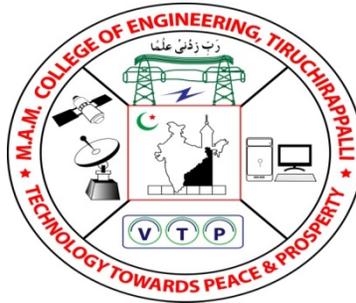


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International Conference on Electrical, Information and Communication Technology (ICEICT-2015) is a premier international conference which aims at current challenges in science and technology. This Conference welcomes all scientists, engineers, technocrats and researchers from all the walk of society to share their knowledge

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I am also thankful to our sponsoring organizations that have come forward in sponsoring ICEICT-2015, without their help it would have been difficult to conduct this convention successfully.

Dr. J. William
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From Editor's Desk

We are now in an era where the technical education is advancing at a very fast pace. The technology emerging today is not only due to research in a particular field but it is now an amalgam of technologies. It is now very important to keep our selves informed of the various researches and development going on and for that it is very important to keep on having conventions where researches and scholars from all sectors can come forward and aid in the technical advancement.

I congratulate all for participating in ICEICT-2015 and making this event a grand success. ICEICT-2015 will not only provide you with a platform for sharing your research work and enriching your knowledge but will also help you in enhancing your research and soft skills.

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ABSTRACT

Optimization of Acoustic Echo and Noise Reduction in Non Stationary Environment

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Abstract: We propose an optimized speech enhancement method that combines acoustic echo reduction and noise reduction in a unified framework for non stationary environment. Simultaneous optimization of noise and echo reduction is already done in stationary environment. In most of the times transmission, signal properties change over time. We need to remove the artifacts of sound in those conditions. recursive least square method proposed for noise and echo reduction. It gives little amount of mean square error and better results. Normally, partial optimization of acoustic echo reduction and noise reduction does not lead to total optimization. A cascade method of multiple functions causes mutual interference between these functions and degrades eventual speech enhancement performance. Unlike cascade methods, the proposed method combines all functions to optimize eventual speech enhancement performance based on a unified framework, which is also robust against the mutual interference problem. With the proposed method, in addition to time-invariant linear filters, time-varying filters are used to reduce residual acoustic echo signal, and background noise signal which cannot be reduced using time-invariant filters.

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QUATERNARY GaN BASED HEMT FOR HIGH FREQUENCY APPLICATION

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Abstract: To achieve high performance in HEMT devices such as high power gain cut off frequency and high current gain cut off frequency and to get maximum drain current and transconductance. By using lattice matched quaternary barrier such as InAlGa_N and re-growing the ohmic contacts in HEMT device. Altering the ohmic contact and doing gate recess will lead to short channel effect. To reach high f_{max} we have to combine a low gate recess technology, scaled device geometry and recessed source and drain ohmic contact to simultaneously enable minimum short channel effect. Short channel effect will lead to current leakage in the device. This effect can be suppressed with the help of barrier and back barrier.

MINIATURIZATION OF BAGELY POLYGON POWER DIVIDER USING DUAL TRANSMISSION LINE TECHNIQUE

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Abstract: In this paper, the technique of dual transmission lines is applied to the quarter wavelength arms of the Bagley Polygon Power Divider and the overall size of the power divider is considerably reduced. The ($\lambda/4$) arm line between the 1st port and the 2nd and 3rd port is replaced by a dual arm with lengths ($\lambda/6$) and ($\lambda/3$) each and the ($\lambda/2$) arm between the 4th port and the 2nd and 3rd port is replaced by a length of ($\lambda/12$). The proposed design is simulated in ADS and the return loss performance is found to be greater than 18dB and the power division between the output ports approximates to the ideal value.

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Compact Multi-Element Antennas for MIMO Systems

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Paper has investigated the complexity and design methodology for designing multi element antenna for MIMO system. It have cover the mostly all important feature, terminology and the complexity to design multi element antennas for MIMO system. For all the basic fundamental requirement of the MIMO system like transmit diversity, beam forming and multiplexing has studied and investigate. Paper is giving the idea of reducing the design complexity and enabling the design for more robust transmission requirement.

CIRCULARLY POLARIZED ANTENNA DESIGN FOR WIRELESS SENSOR NETWORKS THAT OPERATES AT 2.4Ghz.

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Abstract: Polarization is important factor for antenna in wireless communication. Polarization between transmitting and receiving antennas needs to be same for better reception of signal. Matching the polarization is important in terms of decreasing transmission losses. The use of circularly polarized antennas presents an attractive solution to achieve this polarization match which allows for more flexibility in the angle between transmitting and receiving antennas. It reduces the effect of multipath reflections, enhances weather penetration and allows for any orientation to the communication system. The objective of this paper is to design a single fed circularly polarized microstrip patch antenna that operates at 2.4 GHz.

USING EMPIRICAL MODE DECOMPOSITION AND A GENETIC ALGORITHM FOR FPGA-BASED EMBEDDED ROBUST SPEECH RECOGNITION SYSTEM DESIGN

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Abstract—A field-programmable gate array (FPGA)-based robust speech measurement and recognition system is the focus of this paper, and the environmental noise problem is its main concern. To accelerate the recognition speed of the FPGA-based speech recognition system, the discrete hidden Markov model is used here to lessen the computation burden inherent in speech recognition. Furthermore, the empirical mode decomposition is used to decompose the measured speech signal contaminated by noise into several intrinsic mode functions (IMFs). The IMFs are then weighted and summed to reconstruct the original clean speech signal. Unlike previous research, in which IMFs were selected by trial and error for specific applications, the weights for each IMF are designed by the genetic algorithm to obtain an optimal solution.

Reactive Power Optimization by using Sequential Quadratic Programming

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Abstract: Electrical power transmission losses in a power system are minimized by adjusting the reactive power control variables like transformer tap ratio, generator voltage magnitude and reactive power compensation devices such as capacitor banks. Also it results in improved voltage profiles, system security and power transfer capability. In this article, reactive power optimization, including comprehensive concern of the practical constraints was considered. The reactive power optimization problem was formulated and solved by using a Sequential Quadratic Programming method. To study the application of this method, a simulation test was carried out on a 3-bus & 6-bus system. It was found that the optimization problem was solved while the satisfying all the constraints imposed.

MODULATED HIGH EFFICIENCY THREE LEVEL NEUTRAL POINT CLAMPING INVERTER WITH FUZZY LOGIC CONTROLLER

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Abstract: Multilevel inverter technology has emerged recently as a very important alternative in the area of high power medium voltage energy control. This thesis proposes a multilevel power conversion concept based on the combination of Neutral-Point-Clamped (NPC) and floating capacitor converters. The Z-source concept can be applied to all dc-to-ac, ac-to-dc, ac-to-ac, and dc-to-dc power conversions, whether two-level or multilevel. Fuzzy logic controller is further added with three level neutral point clamping to obtain high efficiency. This gives a number of benefits, both in terms of implementation and harmonic performance. The adopted approach enables the operation of the Z-source arrangement to be optimized and implemented digitally without introducing any extra commutations. The output voltage waveforms in neutral point clamped inverters can be generated at low switching frequency with high efficiency and low distortions. This thesis presents a methodology of switching pattern to generate symmetrical gating signal to control NPC inverter using MATLAB/SIMULINK.

Power Control Flexibilities for Grid-Connected Multi-Functional Photovoltaic Inverters

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Abstract: This paper explores the next-generation Photo- Voltaic (PV) system integration issues at a high penetration level, where the grid is becoming more decentralized and vulnerable. Therefore, the PV systems are expected to be more controllable with higher efficiency and higher reliability. Provision of ancillary and intelligent services, like Low Voltage Ride-Through (LVRT), reactive power compensation, and reliability-oriented thermal management/control by PV systems is a key to attain higher utilization of solar energy. Those essential functionalities for the future PV inverters can contribute to reduced cost of energy. To implement the advanced features, a flexible power controller is developed in this paper, which can be configured in the PV inverter and flexibly be changed from one to another.

Extending the Lifetime of the Wireless Sensor Network by Sink Relocation using Maximum Energy Path Routing Protocol

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Abstract: This work proposes an approach of improving the energy efficiency and extending the lifetime of the wireless sensor network by the use of sink relocation underlying with Maximum Energy Path (MEP) routing algorithm. In wireless sensor network the sensor devices have to observe and monitor the environmental events, and report the data collected to a nearest information collector, referred to as the sink node. Sensor nodes which are far away from the sink relay their data via multiple hops to reach the sink. This way of communication makes the sensors near the sink deplete their energy much faster than distant nodes because they carry heavier traffic. So communication hole appears around the sink. Consequently, these nodes will quickly drain out their battery energy and shorten the network lifetime. In this work sink is relocated in different position and gathers the information. This avoids the communication hole problem around the sink and enhance the lifetime of the network. The performance is analyzed in ns 2 and results proved that multi relocation of sink, enhance the lifetime of wireless sensor network than single sink relocation.

ANALYSIS OF LOW DROPOUT LOW VOLTAGE REGULATOR

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Abstract: A simple regulator that converts the input voltage directly at the output node. But in practical applications the desired output cannot be obtained due to some voltage drop in the circuit. This method, Analysis of a low voltage low dropout (LDO) regulator converts an input of 1.2 v to an output of 1v. Here the output consists of a dropout up to 0.2v.

APPLICATION OF DENOISING AND SEGMENTATION TECHNIQUES FOR PEST RECOGNITION AND DEFECT IDENTIFICATION IN RICE PLANTS

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Abstract: Rice is one of the world's most important food crops. More than half of the people in the world eat this grain as main part of their meals. So, rice varieties must have higher yield potential and crop management techniques can be used to achieve this potential. The growth stages of rice plants include seeding, transplantation, Panicle initiation, flowering and maturity. The rice plants are affected by various diseases like rice blast, Bacterial blight, Sheath blight, Rice yellow mottle virus, Bakanae etc. at different growth stages. Of these Bakanae is commonly found throughout the whole growth stages of rice plant. The evolution of Computer Aided Detection (CAD) system has made a giant leap in the effective treatment of crops and is meant to be an instrument in the hands of the radiologists. In this work, image of rice plants at the transplantation stage have been investigated. In food processing, if any segmentation scheme fails to detect the Region Of Interest (ROI) precisely leading to misclassification which will cause severe effect on food items. Another important challenge in image processing is the presence of noise during the image capturing process which may result either under segmentation or over segmentation. The detection of the suspicious region is performed in four phases namely Image acquisition and Pre-Processing, Segmentation, Feature extraction and Classification. Noises from the crop image are removed using Hybrid Median Filter (HMF) which offers minimum MSE value of 1.56 and high PSNR value of 46.22 dB. This research work focuses on two challenges and has implemented effective segmentation methodology employing KFCM (Kernel Fuzzy C-Means) algorithm which gives 99.99% accuracy, 99.995% specificity and 99% sensitivity. In this work, a novel pest recognition method is presented which involves the fusion of various features like color, shape, texture, soil moisture. This minimizes the usage of pesticides, improves the crop yield and quality. The proposed method also identifies the defects in the rice as a product. This approach favors both farmers as well as the consumers.

DIAGNOSIS OF SKIN LESIONS FROM DIGITAL IMAGES USING COMPUTER VISION TECHNOLOGY

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Abstract : Melanoma is the deadliest form of skin cancer. Incidence rates of melanoma have been increasing, especially among non-Hispanic white males and females, but survival rates are high if detected early. Due to the costs for dermatologists to screen every patient, there is a need for an automated system to assess a patient's risk of melanoma using images of their skin lesions captured using a standard digital camera. One challenge in implementing such a system is locating the skin lesion in the digital image. A computer vision system is an attempt to replicate the human eye to brain assessment process. In computer vision, digital image segmentation is the process of partitioning a digital image into multiple segments which are sets of pixels. The result of image segmentation is a set of segments that collectively cover the entire image. Skin Lesion segmentation is not an easy process due to there is a low contrast between the lesion and surrounding skin, the border between normal skin and lesion skin is irregular. Se we have developed an algorithm for segments an input image which automatically recognizes a skin cancer lesion area and ignores other non-affected skin area. Fuzzy C-Means clustering and Kernel Fuzzy C-Means segmentation algorithms are proposed for lesion segmentation.

Fuzzy Optimised Power Generation from Moving Vehicles

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Abstract: In our Paper regenerative power system for electric motorcycles and cars that performs regenerative energy recovery from the axle of the vehicle based on fuzzy logic control for a boost converter is used to boost (maintain) the voltage level. Autonomous vehicles have potential applications in many fields, such as replacing humans in hazardous environments, conducting military missions, and performing routine tasks for industry. A constant regenerative current control scheme is proposed, thereby providing improved performance and high energy recovery efficiency at minimum cost. Drivers typically respond quickly to sudden changes in their environment. While other control techniques may be used to control a vehicle, fuzzy logic has certain advantages in this area; one of them is its ability to incorporate human knowledge and experience, via language, into relationships among the given quantities.

Wireless MIMO-Antenna Based Communication System

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Abstract: We investigate the effects of fading correlations on wireless communication systems employing multiple antennas at both the receiver and the transmitter side of the link, so called multiple-input multiple-output (MIMO) systems. The use of multiple antennas for wireless communication system has gained overwhelming interest during the last decade- both in academia and industry. Multiple antennas can be used in order to accomplish a multiplexing gain , diversity gain or antenna gain. thus , enhancing the bit rate , error performance or the signal-to-noise-plus-interference ratio of wireless system, respectively. With an enormous amount of yearly publications , the field of multiple antenna systems , often called MIMO systems, has evolved rapidly. Desired attributes can be obtained like significant increase in spectral efficiency and data rates ,high Quality-of-Service (QoS)-bit error rate , wide coverage , low deployment , maintenance and operation cost.The objective of this literature survey is to provide non specialist working in the general area of digital communication with a comprehensive overview of this exciting research field.

Evolutionary Programming and Iteration Particle Swarm Optimization for Optimal Spinning Reserve of a Wind-Thermal Power System

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Abstract: This paper discusses the evolutionary iteration particle swarm optimization algorithm which is the combination of evolutionary programming (EP) and improved particle swarm optimization (IPSO).Those combined algorithms used to solving the nonlinear optimal scheduling problem. The optimal spinning reserve of a wind-thermal power system (OSRWT) using EIPSO method to evaluate the selection of spinning reserve. For evaluate the level of spinning reserve, the thermal unit consider total operation cost and outage cost in the OSRWT problem. By minimizing the total social cost the optimal spinning reserve was reached easily. The OSRWT problem introduces the up spinning reserve (USR) and down Spinning.

Graphene- the revolutionary wonder material in electronics

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Abstract: The recent discovery of Graphene has sparked much interest, thus far focused on the exceptional electronic structure of this particle, in which charge carriers mimic mass less relativistic particles. However in physical structure Graphene is one-atom-thick planar sheet of carbon atoms densely packed in a honeycomb crystal lattice, which is the thinnest material and also the strongest material ever measured. As a conductor of electricity it performs as well as copper, as a conductor of it out performs all other known materials. It is almost completely transparent, yet so dense that not even helium, the smallest gas atom, can pass through it. Carbon, the basis of known life on earth, has surprised the world once again. Graphene has emerged as an exotic material of the 21st century and has grabbed appreciable attention due to its exceptional optical, thermal and mechanical properties.

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Design and Implementation of Photovoltaic Fed Boost Converter with MPPT Control

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Abstract: A boost converter duty cycle is directly controlled by the maximum power point tracking algorithm. This can be done by tracking the operating point in a photovoltaic module where the voltage and current becomes maximum. The maximum power in all operating conditions in the photovoltaic module has been extracted and the power is then transferred to the load. A dc-dc converter is used for the purpose of transferring power from source to load. This paper deals with the comparative study between two popular algorithms technique (i.e.) incremental conductance algorithm and perturb and observe algorithm. One of the drawbacks of P&O method is that operating point oscillates around the maximum power point. So this method cannot be applied for the continuously varying atmospheric conditions. But Incremental conductance method is very effective and accurate in rapidly changing atmospheric conditions. The converter is less sensitive to load changes. Using MATLAB, PV module is modelled and the above two algorithms are implemented and compared.

Three Phase Inverter using Coupled Inductor for Grid-Connected Photovoltaic System

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Abstract: This letter presents a modulation technique for the modified coupled-inductor single-stage boost inverter (CL-SSBI)-based grid-connected photovoltaic (PV) system. This technique can reduce the system leakage current in a great deal and can meet the VDE0126-1-1 standard. To maintain the advantages of the impedance network, only a diode is added in the front of the original topology, to block the leakage current loop during the active vectors and open-zero vectors. Simultaneously, the leakage current caused by other transitions can also be reduced due to the fact that the magnitude of common-mode voltages is reduced. Simulation re-sults of the transformerless PV system are presented in two cases: modified CL-SSBI modulated by maximum constant boost (MCB) control method and NSPWM. Experimental results for both CL-SSBI topology modulated by the MCB control method and mod-ified CL-SSBI topology modulated by NSPWM are also obtained to verify the accurateness of theoretical and simulation models.

LOW POWER DIGITAL CONTROLLED CURRENT SCALED PULSE WIDTH MODULATOR

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Abstract: Pulse Width Modulation is a technique for controlling analog systems with the digital data. Pulse Width Modulator (PWM) digitally encodes the analog signal levels in which a duty cycle of a square wave is modulated to encode a specific analog signal level. The ring oscillator forms the integral part of the PWM circuit. The transmission delay (t_{\square}) is variable which results in deviation manifested as variation of the rising and falling pulse edges called as jitter. An enhanced digitally controlled Pulse Width Modulator is proposed with footer circuit to improve the dynamic range of the pulse width of the output signal and low power. It consists of header circuit, footer circuit and duty cycle to voltage converter. The current from the power grid to the ring oscillator is controlled by a header circuit. A duty cycle to voltage converter is used to ensure the fidelity of the system. By using current scaling footer circuit 10% of power saving is obtained. This enhanced PWM is implemented in 0.25 μ m CMOS process technology and provides small on-chip area, fast control circuitry and high accuracy under PVT variations suitable for dynamic voltage scaling systems.

Automatic Coin Sorter and Counter using Image Processing

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Abstract : In this paper proposes to sort coins from a large numbers. Coin separation is one of the major difficulties in major temples and in religious places. To overcome a new proposed model a process large number of coins are let one by one using a small drill. The drill is used to separate the coins then image of the separated coins are captured by a image capturing technique and compare the feeded images and the captured image using the image matching technique. Number of captures let by the camera will be counted. Hence the number of coins will be counted. Then the sorted coins are collected in specified containers which would be allotted for the specific coin. The image recognition is done in order to separate the images and for counting the image matching is done.

High Performance and Energy Efficient SRAM-based Architecture for TCAM

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Abstract: Content addressable memory (CAM) is a type of solid-state memory in which data is provided as input and an operation is performed to returns the address as output. Unlike other memories (SRAM, DRAM), it performs the search operation in parallel on complete location at once, offered significant reduction in searching time. A ternary content addressable memory (TCAM) is a specialized CAM design for fast table lookups and adds masking capabilities by storing and searching a third “don’t care” state. Hence, it is attractive for applications such as packet forwarding and classification in network routers. But TCAMs have some limitations such as low storage density, relatively slow access time, low scalability, complex circuitry, and are very expensive, when compared with static random access memories (SRAMs). Consequently, in order to make use of SRAM benefits in TCAMs and conquer the limitations of TCAM, SRAM can be configured with additional logic to behave like ternary CAM memory. This can be achieved by means of hybrid partitioning the TCAM table and mapping it into corresponding SRAM memory location. In proposed method, a Parameter Extractor is used in modified architecture. The purpose of Parameter Extractor is to minimize the number of comparisons during search operation. As the number of comparison operation is reduced, the power consumption of memory operation is reduced considerably, thus providing an efficient architecture.

ANALYSIS AND DETECTION OF EPILEPTIC SEIZURE USING DWT AND DIP

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Abstract: The real-time Electroencephalogram (EEG) compression is proposed. This technique makes use of the redundancy between the different frequency subband present in EEG segments of one channel. It uses Discrete Wavelet Transform (DWT) and dynamic reference lists to compute and send the de-correlated sub band coefficients. Experimental results showed that the method can not only compress EEG channels in one dimension (1-D), but also detect seizure like activity. A diagnosticsoriented performance assessment was performed to evaluate the performance of both the compression and detection capabilities.

A Novel for Unmanned Irrigation Based on WSN Architecture

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Abstract:In this project an embedded system is proposed for automatic control of irrigation. This project has wireless sensor network (moisture sensor, PH sensor, PIR sensor, Temperature sensor) for real-time sensing and control of an irrigation system.This system provides uniformand required level of water for the agricultural farm and it avoids water wastage.At the same time, the pest and diseases have increased and insects cause major kinds of damage to growing crops. It directs injury to the plant, which eats leaves or fruit, or roots. Most vegetable crops are subject to pest damage.So protection from insect attack to the crop is essential for better production.

Design of Hexagonal Shaped Micro-Strip Patch Antenna using CPW-FED

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Abstract: Compact microstrip patch antenna using coplanar waveguide feed is proposed .To achieve wideband; a slotted hexagonal shaped patch antenna is simulated using HFSS software. The proposed antenna can be operated in frequency range of 2.3 GHz to 9GHz.This antenna can be used for UWB application.

LOW POWER ANALYSIS OF CRITICAL DATA PATH DESIGN USING DOMINO LOGIC

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Abstract: This paper presents a high-throughput and ultralow-power asynchronous domino logic pipeline design method, targeting to latch-free and extremely fine-grain or gate-level design. The data paths are composed of a mixture of dual-rail and single-rail domino gates. Dual-rail domino gates are limited to construct a stable critical data path. Based on this critical data path, the handshake circuits are greatly simplified, which offers the pipeline high throughput as well as low power consumption. Moreover, the stable critical data path enables the adoption of single-rail domino gates in the noncritical data paths. This further saves a lot of power by reducing the overhead of logic circuits. A full adder circuit is used for evaluating the proposed pipeline method. Compared with a bundled-data asynchronous domino logic pipeline, the proposed pipeline reduces the circuit power and increases the pipeline throughput. the proposed Pipeline method , respectively, saves up to 60.2% and 24.5% of energy in the best case and the worst case when processing different data patterns.

ELECTRONIC TOLL COLLECTION USING PORTABLE RFID TAG WITH ANTITHEFT SYSTEM

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Abstract: Electronic toll collection (ETC) systems based on user position estimated with Global Navigation Satellite Systems (GNSS) are particularly attractive due to their exibility and reduced roadside infrastructure in comparison to other systems such as tollbooths. Because GNSS positioning may be perturbed by different errors and failures, ETC systems, as liability critical applications should monitor the integrity of GNSS signals in order to limit the use of faulty positions and the consequent charging errors. The integrity-monitoring systems have been originally designed for civil aviation monitoring (RAIM), urban environment. This paper studies the use of receiver autonomous integrity monitoring (RAIM), which are algorithms run within the GNSS receiver and, therefore, are easier to tune to ETC needs than other systems based on external information. It also has an anti-theft system that works based on GPS and RFID tags which track the location simultaneously. The user can get the location by sending a key message to the GSM module fixed at the vehicle. Vehicle engine starting can also be controlled by using this GSM system.

WIRELESS SENSOR NETWORK FOR LDR & GAS SURVEILLANCE APPLICATION

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Abstract: With a widespread increase in the number of mobile wireless systems and applications, the need for location aware services has risen at a very high pace in the last few years. Much research has been done for the development of new models for location aware systems, but most of it has primarily used the support of 802.11 wireless networks. Less work has been done towards an exhaustive error analysis of the underlying theories and models, especially in an indoor environment using a wireless sensor network. We present a thorough analysis of the ZigBee model for distance estimation in wireless sensor networks through an empirical quantification of error metrics. Further on the basis of this experimental analysis, we implement a k - nearest signal space neighbor match algorithm for location estimation, and evaluate some crucial control parameters using which this technique can be adapted to different cases and scenarios, to achieve finer and more precise location estimates.

DESIGN OF HIGH PERFORMANCE RADIO FREQUENCY BAND PASS FILTER

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Abstract: In this paper deals the analysis, design and simulation of a small size UWB Band Pass Filter . The Ultra-wideband systems use wireless technology capable of transmitting data over spectrum of frequency bands for short and long distances with very low power and high data rates. At the receiver side there is an requirement to filter out the noises and pass only the desired signal frequency for processing. Hence, a BPF is required for the same. In the present paper the designing of a compact microwave parallel edge coupled line BPF has been discussed and implemented.

Low Power Architecture and FPGA Design for Effective Detection of Recycled IC

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Abstract: Owing to the socialization of the semiconductor design and fabrication process, integrated circuits (ICs) are becoming more susceptible to malicious activities. The unauthentic and reusing of integrated circuits have become foremost issues in upcoming years. The two types of on-chip lightweight sensors are proposed to recognize recycled ICs by measuring circuit usage time when used in the field. Recycled ICs detection based on aging in RO (ring oscillator) based sensor is used to analyze the aging effect and in AF(anti fuse) based sensor counts the cycle of system clock or switching activities of nets. The Sequential Optimization Algorithm is proposed to efficiently distinguish the forged and recycled ICs and ingests less power compared to the conventional method. The proposed method is designed using Verilog HDL, simulated using Modelsim and synthesized using Xilinx Software.

Bidirectional AC/DC Converter Using Feed-Forward Control For PV Systems

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Abstract: The simplified pulse width modulation (PWM) strategy for the bidirectional ac/dc single phase converter in a micro grid system is proposed. A high efficiency isolated bidirectional ac to dc converter is proposed to control the bidirectional power flows and to improve its power conversion efficiency. The number of switchings of the proposed simplified PWM strategy is one fourth that of the conventional unipolar PWM and bipolar PWM. Based on the novel simplified PWM strategy, a feasible feedforward control scheme is developed to achieve better rectifier mode and inverter mode performance compared with the conventional dual loop control scheme. The proposed simplified PWM strategy with the proposed feedforward control scheme has lower total harmonic distortion than the bipolar PWM and higher efficiency than both unipolar and bipolar PWMs. Furthermore, the proposed simplified PWM operated in the inverter mode also has larger available fundamental output voltage V_{AB} than both the unipolar and bipolar PWMs. The simulation results verify the validity of the proposed PWM strategy and control scheme.

Remote Plant Monitoring and Controlling System Using Digital Image Processing by Neural Network and Fuzzy logic

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Abstract: A high speed digital image pattern matching circuit which recognizes an image pattern, and discriminates whether the recognized image pattern matches with a desired reference pattern and where pattern matching occurs. For discriminating whether a desired pattern is matched, an input pattern to be retrieved is digitally-modelled as two thresholds. The digitally modelled input image signal is blocked to have the same size as the reference pattern and compared with the reference pattern. The compared result is again compared with the thresholds for discriminating whether pattern matching occurs or not. The high speed digital image pattern matching circuit of the present invention utilizes two thresholds for modelling, thereby simplifying the input digital image signal in hardware and making processing speed very fast.

Power Quality Improvement in Integrated Renewable Energy System Using Intelligent Control System

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Abstract: This project discusses the use of an AC-AC matrix converter, as an alternative to AC-DC-AC converter system, an interface power converter between a variable load and a wind energy system. A new approach is proposed to solve the commutation problems associated with the switches so it improve the power quality compared to conventional system and it reduces the cost because there is no energy storage element between the line-side and load-side converters. Total harmonic distortion of the power converter is minimized by using filters it improves the power quality. It can be achieve high efficiency without large energy storages. The effectiveness of the proposed method is verified by develop simulation model in MATLAB-Simulink environment.

Design and Analysis of Tripple Band Antenna for GPS, WLAN, Bluetooth, and L-band Application

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Abstract : The achievement proposes the design of snipped shaped patch antenna for low spectrum of microwave frequencies. The patch has the jean cotton material substrate. The wearable antenna is recent proficiency in medical applications. The wearable antenna has less weight, small size and low cost. The proposed antenna resonates at 1.18 GHz, 2.45 GHz, 3.6 GHz, and 7.9 GHz to 9.94 GHz. Hence its applications fall on Industrial Scientific and Medical (ISM, 2.4 - 2.483 GHz) band, fixed mobile Wi-MAX (2 - 6 GHz) applications. Microstip patch antenna is used for the wearable antenna. Nowadays microstrip more advantage by using this antenna we have to examine the radiation characteristics, return loss and diagnosing patient's condition. These can be simulated by using Ansoft HFSS.

Efficiency Optimization of an Openloop Controlled Permanent Magnet Synchronous Motor Drive using Adaptive Neural Networks

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Abstract: When a Permanent Magnet Synchronous Machine (PMSM) is utilized for applications where high dynamic performance is not a requirement, a simple open loop control strategy can be used to control them. PMSMs however are prone to instability when operated open loop in a variable speed drive, particularly at mid-frequencies/speeds. This paper presents an open-loop control strategy based on a direct adaptive neural network controller is developed for efficiency optimization of open-loop controlled PMSM drive. Stability constraints of the drive system which was previously reported are used to maintain both stable and highly efficient operation of the drive system. The adopted neural network can be viewed as a method for nonlinear adaptive system identification, relying on pattern recognition of stability limits and maximum obtainable efficiency. Results from computer simulation show that a stable and highly efficient operation can be maintained for the drive system under study irrespective of load and supply variations. The obtained results are also found in correlation with previously reported experiments and observations.

Power Quality Improvement By Using Active Filter With Hysteresis Band Controllerd Tunner Practice

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Abstract: The power quality (PQ) management is the key issue in electrical power system and industries are facing this issues around the world. The hybrid filter configuration with HBController is more efficient scheme for the improvement of power quality in power system. The main purpose of this work is to reduce the effects of Harmonics in a cost effective by mitigating both voltage and current harmonics generated in anelectrical power system owing to the presence of non linear loads. This paper shows comparative study of a simple filter circuit, circuit with hybrid filter and a circuit with hybrid filter using HBcontroller. The systems are modeled by using SIMULINK in MATLAB and performance is observed. The simulation results reveal that the proposed method of hybrid filter with PI controller is the better solution for improving power quality.

Design and Analysis of Flower Shaped Microstrip Antenna using Metamaterial for Military Application.

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Abstract: In this paper, we use microstrip patch antenna with metamaterial. The purpose of using meta material has improve the performance of antenna. when compared to other conventional material has negative permeability and permittivity. This simulation can be done by using HFSS software. This simulation results shows that performances are compared with respect to return loss v/s frequency and VSWR v/s frequency.MSA has certain advantages due to small size ,low weight, easy to fabricate and achieve high return loss. The frequency ranges of our design is from 8 to 12GHz.

Automated External Defibrillator using Flying Robotic Ambulance

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Abstract: The Purpose of this paper is to introduce a flying robot that saves lives of Victims in case of sudden cardiac arrests.we have designed this robot to bring along an Automatic External Defibrillator (AED)to help the lay rescuers in providing first aid to the victim before the arrival of ambulance .Once when the cardiac arrest occurs, signal would be transmitted to the AmbuFBot station by sensing through heartbeat sensors fixed in the devices frequently used by the victim or by using some specified mobile phone applications.AmbuFBot station is normally integrated with three different independent servers,namely database server,GIS Server, and message controller. With the use of these servers and controllers, the ambulance robot would be operated by the human operators in the AmbuFBot station until it reaches the location of the victim .The AmbuFBot would dispatch the defibrillator along with the instructions on how to operate, to the layrescuers nearby. In addition to this AmbuFBot also performs the task of calling the ambulance to the location of victim automatically.

Compact Multiband Microstrip Patch Antenna With H And U Slot

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Abstract: In this project we have presented the use of a patch antenna with combination of H and U shaped slot fed by Coaxial cable to achieve multiband application with compact size and very low return loss. The VSWR parameter found to be less than 2 within the operating frequency range. Multi band antenna is designed for the frequency ranges 2.05GHz - 2.1GHz, 2.38GHz - 2.43GHz, 3.29GHz-3.35GHz, 3.62GHz-3.70GHz, 5.35GHz - 5.52GHz when H and U slot cut in the patch. It can be used for UMTS, BLUETOOTH, WIFI, WLAN, WIMAX, ISM applications. These Antennas were simulated with the use of FDTD Numerical analysis.

A Novel Compact T-Slot Microstrip Patch Antenna For Wideband Application

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Abstract: Design of Compact inverted T-slot Microstrip patch antenna for wideband application is proposed in this communication. The novel design is achieved by simply cutting two notches in the bottom portion of the rectangular patch introduces multiple resonances. The proposed microstrip patch antenna is designed to operate from 2.8163 to 26.7050 GHz. The antenna complies with the return loss of $S_{11} < -10$ dB and Voltage Standing Wave Ratio (VSWR) < 2 throughout the impedance bandwidth. Impedance bandwidth of 161.84% could be achieved with the aid of simple microstrip line feeding technique. Therefore the proposed design is suitable particular for wireless communication application such as WLANs, Wi-Fi, ISM band, and WiMax. The proposed antenna design has an overall size of only 28 x 24 x 0.8 mm³.

Statistical Rigorous Traffic Pattern Protection Process Against Hacking in MANETs

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Abstract: The advance division of wireless networks is mobile ad hoc network, which is a network without infrastructure and it is formed without any central administration consisting of mobile nodes. Ad hoc networks are defined as peer-to-peer networks between wireless computers that do not have an access point to communicate. While these types of networks, usually has some little protection by encryption methods to guide the network path. Hackers can find the particular wireless network to corrupt or collecting the data to collapse the data delivery. By utilizing the MAC protocol, the appropriate shortest path is determined through traffic matrix pattern formation. Through the virtual carrier sensing disable option of MAC layer, the network communication is protected from hackers.

Design and Analysis of OCDMA System with Different Detection Technique

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Abstract: Optical code-division multiple access system has been very helpful in combining the unlimited bandwidth of fiber with the flexibility of CDMA technique to achieve a high quality transmission. However, the main degradation on the performance of OCDMA systems is essentially due to multiple access interference (MAI) originating from other simultaneous users. Spectral amplitude coding garners significant attention because of its ability to reduce MAI by employing an appropriate detection technique. Proposed paper uses a single photodiode detection technique for Spectral amplitude coding optical code division multiple access (SAC-OCDMA) system. When using this technique, the multiple access interference (MAI) is eliminated in the optical domain. This process provides a high value of Q-factor compared to the other detection techniques

Energy Conservation by Traffic Switching Process in Cellular Radio Access Networks.

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Abstract—The mobile telecommunication is one of the major contributors to energy consumption and greenhouse gas emission. In a typical cellular system, the base stations (BSs) contribute 60%-80% of the energy consumption of the whole network. Improving the energy-efficiency of the BSs can significantly reduce both the operational cost and carbon footprint. Therefore, to reduce the cost and the amount of energy conserved in cellular network, the reinforcement method is used. This project is mainly proposed for improving the energy conservation of base stations in cellular radio access networks by Markov decision process along with Reinforcement learning approach. Here the traffic is calculated through the online processing by markov decision process. To speed up the ongoing learning process, a transfer actor-critic algorithm is used. The process which is mentioned above is completed successfully. Further process of this project is to consider the influence of fast fading effect and noise.

Simultaneous All-Optical Downconversion of WDM Radio-Over-Fiber Signals

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ABSTRACT: To meet the explosive demands of high-capacity and broadband wireless network access, advanced cellular based wireless networks have trends. In this project, we discussed A full-duplex radio-on-fiber transport system based on wavelength-division-multiplexing and optical add-drop multiplexing techniques, as well as proper length of dispersion compensated fiber (DCF) is proposed. Over a combination of single-mode fiber and DCF transmission, received power signal strength and bit-error-rate values were obtained in our proposed system. Such a proposed full-duplex radio-on-DCF system is suitable for the long-haul microwave optical links.

Performance Analysis of Downlink Transmission In WDM-PON Using Manchester and Dicode Coding

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Abstract: The Reflective Semiconductor Optical Amplifier(RSOA) based Wavelength Division Multiplexed Passive Optical Network (WDM-PON) is a low cost solution that allows colorless operation for optical network units (ONUs). The main approach of this work is to include the level coding technique which involves the spectral shaping and to increase the maximal allowable downstream extinction ratio using remodulation scheme. The main objective of this work is to apply the correlative dicode and manchester code in the downlink of WDM-PON with remodulated upstream signal. Moreover the system reach is extended by 75 km to 95 km with 10 Gbps downstream is demonstrated. The proposed technique correlates the signal levels via encoding the original data stream to reform the signal spectrum with much less low-frequency components. On the performance of dicode coding in single- fiber WDM-PONs, it produces great robustness against remodulation and reflection noise.

A Compact Triple Band U Shaped Microstrip Patch Antenna for Wireless Application

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Abstract: This paper presents an effective design of multi band microstrip patch antenna. In this paper, the patch antenna can be designed for triple band application by creating U shapes on the patch and this technique is applied to the single fed patch. The triple band antenna is designed for the frequency range from 3.8 GHz to 4 GHz, 5.75 GHz to 5.85 GHz and 7.45 GHz to 7.6 GHz. This design has producing good response of return loss and impedance bandwidth. These parameters were studied with the aid of FDTD numerical analysis. This could be used for WLAN applications and Metrological satellite service.

FPGA Design of Low Power Efficient Carry-Select Adder in MIMO-OFDM Systems

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Abstract: Logic operations involved in usual carry select adder (CSLA) and CSLA based on BEC are analyzed to study the data dependence and also identified the redundant logic operations involved in it. We have removed all the redundant logic operations involved in the usual CSLA and described a new logic derivation for CSLA. In the proposed scheme, the carry select (CS) operation is scheduled before the calculation of *final-sum*, which is entirely different from the usual approach. Bit module of two anticipating carry words (corresponding to $c_{in} = 0$ and 1) and fixed c_{in} bits are used for logic optimization of CS and generation units. An efficient CSLA design is obtained by using optimization of logic units. Results obtained from proposed CSLA design involves significantly less area and delay than the recently proposed CSLA based on BEC. Small carry delay occurred at the output, the proposed CSLA design is a good candidate for squareroot (SQRT) CSLA.

A Healthcare Framework for Security and Patients' Data Privacy Using Wireless Body area network

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Abstract: The recent developments in remote healthcare systems have witnessed significant interests from IT industry that provide ubiquitous and easily deployable healthcare systems. These systems provide a platform to share medical information, applications, and infrastructure in a ubiquitous and fully automated manner. Communication security and patients' data privacy are the aspects that would increase the confidence of users in such remote healthcare systems. This paper presents a secure healthcare framework using wireless body area networks (WBANs). The electronic medical records (EMRs) are securely stored in the hospital community database and privacy of the patients' data is preserved using key. A system is implemented where patient's heart beat is recorded using Heart beat sensor. The heart beat signal is then transmitted serially to the PC where it is stored in a database. The database details are updated daily and it can be easily viewed or retrieved by the staffs or doctors remotely. consists of sensors attached to the patient's body and a gateway for each patient (e.g., a PDA or a laptop computer). The indoor and outdoor users i.e. patients, physicians, and medical staff are connected to the database.

Real Time Video Compression and Novelty detection using hmm Algorithm

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Abstract: A new DCT approximation that possesses an extremely low arithmetic complexity, requiring only 14 additions. This novel transform was obtained by means of solving a tailored optimization problem aiming at minimizing the transform computational cost. Second, we propose hardware implementations for several 2-D 8-point approximate DCT. All introduced implementations are sought to be fully parallel time-multiplexed 2-D architectures for 8 *8 data blocks. Additionally, the proposed designs are based on successive calls of 1-D architectures taking advantage of the separability property of the 2-D DCT kernel. Designs were thoroughly assessed and compared. The proposed transform possesses low computational complexity and is compared to state-of-the-art DCT approximations in terms of both algorithm complexity and peak signal-to-noise ratio. The proposed DCT approximation is a candidate for reconfigurable video standards such as HEVC. The proposed transform and several other DCT approximations are mapped to systolic-array digital architectures.

Generating Reference Current and Voltage control of static compensator during voltage sags

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Abstract: Voltage sags and interruptions are generally caused by the faults such as short circuits, energization of the heavy loads , starting of the large motors ,single line to ground faults and etc. These sags produced by above causes will interrupt the system and it has to be mitigated immediately . This paper presents a complete control scheme intended for static compensators operating under these abnormal conditions .Static synchronous compensators have been broadly employed for the provision of electrical ac network services, which include voltage regulation, network balance, and stability improvement. Here the control scheme a novel reactive current reference generator loop. The reactive power support for the ac system is the main criteria for the system stabilization.

A Robust and Reconfigurable Multi-Mode Power Gating Architecture

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Abstract: Most obtainable authority gating structures give only single power intense display. Optimally sizing the gating slumber transistor to make available enough recitals is not straightforward since the generally delay uniqueness are stalwartly needy on the liberation patterns of domestic gates. LACG computes the chronometer enabling signals of both FF one cycle further on top of of flash, based on the close by revolution statistics of people FFs. It lessen the unbendable timing constraints of AGFF and data-driven by allotting an occupied alarm clock sequence for the totaling of the enabling signals and their superstore. An unyielding by depict sculpts characterizing the ascendancy reduction per FF is easily reached. The suggest implies a pact with camber, separating the FFs lack of restrictions into two districts of constructive and unhelpful gating draw closer reverse on statement. As the greater partition of the FFs go straightforward in the loyal district and thus should be gated, those declining in the pessimistic section ought to not. It has yet a small plus of avoiding the stiff timing constraints of AGFF and data-driven, by allot an occupied grandfather clock sequence for the enabling signals to be computed and broadcast to their gates. Industry-scale figures make obvious 22.6% deteriorating of the observation influence, translated to 12.5% influence diminution of the intact structure.

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Enhanced K-means ++ Clustering for Big Data with Mapreduce

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Abstract: Clustering big data using data mining algorithms is a modern approach, used in various science and medical fields. K-means clustering algorithm is a good approach for clustering, but choosing initial centers and provides less accuracy guarantees. The enhanced k-means approach called k -means++ chooses one center uniformly at random provides better functionality, but fails to handle data of larger volume in distributed environment. The MapReduce k -means++ method handles k -means++ algorithm by enhancing it in Mapper and Reducer phases, also reduces the no of iterations required to obtain k centers. In which the k -means++ initialization algorithm is executed in the Mapper phase and the weighted k -means++ initialization algorithm is run in the Reducer phase. It reduces huge amount of communication and I/O costs. The proposed MapReduce k -means++ method obtains (α^2) approximation to the optimal solution of k -means.

Design of SQRT CSLA for Low Power multiplier

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Abstract:In this paper, we propose a reliable low power multiplier design by adopting algorithmic noise tolerant (ANT)architecture with the fixed-width multiplier to build the reduced precision replica redundancy block (RPR). The proposed ANTarchitecture can meet the demand of high precision, low power consumption, and area efficiency. We design the fixed-width RPR with error compensation circuit via analyzing of probability and statistics. Using the partial product terms of input correction vector and minor input correction vector to lower the truncation errors, the hardware complexity of error compensation circuit can be simplified.

Performance Analysis Of Optimum Routing Protocols in Wireless Sensor Networks

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Abstract: Sensor nodes are in the role of gathering the sensed information in an energy efficient manner is critical to operate the sensor network for a long period of time. However, the characteristics of wireless sensor network require more effective methods for data forwarding and processing. Routing protocols for wireless sensor networks are responsible for maintaining the routes in the network and have to ensure reliable multi-hop communication. The aim of the proposed work to compare the performance of optimum routing protocols in WSNs in terms of packet delivery ratio, throughput, end to end delay, average delay. The optimum routing protocols are such as LEACH, PEGASIS, APTEEN and AOMDV routing protocols. In QoS based routing protocols data delivery ratio, latency and energy consumption are mainly considered. To get a good QoS (Quality of Service), the routing protocols must maintain more data delivery ratio, less latency and less energy consumption. Here, achieved the better performance routing protocol

An adaptive security scheme for wireless sensor networks

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Abstract: Message Authentication is a short piece of the information used to authenticate a message to provide integrity and authenticity assurance on message. Integrity assurance detects accidental and intentional message changes while authenticity assurance affirms the message's origin. It is one of the effective ways to prevent unauthorized and computed messages from being forwarded in wireless sensor networks (WSN). For this reason, Symmetric-key or public-key cryptosystems have been developed. However, they have some limitations, like lack of scalability and node compromise attacks. Polynomial-based schemes were introduced to address these issues. This scheme and its extensions also have a drawback of a built-in threshold problem. When the number of messages transmitted is larger than the threshold. While enabling intermediate node authentication, a scalable authentication scheme of elliptic curve cryptography that allows any node to transmit an unlimited number of messages without suffering the threshold problem. The proposed scheme gives strong source privacy and security while improving the sending packet ratio speed and Packet Arrival Performance by using the Doomsday Algorithm.

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Improved error correction capability using parity matrix code

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Abstract: Multiple cell upsets (MCUs) are formed into a serious reliability problem in memory applications. To make fault-tolerant memory cells, Error correction codes (ECCs) are widely used against soft errors for years. In this paper, Parity matrix code is discussed to improve the error correction capability with a reduced number of check bits. Maximum error correction can be achieved by parity algorithm. Parity Matrix Code is compared with the existing Decimal Matrix Code in terms of Power and Delay requirements.

Recommender system with collaborative filtering approach for big data application

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Abstract: Growth of services on the internet is increasing day to day as a result services related data become too large to process by traditional data processing systems. To address this problem Clustering based collaborative filtering approach is proposed it deals with recruiting similar services in the same clusters to recommend services collaboratively. The approach possess two stages in first stage the services are divided into small scale clusters, in second stage the collaborative filtering algorithm is imposed over one of the clusters. Thus the total number of services in the cluster is much less than the total number of services available on the web. It is expected to reduce the online execution time of the collaborative filtering.

Low power efficient D-Latch based Carry-Select Adder

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Abstract:The logic operations involved in conventional carry select adder (CSLA) and binary to excess-1 converter(BEC)-based CSLA are analyzed to study the data dependence and to identify redundant logic operations. The carry select (CS) operation is scheduled before the calculation of final-sum, which is different from the conventional approach. Bit patterns of two anticipating carry words (corresponding to $c_{in} = 0$ and 1) and fixed c_{in} bits are used for logic optimization of CS and generation units. The proposed CSLA design involves significantly less area and delay than the SQR-based CSLA. The design of an efficient carry select adder using the single Ripple carry adder and D-latch is presented.

Cloud based intelligent system for delivering health care information

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Abstract: The value of healthcare is increasing throughout the world. Without disruptive changes, a great section of the population in many developed states will no longer be able to pay for upkeep of health by 2040. A Part of the solution will come from concentrating on prevention. Having personal tools at everyone's distributes which will aid people to monitor their health and to change their reactions can enable disease prevention. Control of human weight and managing stress are two social relational challenges where a behavioral change can have huge value of savings. The problem under study consists of improvement in health care system using cloud. I passionately dedicated to help medical fraternity to find health status of vital organs of the patient's body at early stage that support effective treatment by introducing innovative and high quality hand carried noninvasive health care systems and devices. Cloud based Health Care is the integration of cloud computing and health monitoring.

Embedded system for hazardous haze detection using wireless technology

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Abstract: Safety plays a major role in today's world and it is necessary that good safety systems are to be implemented in places of education and work. This work modifies the existing safety model installed in industries and this system also be used in homes and offices. The advantage of this automated detection system over the manual method is that it offers quick response time and accurate detection of an emergency and in turn leading faster diffusion of the critical situation. Malaysia has periodic problems with air quality reaching hazardous levels because of smoke haze. The heavy haze, described as a pall of smoke caused widespread health problems especially among the elderly, the young and kids. Haze is an atmospheric phenomenon where dust, smoke and other dry particles obscure the clarity of the sky. This haze pollution has serious implications to health as well as for the whole environment. This paper described a mobile monitoring system developed to detect the level of haze particulates. If these gases exceed the normal level then an alarm is generated immediately and also an alert message (SMS) is sent to the authorized person through the GSM. Data collection was achieved with the use of gas sensor.

Securing Outsourced Storages in Clouds

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Abstract: With cloud storage services, it is commonplace for data to be not only stored in the cloud, but also shared across multiple users. However, public auditing for such shared data — while preserving identity privacy — remains to be an open challenge. The traditional approach developed a dynamic audit service for verifying the integrity of an untrusted and outsourced storage. The audit service is performed by TPA monitoring. Sometimes the TPA may have chances to hide anomaly details to cloud users. To overcome this drawback, we propose dynamic audit service in the cloud. By this method we can dynamically audit the anomaly and send intimation to cloud user. So that we can secure the cloud storage data.

Integration of NOC Architecture with Classical Bus Based System

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Abstract: The increasing complexity of modern digital devices demands for ever increasing communication requirements, and for an ever increasing heterogeneity of the target applications. Specifically different communication domains may be implemented using the same chip area, for instance to allow multiple parallel applications to be loaded onto the device. Network-on-Chip (NoC) architectures represent a promising design paradigm to cope with increasing communication requirements in heterogeneous digital systems. Classical design approaches, such as bus-based systems or point-to-point connections, are no longer suitable for highly integrated systems since they lack of flexibility and scalability with the increasing number of modules attached to the system.. Such an issue can be solved by directly optimizing over the different design factors. What should be achieved is low-resource usage communication architecture, meanwhile maintaining the desired performances.In the proposed methodology Integration of NoC (Network on Chip) architecture with Classical Bus based systems to overcome the disadvantages of both Classical and Network based methodologies.

LUT Optimization of Adaptive Filter using Disturbed Arithmetic

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Abstract: Distributed arithmetic (DA) approach is preferable only for implementing the DSP applications in FPGAs. These DSP applications always prefer the efficient memory based computation for enhanced functionality. On considering an efficient computation, a LUT based memory array is designed. Further, the conventional method focuses only on identifying the potential element such as area, power and throughput, but fails to produce the optimized results. In this paper describes the combined effort of APS-OMS technique. This technique reduces the LUT size by the factor of four than the existing one. Furthermore, it optimizes the area and power consumption. The adaptive filter designs are simulated by using the Modelsim and synthesis using Xilinx.

FPGA implementation of advanced high performance bus protocol for system on chip integration

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Abstract: A set of design methodologies and experiments related to enabling hardware systems to utilize on-the-fly configuration of reconfigurable logic to recover system operation from unexpected loss of system function. Methods included programming using locally stored configuration bit stream as well as using configuration bit stream transmitted from a remote site. Based on this analysis, proposed architectural features of System-on-Chip (SOC) that can minimize performance degradation and maximize the likelihood of seamless system operation despite the function replacement. This approach is highly feasible in that it is not required to specially manage system software and other normal system hardware functions for the replacement.

Secure communication for lightweight privacy-preserving to hybrid ad hoc wireless networks.

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Abstract - To preserve user secrecy each node uses pseudonyms and session key for one time. In addition to secure the communication the system develops efficient pseudonym generation and trapdoor method require only efficient lightweight hashing operations and a payment system. The fictitious will not require large storage area and refill the central unit frequently. The real challenge of privacy preserving protocol is each node has to use one authenticated identity for securing the protocol and the low overhead requirement contradicts with the large overhead usually needed for preserving privacy and securing the communication. The results of the Protocol can preserve privacy and secure the communication with low overhead.

Sed: scalable & efficient de-duplication file system for virtual machine images

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Abstract: Virtualization is becoming widely deployed in servers to efficiently provide many logically separate execution environments by reducing the demand for physical servers, so this approach reserves physical CPU resources. Nevertheless, it still consumes large amounts of storage because each virtual machine (VM) instance, needs its own multi-gigabyte disk image. Existing systems take efforts to reduce VM image storage consumption by means of de-duplication within a storage area network (SAN) cluster. Nonetheless, a SAN cannot satisfy the increasing demand of large-scale VM hosting to cloud computing because of its cost limitation. The system proposes a SED (scalable & Efficient De-duplication) file system that has been predominantly designed for large-scale VM consumption. Its design provides hasty VM deployment with peer-to-peer (P2P) data transfer and low storage consumption by means of de-duplication on VM images.

Delay Tolerant Networks on Trust Based Dynamic Data for Secure Routing

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Abstract: The delay tolerant networks (DTNs) are high end-to-end latency and numerous disconnection and characterized opportunistic communication over unreliable wireless links. In DTN environment the Dynamic trust management protocol is designed and validate for secure routing optimization in the being there of well-behaved, selfish and malicious nodes. The system develops a methodology for the analysis of the trust protocol and validates it through extensive simulation. Furthermore, the address dynamic trust management that is to determine and apply the best operational settings at runtime in response to dynamically changing network conditions to minimize trust bias and to maximize the routing application performance. A proportional study of the proposed routing protocol against Bayesian trust-based and non-trust based (PROPHET and epidemic) routing protocols. The results make obvious that the protocol is able to deal with selfish behaviors and is resilient against trust-related attacks. In addition, the trust based routing protocol can effectively trade off message above your head and message delay for a significant gain in delivery ratio.

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BEAMFORMING AND PAPR REDUCTION USING MRT AND EGT IN MIMO OFDM SYSTEM

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Abstract: In Multiple Input Multiple Output Orthogonal Frequency Division Multiplexing system using beamforming improve the receive Signal to Noise Ratio. In the transmission signals after beamforming the Peak-to-Average Power Ratio (PAPR) is a major issue in Orthogonal Frequency Division Multiplexing systems, High Peak to Average Power Ratio is complicated to design the power amplifier and also increases the power consumption. Analysis of Peak to Average Power Ratio in Multiple Input Multiple Output Orthogonal Frequency Division Multiplexing systems has beamforming schemes, MRT (Maximum Ratio Transmission) and EGT (Equal Gain Transmission). Maximum Ratio Transmission systems has better improvement compare to that of Equal Gain Transmission systems in Peak to Average Power Ratio reduction. In Maximum Ratio Transmission OFDM systems improve both PAPR and bit error rate, also EGT OFDM systems improves PAPR reduction and lesser improvement in bit error rate when compare to Maximum Ratio Transmission system.

Color Image Steganography with Double Encryption

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Abstract: Cryptography is the science of using mathematics to encrypt and decrypt data and Steganography is the art and science of hiding communication. A combination of cryptography and steganography enhanced with new secure feature for generating a new security system. In cryptography, this system is used RSA algorithm to double encrypt secret message. In steganography encrypted message is embedded in an image using OPAP pixel value differencing method which is highly secured. image quality metrics such as MSE, PSNR value are calculated for quality comparison.

MINE CLASSIFICATION OF SONAR IMAGE USING K-NN METHOD

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Abstract: Automatic Detection And Classification (ADAC) is a system to detect and classify the underwater objects for mine hunting applications. The segmentation, feature extraction, and classification are the main steps involved in the system. Two design issues in the system, the selection of the optimal classifier and the selection of the optimal feature subset. In the classifier system a feature selection algorithm estimates the optimal feature subset. A new extension of the Sequential Forward Selection (SFS) and the Sequential Forward Floating Selection (SFFS) methods, overcomes their main limitations, the nesting problem. Option D is used to store the best alternative at each iteration. The performance of the so-called D-SFS and D-SFFS is tested on simulated and real data. The methods are also used for designing an ADAC system for mine hunting based on synthetic aperture sonar images. The new k-nn method provide better performance than that the previous LDA method.

OPTIMAL SUBCARRIER POWER ALLOCATION IN OFDM BASED COGNITIVE RADIO NETWORKS BY USING GRADIENT BASED METHODS

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Abstract: The Power allocation in Orthogonal Frequency Division Multiplexing (OFDM)-based cognitive radio networks is designed by gradient based method. The gradient based method in which the power allocated between subcarriers by considering the interference constraint, capacity of CR users and channel gain. Utilize the gradient based descent approach to allocate power to subcarriers in Cognitive Radio (CR) networks. A well-designed step size can provide approximate optimal solution within little iteration. The analysis for the selection of the step size and weighting factor is required. The objective of this method is to use spectrum efficiency by allocating power between subcarriers. This method is required far less iteration. Gradient –based method with the adaptive step size has a fast rate to achieve a near –optimal solution within an extremely small number of iterations and has quite a low computational complexity.

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A Low Complexity Antenna Switching for Joint Wireless Information and Energy Transfer in MIMO Relay Channels

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Abstract: Wireless systems comprise of rechargeable nodes have a appreciably protracted lifetime and are sustainable. A distinct feature of these systems is the fact with the intention of the nodes can harvest energy all the way through the length in which communiqué takes place. As such, program policies of the nodes need to familiarize you to these harvest energy arrival. In addition, two routine bounds that provide the optimal piece without the limitation of GSC are proposed by solving a linear programming and a binary knapsack problem, correspondingly. The planned technique is extensive to scenario with multi-user intrusion, where a zero-forcing earpiece is used at the relay node; closed-forms terminologies for the outage chance are also resultant.

Detection and Recovery of Packet Drop under Network Layer Attack in MANET

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Abstract: Mobile Ad-hoc Network is a wireless temporary network setup by mobile nodes. In MANET each node works both as host and also as router. As it is an infrastructure less network the malicious nodes will disturb the Routing process. The malicious behavior will give rise to layer attacks. One of the attacks is black hole attack in which the malicious behavior will affect the packets which is sent to the destination , so there will be a packet drop. The work is to detect the black hole attack which acts in groups. The (CBDS) scheme is based on the DSR routing mechanism is designed to achieve the goal. The Simulation results is based on the PDF.

Multiuser Based On Subcarrier Multiplexing with Spacing of 5GHz in Radio Over Fiber Syatem Using Direct Detection Method

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Abstract: In integrating the broadband optical fiber communication and the mobility of wireless communication, ROF has become a promosing wireless access technique for 4G mobile commercial system with improved performance and reduced cost. A novel intensity based modulation on SCM in Radio over Fiber system is introduced to allow a flexible convergence of optical fiber's high capacity and wireless access flexibility. It provides high capacity transmissions at lower costs and enables fiber based wireless access. This paper proposes to reduce the number of electronic components for the detection of baseband signals and also use low power to operate the system. Here baseband signals are directly detected from optical signals without any need of electrical demodulation module. A 6-Gb/s SCM test bed has been set up in which 32 Gb/s data streams are combined into 1552.5nm wavelength. In order to increase the Receiver sensitivity, 5GHz channel spacing is used to reduce the inter-channel crosstalk. The performance of the system can be evaluated by the parameters like, maximum Q-factor, minimum BER, and Eye Diagram.

Wind-Thermal Coordination Using Genetic Algorithm

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Abstract: Economic Dispatch problem is an important analysis in power system operation and planning. The main objective of the Economic Dispatch problem is to determine the optimal combination of power outputs of all generating units so as to meet the required demand at minimum cost while satisfying the various constraints. In this work, Genetic Algorithm is utilized to solve the wind-thermal generation dispatch and to minimize the total production cost. A ten thermal unit incorporating one wind power plant test system is utilized for solving the economic dispatch problem. Different cases of simulations with and without wind power production are simulated and it is compared with the conventional method. The simulation result shows the effect of wind power generation in reducing total fuel cost.

GUARANTEED MULTICAST SCHEDULING IN ALL OPTICAL INTERCONNECTS

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Abstract: OPTICAL interconnects are considered as a very appealing solution for high-throughput, energy-efficient and transparent packet forwarding in core networks and parallel computers. We first propose a novel optical buffer called Shared-enabled fiber-delay lines (S-FDLs), which can provide flexible delay for copies of multicast packets using only a small number of FDL segments. We then present a Guaranteed Multicast Scheduling (GMS) Algorithm that considers the schedule of each arriving packet for multiple time slots. The performance of GMS is evaluated extensively against statistical traffic models and real Internet traffic traces, and the results show that the proposed GMS algorithm can achieve superior performance in terms of average packet delay and packet drop ratio.

MUTI LEVEL PHYSICAL LAYER CODING BASED ON OPTIMAL AND L ARRAY MAPPING FOR GAUSSIAN RELAYING CHANNELS

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Abstract: A WSN node constantly charges and discharge at short interval, depending on the energy intake. Typically in energy-harvesting system, a capacitor is used for force storage because of its proficient charge and liberation routine and infinite recharge cycle. A innovative network coding communication set of rules is proposed, where $2M$ uplink and downlink transmission can be proficient within two moment slots. Since each single satellite dish user has reduced receive means, proceeding at the base station and relay has been carefully designed to ensure that co-channel intrusion can be removed wholly. When the charge time is too little, a node is extra likely to practice an energy deficiency. Furthermore, the mean criteria for the projected MPLNC method are investigate, which include the rate design regulation and the category strategy. Moreover, we derive the error proponent and an upper spring of the overall error probability for MPLNC. Our analysis and reproduction results show that MPLNC/MSD has a significant routine advantage in assessment to the to be had bit-interleaved coded intonation (BICM)-based PLNC format.

HIGH PERFORMANCE NOC ROUTER DESIGN

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Abstract: In this paper, accurate localizations of the faulty parts of the NoC are handled. An error detection mechanism suitable for dynamic NoCs, is used to find faulty blocks or processing element where the number and position of processor elements or faulty blocks change with an increase in size of network. An adaptive routing algorithm is used in this paper. Both error detection mechanisms and routing algorithm are able to distinguish permanent and transient errors and localize accurately the position of the faulty blocks (data bus, input port, output port) in the NoC routers. It maintain throughput, the network load, and the data packet latency. We provide localization capacity analysis of the presented mechanisms, NoC performance evaluations, and field-programmable gate array synthesis.

HIGH PERFORMANCE AND LOW COMPLEXITY EQUALIZATION TECHNIQUES BY MULTI-H CPM

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Abstract: Continuous phase modulations (CPM) represent a family of non-linear coded modulation schemes characterize by a constant envelope and continuity of the phase. The constant envelopes permit the use of very efficient non-linear power amplifiers in the transmitter, while level phase variations result in a compact spectrum. These modulations are classified as single-h CPM schemes and have been used in a variety of standards, such as GSM, Bluetooth etc. Frequency-domain equalization offers low-complexity, as compared to both the best greatest chances sequence detection and the time-domain equalizer, for a channel with large delay spread. The objective of our explore is to expand FDE techniques for multi-h CPM waveforms. Two FDE receiver architectures are planned for multi-h CPM; one that uses a MF front end and the other that uses a single low-pass filter follow by a sampler For both schemes, show that the sampled output of the receiver filter(s) satisfies a circulate matrix model for general mult-h CPM waveforms given that the transmitted signal is cyclic for the duration of the block. Similarly, convolution drop can be obtained for variety based (SF-based) approach by truncate the auto-correlation matrix of the multi-h CPM signal. Imitation results are presented for the IRIG-106 Tier-2 dual-h CPM waveform.

MUTI LEVEL PHYSICAL LAYER CODING BASED ON OPTIMAL AND L ARRAY MAPPING FOR GAUSSIAN RELAYING CHANNELS

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Abstract: A WSN node constantly charges and discharge at short interval, depending on the energy intake. Typically in energy-harvesting system, a capacitor is used for force storage because of its proficient charge and liberation routine and infinite recharge cycle. A innovative network coding communication set of rules is proposed, where $2M$ uplink and downlink transmission can be proficient within two moment slots. Since each single satellite dish user has reduced receive means, proceeding at the base station and relay has been carefully designed to ensure that co-channel intrusion can be removed wholly. Furthermore, the mean criteria for the projected MPLNC method are investigate, which include the rate design regulation and the category strategy. Moreover, we derive the error proponent and an upper spring of the overall error probability for MPLNC. Our analysis and reproduction results show that MPLNC/MSD has a significant routine advantage in assessment to the to be had bit-interleaved coded intonation (BICM)-based PLNC format.