using LabVIEW software and the data is send to hospital through wireless transmitter prior to ambulance reaching the hospital. Also 104 is configured further proficiency of treatment to patient. This system is applicable in the people crowded area to diagnose heart related emergency and read the ECG value with the help of a medical physician.

Index Terms — LabVIEW:Laboratory Virtual Instrumentation Engineering Workbench, DAQ: Data Acquisition System, GUI:Graphical user interfaces, ELVIS: Educational Laboratory Virtual Instrumentation Suite.

QOS Oriented Relay Selection and Converge casting in Wireless Sensor Networks

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Abstract— In this paper, a method called Enhanced Relay Selection based on QoS-factors (ERS-QoS) is proposed for relay selection in wireless sensor networks. The selection of relays is accomplished by computing the factors like energy level, throughput, and delay of the nodes, and based on the weight value of relay nodes; they are selected to transfer data from source to the sink. This is used to improve the QoS in the existing method. In the existing system ALBA-R, a protocol for convergecasting in wireless sensor network is used. ALBA-R combines geographic routing, handling of dead ends, MAC, awake-asleep scheduling, and back-to-back data packet transmission for achieving an energy-efficient data gathering mechanism. The drawbacks of this method is , it provides less quality-of-service in terms of throughput, packet delivery ratio and end-to-end delay .Through ns2 based simulation results we show that the proposed method achieves high quality-of-service when compared to the existing method.

Index Terms— Convergecasting, Geographic routing, Relay Selection, Wireless sensor networks, Quality of service

Modified CI Engine Performance by Varying Injection Timing

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Abstract— The ever increasing consumption of fossil fuel and petroleum products has been a matter of great concern for India. The huge outflow of foreign exchange on one hand and the increase in the price of crude oil on the other hand have affected the development of the country in contest of energy security.

The consumption of diesel fuel is six times higher than that of gasoline in India and even a minute percentage of efficiency improvement for diesel fuel will save a considerable amount of foreign exchange. The energy consumption can be minimized by improving the efficiency of equipment i.e. CI engine.

The present work where the modification of C I engine has been done, so as to induce turbulence for enhancing the vaporization characteristics of fuel in a combustible mixture by providing a rotating blade in the crown (bowl) of the reciprocating piston located in the main combustion chamber. The oscillation of the connecting rod causes the blade to rotate by an angle of 60°. This arrangement induces the turbulence in a combustible mixture during engine operation, there by facilitating a better combustion performance.

The effects of operating parameters by in turbulence, varying injection pressure and injection timing on performance characteristics of diesel fuelled a compression ignition engine are to be investigated.

Index Terms — Android App security, Antimalware, Transformation attacks

Dynamic Authentication for Autonomous Mobile Mesh Networks

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Abstract— In Mobile Adhoc Networks fixed infrastructure is unavailable.Limitation of MANET is it suffers from network partitioning. Autonomous Mobile Mesh Networks(AMMNET) is a collection of client nodes and routers deployed in its location.Due to mobility,movement of nodes and routers takes place.Nowadays Autonomous Mobile Mesh Networks make use of inter group router,intra group router,free router,bridge router for communication between client nodes in every application.AMMNET supports inter group router to prevent network partitioning.The simulation results indicate that dynamic authentication can be provided in the topology with free routers to find the missing client and to provide secure communication.

Index Terms— Tracking missing client,topology adaption,secure communication.

Service Level Grade Using Web Ranking Framework for Web Services in Cloud Computing

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Abstract— Quality of Service (Qos) plays a critical role in the active reservation of resources within service oriented distributed systems. The Cloud Computing, continues the natural evolution of Distributed Systems to cater for changes in application domains and system requirements. Virtualization of resources, a key technology underlying Cloud Computing to be investigated in Quality of Service . Quality of Service has been an issue in many of the Distributed Computing paradigms, such as Grid Computing and High Performance Computing. This paper intends to outline and a maneuver that measures the excellence and positions cloud facilities for the users. Cloud vigorous outline by taking the benefit of past facility practice experiences of extra users. So it can evade the time overwhelming and luxurious real life facility invocation. This practice determines the Quality of Service location straight using the two modified Quality of Service a location forecast ways namely, CloudRank1 and CloudRank2. The core willpower is a location forecast of client lateral Quality of Service properties, which likely have unlike values for dislike operator of the same Cloud service. It approximations all the applicant facilities at the user-lateral and vigorous the facilities founded on the experiential Quality of Service values.

Index Terms— finger vein technology, GSM SIM 300 technology, Security, MATLAB, Personal authentication

Microstrip Circular Patch Antenna for WLAN and WIMAX Applications

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Abstract—This paper deals with the Microstrip Circular Patch Antenna for WLAN / WiMAX Applications. The proposed antenna operates at WiMAX / WLAN frequency bands. The proposed antenna has the substrate of Glass Epoxy FR4 with dielectric constant of 4.3 and patch diameter of 34mm with dielectric loss of 0. The Coaxial feeding technique is used to feed the antenna with 75 ohm impedance. The radiation performance, such as VSWR, Return loss, Radiation pattern and Gain of the antenna are simulated using ANTENNA MAGUS 5.2.

Index Terms — Reflection coefficient, Circular Patch antenna, Radiation pattern, VSWR, Gain.

Medical Algorithm For Hepatitis-B Identification Using Phototheraphy

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Abstract— The infant liver has a restricted capacity to process unconjugated bilirubin. Consequently, newborn children are inclined to an amassing of unconjugated bilirubin, and can create jaundice. As of late, light transmitting diodes which work in the 410 - 490 nm wavelength reach have been created. These gallium nitride sapphire LEDs can deliver high irradiance with low power necessities. These LEDs discharge light inside the top ingestion scope of bilirubin, are ease, and have long operational lifespans. Bilirubin can be portrayed as the yellowish substance that is created by the liver, when old cells are separated. On the off chance that the levels of bilirubin in the body are inside the typical reach, it doesn't make an issue; then again, on occasion it is feasible for the measure of bilirubin in the body to climb to an abnormal state, which thus can prompt genuine wellbeing entanglements. Much of the time, a man could experience the ill effects of jaundice, in the event that the levels of bilirubin in the body climb high. Also, if the levels are not controlled soon, it could prompt cerebrum harm as well. Amid the first week of life all babies have expanded bilirubin levels by grown-up measures, with pretty nearly 60% of term babies1 and 85% of preterm children having obvious jaundice. The majority of these cases are kind yet it is vital to recognize those infants at danger of intense bilirubin encephalopathy and kernicterus/endless encephalopathy. Jaundice might likewise be an indication of a genuine fundamental sickness.

Index Terms — Android App security, Antimalware, Transformation attacks

Modelling and Analysis of EEG Signals Based on Real Time Control for WheelChair

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Abstract— Free versatility is center to having the capacity to perform exercises of day by day living without anyone else's input. In this proposed framework introduce an imparted control construction modeling that couples the knowledge and cravings of the client with the exactness of a controlled wheelchair. Terminals were utilized to catch an Electroencephalogram (EEG) from the cerebrum to manufacture a mind PC interface (BCI) based constant control for wheelchair to help the extremely impaired persons. To accomplish this objective Wavelet Packet Transform (WPT) was utilized for gimmick extraction of the significant recurrence groups from EEG signals. Outspread Basis Function system was utilized to characterize the predefined developments, for example, rest, forward, regressive, left and right of the wheelchair. This EEG-based cerebrum controlled wheelchair has been produced for utilization by totally incapacitated patients. The proposed outline incorporates a novel methodology for selecting ideal terminal positions, a progression of sign transforming and an interface to a controlled wheelchair.The Brain Controlled Wheelchair (BCW) is a basic automated framework intended for individuals, for example, bolted in individuals, who are not ready to utilize physical interfaces like joysticks or catches. The objective is to add to a framework usable in healing centers and homes with insignificant base alterations, which can help these individuals recover some portability. The principle test is to give ceaseless and exact 2D control of the wheelchair from a Brain Computer Interface, which is regularly portrayed by a low data exchange rate.

Index Terms— Electro Encephalo Gram, Brain Computer Interface

Design of Non Invasive Blood Glucose Monitoring Using NIR Sensor

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Abstract— Diabetes is a metabolic pathological condition of concern, which affects vital organs of body if not diagnosed and treated on time. Regular monitoring of blood glucose is important to avoid complication of diabetes. Commonly used glucose measurement methods are invasive which generally involves finger puncturing. These methods are painful and frequent pricking cause calluses on the skin and have risk of spreading infectious diseases. Therefore there is need to develop a non-invasive monitoring system which can measure blood glucose continuously without much problem. The present work is focused on development of non-invasive blood glucose measurement sensor system using special type of Glucose sensor. The proposed work introduces an architecture that uses Near Infrared sensors which is used to determine blood glucose levels based on reflectance levels on the finger. This real-time architecture is implemented using ARM LPC2148 and the values are displayed in real time

Index Terms— NIR sensor, Blood Glucose Level, Pulse rate, ARM LPC2148

INTERNATIONAL JOURNAL FOR TRENDS IN ENGINEERING AND TECHNOLOGY
ISSN:2349-9303

INTERNATIONAL JOURNAL FOR TRENDS IN ENGINEERING AND TECHNOLOGY

ISSN: 2349 - 9303

No 165, 5th Street, Gandhipuram, Coimbatore - 641 012
M: +91 90 953 953 33 | E: ijtetjournal@gmail.com | W: www.ijtet.com