

Proceedings of National Conference on Emerging Trends in Electronics & Communications



12th April 2019

JOINTLY ORGANIZED BY
DEPARTMENTS
OF
ELECTRONICS & COMMUNICATION
ENGINEERING
AND
RESEARCH & DEVELOPMENT



GEETHANJALI INSTITUTE OF SCIENCE & TECHNOLOGY

A Unit of USHODAYA EDUCATIONAL SOCIETY

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Sri D. B. Ravi Reddy
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MESSAGE

I am very pleased to learn that Geethanjali Institute of Science & Technology is conducting a “National Conference on Emerging Trends in Electronics & Communications” NCETEC-2K19. It is really appropriate that this grand event should be conducted by this institution, as Technology is making giant strides producing wonder after wonder, unfolding a pageant of invention and discovery. I am happy to acknowledge the fact that Gist is slowly but surely making a steady and substantial progress in its relentless journey towards academic excellence. This NCETEC-2K19 is bound to be a valuable platform for the confluence of the best brains, facilitating exchange creative ideas and innovative thoughts, enabling the young engineering aspirants to become effective leaders and competent techno crafts. On this most memorable occasion, I am extremely optimistic that the launch of this souvenir in connection with NCETEC-2K19 would be a worthy effort to widen and expand the technical horizons of the students by way of its technical articles, write –ups and worthy technical discussions on various issues of academic and technological purport.

I deem it fit, on this occasion to congratulate and extend my sincere appreciation to the organization of NCETEC-2K19 and wish the event a grand success.



Sri N. Sudhakar Reddy
Secretary & Correspondent

MESSAGE

I express my profound happiness and great sense of pride in this memorable occasion of releasing a souvenir in connection with the “National Conference on Emerging Trends in Electronics & Communications” NCETEC-2K19.

I am very much delighted to acknowledge the enthusiastic response of GIST to the emerging trends and developments in the modern Electronics and Communications through the conduct of such academic activities of great technological significance, which serve as a useful platform for sharing and exchange of knowledge and creative ideas that have a bearing on modern technology. In this context, I express my earnest optimism that this mighty technological event will turn out to be a very enriching, enlightening academic experience that will ignite the creative spark of the young minds while sharpening their technical competencies. Extending my best wishes to the organizers of the event.



Prof. Dr. G. Subba Rao
Principal

MESSAGE

It is an act of great joy and gratification for me that the National Conference is being organized at GIST on the theme “National Conference on Emerging Trends in Electronics & Communications” NCETEC-2K19 with the objective expanding the scope of technical vision of the young techno savvy generation through a productive beneficial interaction with technical experts, scientists, eminent personalities.

Conferences, symposia, workshops, technical discourses and seminars constitute an integral part of qualitative Engineering Education. True to its mission of being a vital part in the technological advancement of the nation, GIST is opening new vistas for engineering aspirants by organizing a national level conference, which I am extremely hopeful, will be a felicitous blend of vibrant minds and youthful thoughts marked by creative zeal and innovative spirit in the stream of Electronics and Communications Engineering.

On this momentous occasion I extend my warm appreciation and best compliments to the driving forces that have embarked upon this enlightening initiative.



P. Srinivasulu Reddy
Joint Secretary

MESSAGE

The ubiquitous presence and ever evolving multi-dimensional industrial applications in every walk of our lives compel a more focused approach to the teaching/ learning/ research strategies to be implemented in the Technology Institutions. In an attempt to bring together diverse thought processes and create an interactive platform for articulating new concepts, thoughts and ideas, GIST envisaged this National Conference to explore several “National Conference on Emerging Trends in Electronics & Communications” NCETEC-2K19.

The conference aims to bring together researchers, scientists, engineers, industry experts and academicians on to a common platform for fruitful exchange of ideas and expose the young aspiring and budding engineers to the current and future trends in the area.

We fondly hope that the time furnished for the intellectual interactions be properly utilized by the participants for furthering their domain knowledge and trending approaches in the field of Electronics & Communication Engineering.

Wish you all the Best



Sri. Y. Vijaya Shankar Reddy
Treasurer

MESSAGE

It is a matter of great joy and pride to come to know of the conduct of the “National Conference on Emerging Trends in Electronics & Communications” NCETEC-2K19 at our beloved institution Geethanjali institute of science and technology on 12th April, 2019. It is a well known fact that an engineering institution plays a significant role in the technological advancements of the world and seminars, workshops and symposia, make value additions to the quality of technical institutions.

In this connection, I am very happy to learn about the launch of a souvenir, which will turn out to be a veritable fountain of technical awareness and knowledge and be beneficial and useful to the students. I congratulate the management for their unstinted support and warm cooperation to make this function a grand memorable success which will be etched in our memory in the years to come.

I wish grand success for ‘NCETEC-2K19’



Dr. Sk. Mahaboob Basha
Prof, HOD, R&D

MESSAGE

Studying Engineering gives one power to transform lives. Budding Engineers of our institution strive to find solutions to tough and pressing technological problems. It is quite interesting to watch the gradual development of professional potential among our students as they perform in labs, seminars, workshops and projects.

Apart from improving professional skills one needs to develop one's artistic side too. This conference provides a platform to exhibit the scientific temperament and the artistic skills of the student community and faculty.

I am excited to write this message for this National Conference as it will prove to be an event of our innovative spirit and artistic talents. I appreciate the efforts of organizers in making this Conference a great success.



Mr. P. Raghava Reddy
HOD, ECE

MESSAGE

I am delighted to welcome you to the Department of Electronics and Communication Engineering. Ever increasing pace of development in electronics has made an Electronics Engineer a catalyst for the change of the modern society. Electronic gadgets and communication systems of present age have tremendously improved the quality of life.

I am extremely glad to learn that our beloved institution Geethanjali institute of science and technology is holding a “National Conference on Emerging Trends in Electronics & Communications” NCETEC-2K19 titled. It is matter of pride and gratification that the institution has completed 10 years of its successful journey crossing milestone after milestone, achieving several distinctions on its way to academic excellence. On this auspicious occasion it gives me great pleasure to learn about the launch of the souvenir, a veritable store house of enlightening information and technical knowledge.

My special congratulations to the editorial team which has made a great Endeavour to bring out the proceedings of the conference with a rich content, impressive getup and a good reader friendly quality and features; I once again extend my best wishes to the principal, teaching and non-teaching staff on this memorable moment.

VLSI CIRCUIT PARTITIONING FOR NON-SLICING FLOORPLANNING BY USING ANT COLONY OPTIMIZATION TECHNIQUE

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Abstract:

The Present research work, a new performance and area optimization algorithm for complex VLSI systems is presented. The floorplanning affords early response that evaluates architectural choices, approximation of chip space, estimates delay, interconnect length and congestion caused by wiring. As technology advances, style complexness is increasing and therefore the circuit size is obtaining larger. Thus space of the circuit gets increase and tougher to minimizing the interconnect length. The VLSI necessary design step to estimate the chip area before the optimized placement of digital blocks and their interconnections. Since VLSI floorplanning is an NP-hard problem, several improvement techniques were adopted to find optimal solution. In this present work using a hybrid optimization techniques in Ant colony optimization (ACO) algorithm is employed for the fixed die outline constrained floorplanning, with the ultimate aim of reducing the full chip area. Ant Colony Optimization (ACO) is applied in any stages in genetic algorithm to get an optimum solution for the economical floorplan. The experimental results to achieve global solution for fixed outline constraints for this we tend to taken MCNC and GSRC benchmark circuits.

Keywords: Ant Colony Optimization, Non-slicing floorplaning, VLSI, MCNC, GSRC

A NOVEL APPROACH IN MEDICAL IMAGE FUSION USING SOCIAL SPIDER OPTIMIZATION

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Abstract:

The process of integrating various modalities of medical images is known as image fusion. The medical image fusion is mainly used to detect and treat disease for the better diagnosis of brain tumor. Now a days, detection of tumor, analysis and treatment is the demanding task in health care applications. In this paper, we proposed a multimodality medical image fusion using social spider optimization (SSO). Here we consider two Medical images from different modalities Magnetic Resonance Imaging (MRI) and Computed Tomography (CT) as the input of the system and output is the fused image. Initially we enhance the input images by applying median filter for both the images which is used to remove the noise present in the input image. After the filtering process the images are decomposed using discrete wavelet transform (DWT) which produces four sub-band images namely HH, HL, LH and LL. After the decomposition process, the LL sub band coefficients of CT image (bone information) and HH, HL, LH sub band coefficients of MRI (soft tissue information) are added using adder1. The HH, HL, LH sub band coefficients of MRI and LL sub band coefficients of CT are added together. Finally, the source images are fused using the social spider optimization (SSO) algorithm. The proposed method contains more detailed information (both functional and anatomical). This fusion approach is validated using various fusion evaluation indexes

Index Terms: Magnetic Resonance Image (MRI), Computed Tomography (CT), Discrete wavelet Transform (DWT), Social Spider Optimization (SSO).

DESIGN OF TRANSISTOR LEVEL 4-BIT X 4-BIT FAST MULTIPLIER

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Abstract:

The abstract should summarize the contents of the paper and should contain A 4bit multiplier is implemented by using Dadda multiplier to achieve the performance characters the limitations of an IC technology. In this paper, discussed about Wallace tree multiplier and Dadda algorithm. The parameters like power dissipation and delay are better in Dadda algorithm when compare to Wallace tree multiplier. An optimized transistor level design for internal logic i.e., for AND Gate, XOR Gate and Full Adders are developed. The designs are modelled in SPICE and their functionality is verified by using Synopsys HSPICE 2008.03 Tool.

Keywords: Area, Dadda algorithm, Delay, Power, Wallace tree multiplier.

DESIGN AND SIMULATION OF 8 BIT X 8 BIT APPROXIMATE DADDA MULTIPLIER

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Abstract: Error Tolerance formally captures applications such as audio, video, graphics and wireless communications. Erroneous values are produced as outputs by a defective chip [called as approximate value]. To reduce these errors, mostly filters come into existence. Filters are a part of the analog and digital technologies which are used to suppress or attenuate the data or the range of frequencies of a signal. Predominantly, multipliers play a vital role in digital applications. In digital signal processing, multipliers are key arithmetic circuits. In this paper, instead of traditional multipliers, an approximate multiplier is used because it consists of low power consumption and short critical path. It is also used in DSP applications due to high performance. There are certain limitations for the design of multipliers, mainly area, delay, power consumption, and power dissipation. Even though there are changes in the area, they can be accepted. An approximate multiplier has most of the errors in its magnitude. The simulation of the design is performed in Xilinx ISE 14.5 Tool and its functionality is verified by using ISIM Simulator.

Keywords: Approximate computing, Error Tolerant, Dadda Multiplier

A MARCH NS ALGORITHM FOR DETECTING ALL TYPES OF SINGLE BIT ERRORS IN MEMORIES

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Abstract:

The mitigation of errors in memories for reliable applications requires sophisticated algorithms for careful verification. Memory plays an important role in processors, printers, cameras, etc. Mainly in applications like space shuttles, satellite launch vehicles, etc, any small change or error in program might cause a heavy damage to the organization. Hence there must be a mechanism to evaluate accurately the number and type of faults for developing fault tolerant or fault maskable designs. This paper deals with single bit errors for 2D Memories using March Algorithms. The existing algorithms deal only with stuck at faults, address faults, transition faults and coupling faults only. A New March algorithm is proposed to detect even the neighborhood pattern sensitive faults also. When compared to existing algorithms, the proposed algorithm detects at a faster rate of $10n$ rather than n^2 , where n is the number of data bits and m is the number of words stored.

Keywords: Memory, Faults, March Algorithm, March NS.

Θ_i -SELECTION MODULE IMPLEMENTATION USING ADAPTIVE CORDIC FOR FFT ARCHITECTURES

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Abstract:

This electronic document is a “live” template and already defines. The overview of this paper is to design a micro rotation selection block for TW based FFT. This design is mainly based on Adaptive CORDIC algorithm. CORDIC stands for COordinate Rotation DIgital Computer. Two ways to implement the CORDIC algorithm are 1. Vector mode and 2. Rotation mode. The main difference between Vector and rotation are, vector mode is used to compute an angles at given point where as Rotation mode is used to compute the sine and cosine terms at given point. This paper mainly deals with vector method by using micro rotation for complex multiplications in FFT architectures. Θ_i - selection (Θ_i - sel) block for CORDIC based Twiddle Factor (TW) architecture is a computation approach which does an angle selection. CORDIC algorithm is easy to implement trigonometric, hyperbolic and exponential functions based on micro rotation for VLSI Signal processing. The simulation results are examined using Xilinx ISE 14.5 Tool.

Keywords: Fast Fourier Transform (FFT), Adaptive CORDIC Algorithm, Θ_i - selection (Θ_i - sel).

AUTOMATIC AGRICULTURAL SYSTEM FOR DETECTION OF OBJECT MODELING AND SOIL HUMIDITY

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Abstract :

Agriculture was the past, is the present, is the future, that is the power of agriculture. Our country is has a 60% people have a place with agriculture foundation. India is a rural country .in India we as a whole are depends up on agriculture to meet our prerequisite of nourishment. Agriculture is the most imperative occupation for the vast majority of the Indian families. It assumes a fundamental job in the development of farming country. In India, agriculture contributes about 16% of all out GDP and 10% of absolute fares. To exploit these advancements, we ought not think about the ramifications of growing new innovations but rather should take a gander at the more extensive issues for complete development of a framework. Programmed horticultural framework for recognition of article displaying and soil moistness was actualized in this project for sheltered and secure water system framework. The project water system control utilizing AT89S2 is intended to handle the issues of horticultural part in regards to water system framework with accessible water assets and ranchers utilizes electric fence to ensure their field. The motivation behind electric fence is to slaughter the beings(human creatures, creatures and birds). PIR sensors are utilized to identify the movement of the object(human creatures, creatures and winged creatures), it caution the general population to avoid the fence lines and spare their lives. In these project we are utilizing Dry/Wet sensor, PIR sensor, precious stone oscillator, transfer driver, Submersible engine, AT89S2 Microcontroller and LCD. This project utilizes managed 5V, 500mA Power supply.7805 three terminal voltage controller is utilized for voltage regulation. Extension type full wave rectifier is utilized to correct the air conditioner contribution of optional of 230/12V advance down transformer.

AUTONOMOUS METRO TRAIN WITH AUTOMATIC OBSTACLE DETECTION

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Abstract:

The major problem associated with the train transportation is either due to track failure or due to obstacles at the junctions. As today's trains are almost autonomous, the risk for the safety of passengers becomes a question mark. Our project entitled as autonomous trains with automatic obstacle detection provides a solution for this problem with obstacle detection by using ultrasonic sensor. When it detects any faults, the engine will automatically slow down and can reduce the risk of autonomous train. Hence, the efficiency of autonomous train will increase.

RFID BASED SELF-SERVICE PETROL STATION

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Abstract:

The main aim of the project is to design an automatic fuel dispensing system using smart cards, which is based on RFID technology. In our daily life we came across with manually operated petrol pumps are preoccupying more time, requires more maintainable cost with lack of consumer facilities. To sort out all these problems we are designing a project which is entitled as RFID based self-service petrol station. In this project we are going to introduce a modern technique, which doesn't need man power to maintain petrol bunks. Here we are using smart cards to dispense the fuel automatically. We are also using a fuel level indicator. It indicates the level of petrol in the tank. We are also using fire alarm and smoke sensor.

Keywords: RFID, Arduino, petrol pump.

DUAL ALERT SYSTEM SECURITY DEVICE FOR WOMEN USING GPS AND GSM MODULES

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Abstract:

Now-a-days, we can see crimes against women are raising. We need to find a solution to safeguard women from all kinds of threats. If we can find the exact location of where there whenever they are in risk, then we can help them in some way. By using GPS, we can find the location. With the help of GSM, we can get track of their location. By designing a device with the help of GPS and GSM, we can get the location of women, and immediately someone can help her. We are proposing a system which consists of two cautions, thereby providing them with more security. For second caution, we are using fingerprint sensor.

Keywords: GPS, GSM, fingerprint sensor.

ENERGY SAVING AND ROBUST SURVEILLANCE SYSTEM WITH PIR SENSOR USING RASBERRY PI

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Abstract:

Forgetting to put off the electrical device while not in use, keeping the device ON while not necessary, thus leading to wastage of power has become common in our day to day life. Not much attention is paid towards such silly mistakes, but these little wastages can form a formidable amount of overall energy wastage if we consider the same mistake happening in every work place, house, educational institute, public place etc. In today's world, wherever everybody needs to keep their valuables safe and secure, video surveillance for observing a particular area has become the need of the hour. We are proposing a system which consists of PIR sensor for energy saving and MEMS Accelerometer sensor identify intrusion attack and alerts to the owner using GSM Modem. We can observe the person using live camera on webpage.

Keywords: PIR sensor, MEMS Accelerometer sensor, GSM Modem.

RESOURCE AND POWER ANALYSIS OF CSD-VHCSE BASED RECONFIGURABLE FIR FILTER ON VARIOUS FPGA's

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Abstract:

Field programmable Gate Arrays (FPGAs) play important role in most of the reconfigurable electronic system design. FIR filters are the most important processing elements in almost all Digital Signal Processing elements (DSP) such as video and audio processing, Image processing. Software Defined Radio (SDR) and high rated communication systems need Reconfigurable Finite Impulse Response (RFIR) filters. In the Reconfigurable Finite Impulse Response (RFIR) channels, the channel coefficients can be powerfully changed amid the run time persistently. In Reconfigurable Finite Impulse Response (RFIR) channels the Reconfigurable Multiple Constant Multiplication (RMCM) elements are the resource and power consuming data path elements. Canonical Signed Digit-Vertical Horizontal Common Sub-expression (CSD-VHCSE) algorithm is used to reduce the resource and power consumption of Reconfigurable Finite Impulse Response filter. To implement this algorithm, full adder cells and adder depths of Finite Impulse Response filters are reducing binary coefficient to Canonical Signed Digit and by applying 4-bit Common Sub-expression vertically and 4-bit.8-bit Common Sub-expression horizontally in the filter design. The power utilization was diminished by diminishing the exchanging action of snake square of Reconfigurable Multiple Constant Multiplier. The CSD-VHCSE algorithm based reconfigurable FIR filter is designed and implemented in FPGA's like Spartan-6, Spartan-6 Low Power, Virtex-5 and Virtex-6 Low Power, the resource and power utilizations are analyzed.

Keywords: RMCM-Reconfigurable Multiple Constant Multiplier, CSD-VHCSE – Canonical Signed Digit Representation based Vertical Horizontal Common Sub Expression Elimination, RFIR-Reconfigurable Finite Impulse Response Filter.

FPGA IMPLEMENTATION AND POWER ANALYSIS OF 2-PARALLEL UAS BASED ESPFFIR FILTER

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Abstract:

The FIR digital filters acts vital role in the system design of Digital Signal Processing, especially in most of the applications various from medical signal processing to wireless communications. The Finite Impulse Response (FIR) filter is used in the most of the application due the stability and simple in design comparing to Infinite Impulse Response (IIR) filters, the important datapath elements used in the FIR filter is the adders and multipliers. By using pipelining techniques, the latency of the FIR filter is reduced and by parallel processing throughput increases and both the pipelining and parallel processing methods are used for reduce the dynamic power consumption. This project deals with design and implementation of 2-parallel Even Symmetric Parallel Fast FIR (ESPFFIR) filter using Unified Adder subtractor in various high-end FPGAs like Spartan 6, Spartan 6 Low Power, Virtex 6 low power. The multipliers are designed by using Hcub based Multiple Constant Multiplication, BEC- SQRT CSLA and UAS-SQRT CSLA adders are used to reduce the resource utilization and the power consumption of the 2- parallel ESPFFIR filter. The resource utilization, delay and power consumption of the 2-parallel ESPFFIR filter are analyzed using Xilinx ISE 14.7 EDA tool.

Keyword: MCM, SQRT CSLA, ESPFFIR.

AN ADAPTIVE METHOD FOR VEHICLE COUNTING USING DIGITAL IMAGE PROCESSING TECHNIQUES

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Abstract:

In developing nations, many cities are facing challenges that result from the massive number of vehicles. So, information about the flow of traffic is required for traffic management. Collecting real-time, reliable and accurate information is crucial for traffic management. The main goal of this paper is to develop an adaptive model that can assess the real-time vehicle counts on roads using digital image processing techniques. By classifying and counting the vehicles, estimation of traffic density can be done. Vehicle counting is a demanding task due to problems like blurs, varying image resolution etc. This paper presents a technique by using digital image processing methods like detecting edges, frame differentiation, filtering analysis etc., The proposed technique has been implemented by using MATLAB. The performance of this method is highly accurate.

Keywords: Vehicle Counting, Vehicle Detection, Traffic Analysis, Object Detection, Video Processing.

SMART AND EASY SHOPPING SYSTEM USING IoT

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Abstract:

The Internet Of Things (IoT) refers to the connection of objects together, changing human lives. For an instance, in a supermarket all items can be connected with each other, forming a smart shopping system. In such IoT system, an inexpensive Radio Frequency Identification (RFID) card is attached to each item. Generally, customers collect the items to be purchased and wait for long hours at billing section. To avoid such situation a smart shopping cart is proposed, which is equipped with RFID reader along with raspberry pi automatically reads the price and details. As a result, the billing can be conducted from the shopping cart itself. In addition to this, smart shelving can also be added into this system to monitor stock and update a central server. Another advantage of this system is that inventory management becomes much easier, as all the items are read automatically instead of scanning manually by workers. In this project we represent the requirements of a smart shopping system.

Keywords: RFID tag, reader, Raspberry pi.

DESIGN AND IMPLEMENTATION OF TOUCH BASED TFT SHIFT REGISTER FOR LOW POWER AND LOW NOISE APPLICATIONS WITH 18nm TECHNOLOGY

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Abstract:

This paper proposes a move register circuit coordinated in-cell contact show boards that accomplishes low power activity, low coupling clamor, and high long haul dependability with eleven slight film transistors (TFTs) and two capacitors. A period division driving technique is used to keep the crosstalk of presentation signals into contact circuits, and two pre-charging hubs are utilized to alleviate the consistency corruption of yield signals brought about by various weights on draw up TFTs. The proposed circuit enacts a channel of the first pre-charging TFT just at showcase checking periods, which diminishes coupling clamors and power utilization. Moreover, an inward inverter is killed for contact detecting activities, bringing about a wide scope of edge voltage move pay and low power utilization. Flavor recreation results with a low temperature poly-silicon TFT demonstrate that the proposed circuit adjust for the edge voltage move up to 17 V. In a 60 Hz full-HD show with a 120 Hz contact detailing rate, the clamor dimension of the first pre-charging hub is - 16.78 dB in the middle of 2.37 dB and - 28.95 dB of two past circuits, and the all out power utilization for 160 phases is significantly diminished to 4.44 mW contrasted with past methodologies.

REDUCTION OF PAPR WITHOUT SIDE INFORMATION FOR SFBC MIMO-OFDM SYSTEMS

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Abstract:

A novel peak-to-average power ratio (PAPR) reduction scheme designated as extended selected mapping (eSLM) is proposed for space-frequency block coding (SFBC) multi-input multi-output orthogonal frequency division multiplexing systems. In the eSLM method, extension matrices comprising amplitude extensions and phase rotations are constructed to indicate the selected signal index without the need for side information and to minimize the PAPR, respectively. To reduce the computational complexity incurred by the inverse discrete Fourier transform operation in generating the candidate signals, a low-complexity eSLM scheme (LC-eSLM) is developed by constructing equivalent candidate signals in the time domain. Notably, the extension matrices in both schemes preserve the orthogonality of the SFBC code, thereby facilitating low-complexity decoding. The simulation results show that the proposed eSLM scheme not only outperforms existing blind SLM-based methods. Compared with the costly ordinary SLM scheme, the eSLM scheme has a lower computational complexity with a performance loss of less than 0.3 dB and requires no side information. Furthermore, the computational complexity of the LC-eSLM scheme is around 40%–50% lower than that of the eSLM scheme with only a marginal degradation in the PAPR reduction performance.

Key words: Peak-to-average power ratio, SFBC, multi-input multi-output, blind detection.

INDOOR AIR QUALITY MONITORING SYSTEM USING IOT

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Abstract:

As of late indoor air quality has pulled in the consideration of arrangement producers and specialists as an imperative factor like that of outer air quality. Indoor air quality must be given more consideration than open air quality as individuals invest more energy indoors than outside. Working places are utilizing machines to do the undertakings that were done physically. These gadgets emanate different solids and gases into nature amid their task. These emanations contain numerous substances that are destructive to human wellbeing, when presented to them for a drawn out timeframe or more than specific dimensions of focus. The gas sensor will adjust the contamination in air and offers contribution to controller. The IoT gadget has been customized to gather and transmit information at a normal interim of time by means of WiFi neighborhood an extra ability, the proposed air contamination checking framework can produce alerts when the contamination level surpasses past a foreordained edge esteem.

Key words: IoT, photocopier, ozone gases, primary and secondary pollutants.

VEHICLE TRACKING AND LOCATING SYSTEM BASED ON GPS AND GSM

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Abstract:

Recently vehicle tracking system is getting vast popularity because of the rising number of the stolen vehicles. Vehicle theft is happening on parking and sometimes driving in unsecured places. This research work explores how to avoid this kind of stealing and provides more security to the vehicles. The implemented system contains single-board embedded system which is equipped with global system for mobile (GSM) and global positioning system (GPS) along with a microcontroller installed in the vehicle. The use of GSM and GPS technologies allows the system to track the object and provides the most up-to date information about on-going trips. The implemented system is very simple with greater security for vehicle anti-theft protection and low cost technique compared to others. At the present time, the rate of crime is increasing rapidly because it is a kind of evident from the actual fact that thefts became a matter of routine. Particularly these vehicles may incur huge losses on the amount invested on these vehicles. To overcome this problem, there are numerous technologies are available in the market such as GPS, GSM. In the present days, most of the vehicles are designed with GSM based vehicle theft control systems, which provides the protection from thefts.

Index Terms: Component, formatting, style, styling, insert.

IoT BASED REMOTE HEALTH MONITORING SYSTEM

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Abstract:

The world is changed these days via robotization and web of things. Our lives is made simpler and robotized step by step with the advancement and insurgency in present day innovation brought about by the Internet of Things. In late time, wellbeing peril isn't an age subordinate factor because of sporadic way of life and occupied calendar. Patients' wellbeing is gained by different sensors and afterward the information which is put away by the Internet of Things is shown through the site that gets to the remote observing. Subsequently, with the utilization of sensors, we can lessen human mistakes just as the consumed space in the room is additionally diminished because of the extent of the framework. On the off chance that the wellbeing parameters cross the limit esteem, a warning is made through buzzer. An ideal encompassing is additionally made according to the patients' wellbeing necessity. The dialog of pulse rate, body temperature, body movement and saline levels are done in this paper.

HIGH CAPACITY REVERSIBLE DATA HIDING IN ENCRYPTED IMAGES THROUGH MSB PREDICTION-BASED METHOD

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Abstract:

Data confidentiality has become a major hitch with the growth of cloud computing. An efficient technique to insert data in the encrypted domain is Reversible Data Hiding in Encrypted Images (RDHEI). Immense data embedding cannot be done in a reversible manner with the present methods. In this paper, a new method of reversible data hiding in encrypted images using MSB (most significant bit) prediction has been proposed. For the reconstruction of actual image without any errors in the process of decryption, the to-be-inserted message was adapted. MSB values of some pixels are used to emphasize the prediction errors and the bits of the secret message replaces remaining values.

Index Terms: Image encryption, decryption, image security, reversible data hiding, and MSB prediction.

DESIGN A RECONFIGURABLE RECTANGULAR MICROSTRIP PATCH ANTENNA FOR MULTIBAND COMMUNICATION

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Abstract:

The paper offering a broadband microstrip patch antenna by Reconfigurable technique for remote correspondence. The fix is essentially made of a directing material like copper or gold and can take any conceivable nonstop shape. A rectangular patch antenna is utilized as principle radiator. A wifi permitted gadgets like as a PC, computer game quiet, PDA or advanced sound player can associate with Internet when inside a constrained scope of a remote system associated with Internet .There are a few benefits of this kind of broadband reception apparatus, for example, planar, little size, basic structure, less expense, and effectively manufactured, in this manner it can draw in and valuable for connected applications. This rectangular microstrip patch antenna receiving wire is gotten ready for remote correspondence application that works at 2.4 GHz. It additionally has a wide edge of shaft having radiation example and in this way helpful for multiband correspondence resolves.

Keywords: Microstrip reception apparatus, Reconfigurable method, Wireless fidelity, Frequency.

HIGH ACCURATE PERSON IDENTIFICATION COMBINING LEFT AND RIGHT PALM PRINT IMAGES

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Abstract:

Personal Identification accuracy can be maintained by multibiometrics than single biometrics. The accuracy is more important in case of personal identification to provide high-level security. There are several biometric technologies for identification of a person, out of them palmprint identification is attractive due to its good performance. Better results can be achieved by combining left and right palmprint images. The state-of-art methods not concentrated much on multibiometrics. This paper carried out a robust framework by combining left and right palmprint images to achieve multibiometric for identification. Three types of scores of left and palmprint images are generated and integrated to obtain matching score-level fusion. Two of these scores are obtained from left and right palmprint images and this can be done by any method used for palmprint identification, third score can be generated by the proposed method. Based on the similarity of left and right palmprint images, the proposed method matches the query image with the database.

Key words: Palm print recognition, biometrics, multi- biometrics.

SKIN SEGMENTATION BASED ON IMPROVED THRESHOLDING METHOD

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Abstract:

Segmentation aim at partitioning area in the image it will be based on the shape, color or texture. It is useful in many computer vision applications such as medical image analyzing, object detection and recognizing, forensic applications. Content based image retrieval is used on the online clothing purchasing. Here our goal is to segment the clothing parts from the image on the background and the skin area. We need to detect the skin color and segment the skin from the image, and left the apparel parts in the image for matching processes. Here we propose an improved threshold-based segmentation technique by adding a new constraint to the previous method to limit the skin tone selection. The technique improved the segmentation results correctly segmenting the apparels with the shade of purple, pale pink, and pinkish-yellow. By the simulation of the images showed that the proposed method increased the segmentation results by 27%.

Index terms: SKIN SEGMENTATION, THRESHOLD-BASED SEGMENTATION, CBIR, GARMENT SEGMENTATION, GARMENT RETRIEVAL

A FACIAL-EXPRESSION MONITORING SYSTEM FOR IMPROVED HEALTHCARE IN SMART CITIES

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Abstract

Human facial expressions change with various conditions of wellbeing; in this way, a facial-demeanor acknowledgment system can be advantageous to a medicinal services structure. In this paper, a facial-demeanor acknowledgment system is proposed to improve the administration of the medicinal services in a brilliant city. The proposed system applies a bandlet change to a face picture to extricate sub-groups. At that point, a weighted, focus symmetric neighborhood twofold example (CS-LBP) is connected to each sub-band obstruct by-square. The CS-LBP histograms of the squares are connected to deliver a component vector of the face picture. A discretionary component determination method chooses the most predominant highlights, which are then nourished into two classifiers: a Gaussian mixture model (GMM) and a support vector machine (SVM). The scores of these classifiers are melded by weight to create a certainty score (CS), which is utilized to settle on choices about the facial demeanor's sort. A few investigations are performed utilizing an expansive arrangement of information to approve the proposed system. Test results demonstrate that the proposed system can perceive facial expressions with 99.95% precision.

IMAGE QUALITY ASSESSMENT BASED ON NIQE, PIQE, GLCM, AND LBP USING SVM

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Abstract:

Image Quality would be a characteristics of an image which measures the discern image humiliation. It plays a vital role in various image processing applications. Measuring Image Quality becomes more necessary as a result of diverse applications involving digital imaging and communication. The main aim of Image Quality assessment is to produce quality measures which will predict discern image quality mechanically. Various techniques are planned for measuring the quality of the image. In this paper, we proposed one of the technique to predict and to evaluate visual quality of an image by Support Vector Machine (SVM) which classifies the images along with image quality descriptors which are NIQE, PIQE, GLCM and LBP used for feature extractions of an images. After the classification, we can predict that whether the image is quality or not based on quality score produced.

Index Terms: SVM, image quality descriptors, Naturalness image quality evaluator (NIQE), perception image quality evaluator (PIQE), Gray-level co-occurrence matrix (GLCM), Local binary pattern (LBP), feature extractions.

HAND GESTURE RECOGNITION AND VOICE CONVERSION SYSTEM FOR DUMB AND DEAF PEOPLE

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Abstract:

Interchanges between hard of hearing quiet and an average individual have constantly been a troublesome errand. The endeavor hopes to energize people by strategies for a glove-based hard of hearing quiet correspondence middle person system. Each glove is inside furnished with a signal. For each specific gesture, the gesture module makes a relative change in resistance of flex sensor and accelerometer appraises the presentation of hand. The getting ready of these hand motions is in Controller. The glove fuses two techniques for action – getting ready mode to benefit every customer and an operational mode. The connection of letters to outline words is in like manner done in Controller. Moreover, the structure furthermore fuses a substance to talk change (TTS) square which translates the planned motions for instance substance to voice yield.

Keywords: Flex Sensor, Gesture, Glove.

DESIGN AND ANALYSIS OF CARRY MASKABLE ADDER (CMA) FOR LOW POWER APPLICATION

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Abstract:

Expansion is a key essential capacity for some error tolerant applications. Estimated expansion is viewed as a productive system for exchanging off vitality against execution and exactness. This paper proposes a carry maskable snake whose exactness can be designed at runtime. The proposed plan can progressively choose the length of the convey spread to fulfil the quality prerequisites adapt- ably. Contrasted and an ordinary swell convey viper and a traditional convey look-ahead snake, the proposed 16-bit snake decreased power utilization by 54.1% and 57.5% and basic way delay by 72.5% and 54.2%, individually. Also, results from a picture handling application show that the nature of the prepared pictures can be constrained by the proposed viper.

COGNITIVE SATELLITE TERRESTRIAL NETWORKS USING BEAMFORMING APPROACH

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Abstract:

This paper examines the protected correspondence of an intellectual satellite earthbound system with programming characterized design, where a passage is going about as a control focus to offer the asset portion for the remote frameworks. In particular, we propose beamforming (BF) plans to use the obstruction from the earthly system as a green source to improve the physical-layer security for the satellite system, gave that the two systems share the bit of millimeter-wave frequencies. Assuming that the satellite utilizes multibeam radio wire while the base station is furnished with a uniform planar exhibit, we initially detail a compelled joint improvement issue to limit the complete transmit control while fulfilling both the nature of-administration necessity of the earthbound client and the mystery rate (SR) prerequisites of the satellite clients. Since the detailed advancement issue is nonconvex and scientifically unmanageable, we at that point propose two BF plans to get the ideal arrangements with high computational proficiency. For the instance of one spy (Eve), we present a technique to change over the nonconvex SR requirement to a second-request cone one and afterward receive a punishment work way to deal with acquire the BF weight vectors. On account of numerous Eves, by presenting a rundown of assistant factors, we propose a two-layer iterative BF plot utilizing punishment work approach together with inclination based strategy to ascertain the BF weight vectors. At long last, reproduction results are given to exhibit the adequacy and prevalence of the proposed BF plans.

IoT BASED ANTI-POACHING ALARM SYSTEM FOR TREES IN FORESTS

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Abstract:

Nowadays there are many incidents about smuggling of trees like Sandal, Sagwan etc. Smuggling of sandalwood has created socio economic and law and order problems in areas bordering in India. The main objective of this project is to develop a system which can be used to restrict smuggling of sandalwood trees. The design system uses three sensors namely, Mems accelerometer (to detect the inclination of tree when its being cut), temperature sensor (to detect forest fires), sound sensor (for effective detection of illegal logging i.e. even the sounds generated while axing the tree are also sensed). Data generated from these sensors is continuously monitored with the aid of Thingspeak app. With respect to the sensors, their output devices are activated through relay switch. For tilt sensor and sound sensor a buzzer is activated and for temperature sensor a water pump is activated.

Index Terms: Tilt Sensor, Temperature Sensor, Arduino Uno, Wi-Fi Module.

DATA HIDING AND EXTRACTION FROM IMAGES USING SIDE MATCH ALGORITHM

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Nikhila, D. Pavani

Abstract:

Digital image processing is a rapidly evolving field with growing applications in science and engineering. Modern digital technology has made it possible to manipulate multidimensional signals. One of them is data hiding in encrypted images, the original image can be obtained by extracting the data first, it uses reversibility feature. In this project, an improved version of Zhang's Reversible Data Hiding method in encrypted images is proposed. Reversible data hiding, which is also called as Lossless data embedding, embeds invisible data into a digitally encrypted image by altering the pixel value for secret communication and the embedded image can be recovered to its original state after the extraction of the secret data. Recovery can be achieved by examining the block smoothness. The technique is used in applications where the owner of the carrier might not want the other person, including data hider before the data hiding is performed, such as military images or confidential images. Zhang's work did not fully exploit the pixels in calculating the smoothness of each block and did not consider the pixel correlation in the border of neighboring blocks. These two issues could reduce the correctness of data extraction. This project adopts a better scheme for measuring the smoothness of blocks and uses the Side-Match Scheme to further decrease the error rate of extracted-bits.

Index Terms: Encrypted image, reversible data hiding

A BIT-PLANE DECOMPOSITION MATRIX-BASED VLSI INTEGER TRANSFORM ARCHITECTURE FOR HEVC

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Abstract:

In this paper, a new very-large-scale integrated (VLSI) integer transform architecture is proposed for the High Efficiency Video Coding (HEVC) encoder. The architecture is designed based on the signed bit-plane transform (SBT) matrices, which are derived from the bit-plane decompositions of the integer transform matrices in HEVC. Mathematically, an integer transform matrix can be equally expressed by the binary weighted sum of several SBT matrices that are only composed of binary 0 or 1. The SBT matrices are very simple and have lower bit width than the original integer transform in the form. The SBT matrices are also sparse and there are many zero elements. The sparse characteristic of SBT matrices is very helpful for saving the addition operators of SBT. In the proposed architecture, instead of the original integer transform in high bit width, the video data can be respectively transformed with the SBT matrices in lower bit width. As a result, the delay of the transform unit circuit can be significantly reduced with the proposed SBT.

Index Terms: HEVC, SBT

AUTOMATED CONTRAST LIMITED ADAPTIVE HISTOGRAM EQUALIZATION USING INTRINSIC DECOMPOSITION AND DUAL GAMMA CORRECTION

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Abstract:

Image enhancement is a technique to bring out the detailed which is hidden in an image that is to increase the contrast of that part of the image where the information of the image lies. An image can be enhanced by using different enhancement techniques. Even though the image enhancement technique enhance the contrast of an image in an effective and efficient way, they usually have some drawbacks like loss in information, noise amplification and over enhancement. In this paper, an algorithm is proposed for image contrast enhancement using CLAHE, Intrinsic Decomposition and Dual Gamma Correction. As image decomposition is a highly critical problem, on both reflectance and illumination layers we have implemented some conditions .To avoid this problem intrinsic decomposition is used. Dual gamma correction is used to enhance the pixel intensities. There are four quantitative measuring parameters such as total variation (TV), average mean brightness error (AMBE), enhancement measure error (EME), CQE is used to measure the quality of the enhanced image.

Index Terms: CLAHE, Intrinsic Decomposition, Dual Gamma Correction, Illumination Layer, Reflectance Layer.

A HIGH ACCURACY SOLVER FOR RTE IN UNDER WATER OPTICAL COMMUNICATION PATH LOSS PREDICTION

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Abstract:

In this paper, we present another improved numerical structure to assess the time-subordinate radiative transfer equation (RTE) for underwater optical wireless communication (UOWC) frameworks. The RTE predicts the optical way loss of light in an underwater channel, as a function of the inalienable optical properties (IOPs) identified with the water type, to be specific the absorption and scattering coefficients just as the phase scattering function (PSF). We achieve the reenactment execution dependent on an improvement of the limited distinction plot proposed in [1] just as an upgrade of the quadrature technique expecting to figure the necessary term of the RTE [2]. Furthermore, we assess the got power at the collector plane in three measurements by thinking about a given beneficiary opening and a field of view (FOV). At long last, we assess the UOWC framework's bit mistake rate execution metric as a function of the spread separation, and time.

ESTIMATION OF CHANNEL IN MIMO–OFDM SYSTEMS BASED ON A NEW ADAPTIVE MATCHING PURSUIT ALGORITHM

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Abstract:

Because of the impact of the remote engendering condition in the transmission procedure, there are distinctive degrees of blurring and postponement, which result in entomb image impedance for the MIMO-OFDM [1] framework. For reason for viably conquering the impedance and bending, the recipient needs to get exact Channel State Data (CSI) and furthermore remote channel needs to show meager qualities. So exact and quick channel estimation is the center piece of the steady remote correspondence framework. Thusly, the principle disadvantage of existing SAMP[2] calculation is to acquire sparsity dimension of the flag and get priori information as a result of variable condition. Thus, so as to streamline the precision and lessen the season of channel estimation we proposed another versatile coordinating interest (NAMP) calculation. The primary thought of this technique is to choose the iotas with a steady advance size and evacuate the segments of little vitality by Singular Entropy request assurance in the inadequate arrangements. To start with, NAMP does not require the priori-learning of the sparsity level. Second, the fixed advance size is resolved so as to improve the productivity of flag remaking. Third, a Singular Entropy request assurance component is utilized to keep the less important molecules from being presented. At last our proposed NAMP calculation accomplishes littler computational multifaceted nature, particularly accomplishes more steady execution than the current SAMP calculation.

Index Terms: MIMO-OFDM, NAMP, SAMP, Compressed sensing, Singular Entropy Order.

SECURE COGNITIVE BEAM FORMING TECHNIQUES FOR COOPERATIVE MISO-NOMA SWIPT SYSTEMS

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Abstract:

Non-symmetrical various access (NOMA) and concurrent remote data and power exchange (SWIPT) are two promising procedures to improve phantom productivity and vitality effectiveness. In this paper, a fake clamor helped beamforming structure issue is concentrated to upgrade the security of a numerous info single-yeild NOMA SWIPT framework where a commonsense non-straight vitality collecting model is embraced. Rather than the vast majority of the current works, utilize a preferably direct vitality reaping model, this examination applies a progressively handy non-straight vitality gathering model. So as to improve the security of the essential system, an artificial-commotion helped agreeable sticking plan is proposed. The artificial – clamor helped beamforming plan issues are explored subject to the down to earth mystery rate and vitality collecting imperatives. Specifically, the transmission control minimization issues are detailed under both flawless Channel State Data (CSI) and the limited CSI mistake show. The issues detailed are non-curved, henceforth they are trying to unravel. Pair of calculations semidefinite unwinding (SDR) or a cost capacity are proposed for taking care of these issues. Our reenactment results demonstrate that the proposed helpful sticking plan prevails with regards to building up secure interchanges and NOMA is fit for beating the regular symmetrical various access as far as its capacity effectiveness. At long last, we exhibit that the cost capacity calculation outflanks the SDR-based calculation. Index Terms -Non-orthogonal multiple access, Cognitive radio, non-linear energy harvesting, physical-layer secrecy.

A NOVEL CONVEYOR BELT MECHANISM FOR IDENTIFYING AND SORTING PRODUCTS

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Abstract:

This paper attempt to design an automation system for package and identification of product color difference. The products are placed on a moving conveyor belt, a color detecting device will be situated in a position of conveyor belt that detects two different colored products and a divider separates different colored package product to the destination. The passage and separation of the product to the intended destination is done by a color difference mechanism. In many packaging industries color object sorting and separation is a major task that needs to be done at final dispatch system. Manual sorting is a traditional approach that is preferred by industries. This approach is performed by human operators which is tedious, time-consuming, slow and non consistent. ATmega 2560 is an on chip microcontroller consists of a powerful CPU tightly coupled with memory. In this project we are going to interface TCS3200 color sensor with microcontroller. TCS3200 is a color sensor which can detect any number of colors with arduino programming. Therefore, the efforts are made to design and implement an automatic technique of product passage and separation via color difference mechanism.

Keywords: Color sensor, AT Mega 2560, Servomotor, product.

IoT BASED TOLL COLLECTION MANAGEMENT SYSTEM

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Abstract:

In present days there is a tremendous surge in the toll courts so as to settle the toll regulatory obligation. To reduce the road turned parking lot, to spare time and additional cash deductions, in this paper the automation in toll charge is realized through IoT along with utilization of RFID. The proposed toll collection system consequently distinguishes moving toward vehicles and record vehicle's data. The vehicle with the approved individual gets the toll door naturally open and predefined toll charge is consequently deducted from its record and sends the charge deducted to the registered mobile number. This helps in diminished traffic clog at toll courts and aids in lower fuel utilization.

Keywords: RFID, toll charge, automation, traffic clog.

IMPROVED DARK CHANNEL PRIOR FOR IMAGE DEFOGGING USING RGB AND YCbCr COLOR SPACE

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Abstract:

Ecological factors, for example, fog and haze influence the image quality and make it unsatisfactory for mechanized frameworks, for example, canny vehicles, surveillance and outside article acknowledgment, which require images with clear perceivability for preparing and basic leadership. As a rule, recreation of without fog image from a solitary info image is very testing. Dark channel prior (DCP) technique is utilized to appraise environmental light with the end goal of image defogging. This paper exhibits a DCP based image defogging technique with improved transmission guide to abstain from blocking ancient rarities. The transmission maps are figured for RGB and YCbCr shading spaces. Three transmission maps for the R, G, and B channels are used to figure a mean transmission map. In the YCbCr shading space, Y channel is utilized to compute the transmission map. The two transmission maps are refined by safeguarding edge data for developing two middle of the road images, which are allotted diverse loads to get the upgraded defogged yield. The proposed strategy is assessed against the present best in class approaches, and the trial results dependent on auxiliary likeness file, fog impact, anisotropic quality file and corruption score are determined, which demonstrate that the defogged images reproduced utilizing the proposed technique accomplished better outcomes with lower fog impact, closeness record, debasement score and higher quality file esteem. Remade image has better contrast and luminance which is perceptually all the more speaking to the human visual framework.

IMAGE CLASSIFICATION USING WAVELET AND LBP BASED FEATURES FOR IMAGE RETRIEVAL APPLICATIONS

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Abstract:

This paper involves image retrieval technique based on GLCM features. The aim of CBIR is to get accurate results with lower computational time. The content-based image retrieval has been employed in several application areas such as biomedicine, military, commerce, education, and web image classification and searching. Content-based Image Retrieval (CBIR) technology overcomes the defects of traditional text-based image retrieval technology, being appreciated for accuracy and efficiency. Intensity -Histogram is a simple method used to compare images with corresponding intensity values. The accuracy and efficiency is less if single feature (colour, texture, shape, etc.) is considered for extraction, to achieve the effective retrieval. To provide better accuracy, different features like colour, texture and shape are combined. SVM classifier is preferred for classification as it is producing accurate results. The features for classification are extracted using wavelet and LBP based feature extraction. Comparing state-of-art methods, the proposed method is at good accuracy and efficiency.

Key words: Content based image retrieval, GLCM, Histogram, SVM classifier, Classification

SYNTHESIZATION OF LOW POWER AND AREA OPTIMIZED APPROXIMATE SUM-OF-PRODUCTS DESIGNS BASED ON DISTRIBUTED ARITHMETIC

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Abstract:

The Approximate circuits give elite and require low power. Total of-items (SOP) units are key components in numerous computerized flag handling applications. In this concise, three rough SOP (ASOP) models which depend on the disseminated number-crunching are proposed. They are intended for various dimensions of precision. First model of ASOP accomplishes an enhancement for territory and on power, when contrasted and customary unit. Other two models give an enhancement for territory and power, separately, with a decreased blunder rate contrasted and the primary model. Third model accomplishes the mean relative mistake and standardized blunder separate as low. Execution of rough units is assessed with a boisterous picture smoothing application, where the proposed models are fit for accomplishing higher pinnacle flag to-commotion proportion than the current best in class strategies. It is demonstrated that the proposed rough models accomplish higher handling exactness than existing works however with noteworthy enhancements in power and execution.

PLANT DISEASE DETECTION AND PESTICIDE SPRAYING USING DIP AND IoT

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Abstract:

Identification of disease is extremely difficult in agriculture field. If identification is inaccurate then there is an enormous loss on the production of crop and economical value of market. This project is used for detection of various plant diseases and when the disease is identified an SMS alert is sent to farmer and a pesticide spraying is done automatically using NodeMCU. This approach can be useful in the field of agriculture for accurate detection of diseases and to take the respective measures. The proposed Approach Consists of leaf image database collection, pre-processing of those images and segmentation followed by k-means clustering, feature extraction and classification using SVM algorithm. After detection of disease, the information is passed to NodeMCU and finally the message is sent to farmer by means of a cloud (Ubidots).

Index Terms: k-means clustering, SVM algorithm, NodeMCU, Ubidots.

FAKE CURRENCY RECOGNITION SYSTEM FOR INDIAN NOTES USING IMAGE PROCESSING TECHNIQUES

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UG Scholar, * Associate Professor, Dept. of ECE
Geethanjali Institute of Science and Technology, Nellore-AP

Abstract:

In the point of economic stability of a nation, circulation and use of the fake currency notes pose major threats. Curbing the use of fake currency notes nowadays becomes digitalized with use of digital image processing algorithms. Counterfeit notes are printed with the utmost precision level to par with the original. So fake currency detection is a difficult task by simple visual inspection and use of digital image processing algorithms come to play a vital role. The conceivable arrangements are there, to utilize either chemical properties of the currency or to utilize its physical appearance for detection. The methodology exhibited in this paper depends on physical appearance of the Indian currency. Image processing algorithms have been embraced to expose the highlights of Indian currency notes, for example, security thread, intaglio printing (RBI logo) and distinguishing proof imprint, which have been received as security highlights of Indian currency. To make the framework increasingly robust and exact, the definitive score of all the three highlights has been intertwined to separate among genuine and fake monetary standards. Another parameter used to quantify the execution of the proposed framework is mean square error, which is roughly 1%. It might be embraced by the everyday citizens too, who frequently face the issue of separating among genuine and fake monetary standards.

Keywords: Fake currency, fake currency detection, currency image representation, dissimilarity space, class learning.

AN ALGORITHM FOR CONCRETE CRACK EXTRACTION AND IDENTIFICATION BASED ON MACHINE VISION

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Abstract:

The article proposes solution to the huge extraction error, the trouble in distinguishing proof and different issues existing in crack detection. The central idea in this work involves amplifying the grayscale contrast between the cracks and by means of versatile grayscale straight change utilizing for the OTSU algorithm, for division and consolidating the broadening of the skeleton line and the grayscale highlight of the crack edge to fill the broken piece of the paired picture to get a total picture of the crack. The second arrangement is to improve a noteworthy trademark parameters of the crack picture to be increasingly appropriate for the trademark portrayal of the crack. At last, a correlation of various sorts of information and diverse correctness performed utilizing the preparation support vector machine (SVM) confirms the precision and practicability of the proposed algorithm for extracting and recognizing cracks.

IMPROVED DARK CHANNEL PRIOR FOR IMAGE DEFOGGING USING RGB AND YCBCR COLOR SPACE

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Abstract:

Ecological factors, for example, fog and haze influence the image quality and make it unsatisfactory for mechanized frameworks, for example, canny vehicles, surveillance and outside article acknowledgment, which require images with clear perceivability for preparing and basic leadership. As a rule, recreation of without fog image from a solitary info image is very testing. Dark channel prior (DCP) technique is utilized to appraise environmental light with the end goal of image defogging. This paper exhibits a DCP based image defogging technique with improved transmission guide to abstain from blocking ancient rarities. The transmission maps are figured for RGB and YCbCr shading spaces. Three transmission maps for the R, G, and B channels are used to figure a mean transmission map. In the YCbCr shading space, Y channel is utilized to compute the transmission map. The two transmission maps are refined by safeguarding edge data for developing two middle of the road images, which are allotted diverse loads to get the upgraded defogged yield. The proposed strategy is assessed against the present best in class approaches, and the trial results dependent on auxiliary likeness file, fog impact, anisotropic quality file and corruption score are determined, which demonstrate that the defogged images reproduced utilizing the proposed technique accomplished better outcomes with lower fog impact, closeness record, debasement score and higher quality file esteem. Remade image has better contrast and luminance which is perceptually all the more speaking to the human visual framework.

SECURE AND ROBUST DIGITAL IMAGE WATERMARKING USING DETAILED DWT COEFFICIENTS

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Abstract:

Digital image watermarking is a technique used to hide data & embedded inside an image to show authenticity or proof of ownership watermarking with DWT is the best technique used to solve authenticity & copyright protection in this paper watermarking with detailed DWT coefficients is proposed. The performance evaluation for robustness & imperceptibility of proposed method has been made (SSIM) Structure similarity index & peak signal-to-noise ratio (PSNR). To validate the efficiency of proposed method, the simulation results are compared with certain state of art techniques the comparison results illustrate that the proposed scheme performing better than existing method.

Index Terms: Watermarking, DWT, Robustness, SSIM, PSNR.

ENHANCED BANDWIDTH AND RADIATION SPECIFICATIONS OF U-SHAPE MULTISLOT ANTENNA FOR WIMAX APPLICATION

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Abstract:

Despite the many recompense of slot antenna, they do have some extensive drawbacks. One of the main limits with slot antennas is their essentially narrowband performance due to its resonant nature. With bandwidth as low as a the minority present; broadband applications using conventional patch designs are limited. So for the antenna size is reduced and bandwidth improvement U-shaped multislot antenna used. We are proposing a U-Shape multislot antenna to achieve the 2-3GHz frequency range. The simulation process has been done by using high frequency structure simulator (HFSS). The main properties of antenna such as bandwidth, return loss, VSWR , gain, radiation pattern has been analyzed.

Keywords: U-Shape Multislot antenna, HFSS, Gain, VSWR, Return loss

BRAIN TUMOR DETECTION SYSTEM USING DEEP LEARNING

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Abstract:

The human body is an extraordinarily unpredictable framework. Obtaining information about its static and dynamic properties yields huge measures of data. The utilization of pictures is the best method to oversee, present and translate the huge amounts of that data in the clinical drug and in the supporting biomedical research. Computational neuro life systems is a developing field of incredible applications in neuroscience which guarantees a computerized philosophy to describe neuro anatomical setup of auxiliary attractive reverberation imaging (MRI) cerebrum examines. Countless for portraying contrasts in the shape and neuro anatomical design of various cerebrums have as of late risen because of improved goals of anatomical human mind checks and the advancement of new modern picture handling procedures. The morphometric examination of attractive reverberation pictures (MRI) of the cerebrum has turned into a broadly utilized way to deal with research neuro anatomical connects of both ordinary mental health and neurological issue. Mind tumors is the fundamental issue that human faces as of late. It undermines human life straightforwardly. In the event that the tumor is recognized at a beginning time, the patient's survival chance increments. The mind treatment depends on the specialist learning and experience. Thus, utilizing a mechanized and faultless working tumor location framework is critical to help doctors to identify cerebrum tumors. The current strategies depend on the well known Digital picture handling calculations, for example, K-Means, CNN based classifier with restricted exactness. The proposed strategy actualizes the propelled calculations in Deep Learning which guarantees improved precision. The proposed technique has three phases, which are pre-handling, the outrageous learning machine near by responsive fields (ELM-LRF) based tumor arrangement, and picture preparing based tumor area extraction. At first, nonlocal means and neighborhood smoothing strategies were utilized to evacuate conceivable commotions. In the second stage, cranial attractive reverberation (MR) pictures were named amiable or harmful by utilizing ELM-LRF. In the third stage, the tumors were fragmented.

Keywords: Brain tumor detection, deep learning, and extreme learning machine-local receptive fields

ABOUT THE DEPARTMENT

The Department of Electronics and communication Engineering was established in the year 2008 with intake of 60 students and presently with 180 students. The department has been in the Fore Front for Research and Development and Training Activities in various areas such as Digital Signal Processing, VLSI, Communication Systems and Embedded Systems. The Department has highly qualified and experienced faculty. The department provides good infrastructure facilities and is equipped with laboratories and equipped with softwares.



VISION

To become a reputed learning centre producing competent professionals.

MISSION

DM1: Provide Quality education through interactive teaching-learning practices.

DM2: Establish Technology-enabled environment for building core competencies including robotics.

DM3: Arrange Industry-Interaction to hone professional skills.

DM4: Organize activities to foster social skills and ethical values.

PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

Graduates of B. Tech in Electronics and Communication Engineering Programme shall be able to

PEO1: Apply Engineering concepts to solve Electronics and Communication Engineering problems of social relevance.

PEO2: Design and develop Electronic devices and Systems for Industry or pursue research.

PEO3: Demonstrate competencies through continuous learning and adapt to multi-disciplinary environment.

PEO4: Practice professional values and contribute to the societal needs.

PROGRAM SPECIFIC OUTCOMES (PSOs)

At the time of graduation, student of B.Tech in Electronics and Communication Engineering Programme shall be able to

PSO1: **Professional Skills:** Apply principles of Analog and Digital Electronics, Communication Systems, Image processing, VLSI and Embedded Systems to solve diverse problems.

PSO2: **Software Knowledge:** Develop solutions for complex engineering problems of social relevance by employing Xilinx, CC Studio, Micro Wind, Keil, NG Spice, Scilab tools.

ABOUT THE COLLEGE

Ushodaya Educational Society, with decades of experience and expertise in running educational Institutes established Geethanjali Institute of Science and Technology in order to provide quality Engineering and Technical Education to the rural and underprivileged lot on par with the creamy layer of society. The College is well connected by road with NH5 at 3 KM and Mumbai State High way at about 500 Meters away. The nearest Railhead is just 5 KM away. A network of roads and a variety of transport options at regular frequency, make it accessible from different places.

Located in a picturesque lush landscape amidst aesthetic ambience near Nellore, it provides right teaching-learning environment. The Institution is approved by AICTE, New Delhi, affiliated to Jawaharlal Nehru Technological University, Anantapur and is ISO certified (9001:2015).The Institution has been carving out a name for itself as a centre of excellence in the area of imparting quality technical education to empower the new generation, ever since its inception in 2008.

The digital library with round-the-clock internet facility and subscription to a number of international journals enable accession to the current trends in technology and enrich the learning of the faculty and the students.

The Research and Development Department has been constituted in the Institution with the express expectation of encouraging research activities.

A very encouraging placement scenario has been perceived in the passed out students since the year 2012.

VISION

To emerge as a leading Engineering institution imparting quality education.

MISSION

IM1: Implement Effective teaching-learning strategies for quality education

IM2: Build Congenial academic ambience for progressive learning

IM3: Facilitate Skill development through Industry-Institute initiatives

IM4: Groom environmentally conscious and socially responsible technocrats

COURSES OFFERED

B. Tech: Civil, CSE, ECE, EEE and Mechanical Engineering.

M. Tech: Power Electronics & Computer Science and Engineering

Diploma: Civil and Mechanical