DEPARTMENT OF ECE

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ADITYA

Institute of Technology and Management

(An autonomous institution)

Tekkali-532 201, Srikakulam Dist., AP
Tel: 0845-245666, 245266, 92466 57908
Email: info@adityatekkali.edu.in

ADVITYA 2K18

ADITYA INISTITUTE OF TECHNOLOGY AND MANAGEMENT, TEKKALI (AUTONOMOUS)

Department of Electronic and Communication Engineering

Vision of the Institute:

To evolve into a premier engineering institute in the country by continuously enhancing the range of our competencies, expanding the gamut of our activities and extending the frontiers of our operations.

Mission of the Institute:

Synergizing knowledge, technology and human resource, we impart the best quality education in Technology and Management. In the process, we make education more objective so that the efficiency for employability increases on a continued basis.

Vision of the Department:

Create high-quality engineering professionals through research, innovation and teamwork for a lasting technology development in the area of Electronics and Communication Engineering.

Mission of the Department:

1. To offer a well-balanced Program of instruction, lab practices, research & development activities, product incubation.
2. Develop accomplished technical personnel with a strong background on fundamental and advanced concepts, have excellent professional conduct.
3. Enhance overall personality development which includes innovative and group work exercises, entrepreneur skills, communication skills and employability.
4. Ensuring effective teaching–learning process to provide in-depth knowledge of principles and its applications pertaining to Electronics & Communication Engineering and interdisciplinary areas.
5. Providing industry and department interactions through consultancy and sponsored research.

Message from Dr. K. Someswara Rao, CHAIRMAN

At AITAM, we are committed to excellence in everything we do. We strive to mould the students in balancing intellectual and practical skills to become leaders in all the fields of Technical know-how and Management. We have created the finest facilities for the students to make the most of their scholastic pursuits. We are closely aligned with the corporate world which ensures exchange of ideas and experiences that keep our curricula focussed on current developments and challenges in the field of engineering. We are firmly committed to research and consulting activities to contribute to the development of the discipline of engineering. Our vitality lies in our spirit of innovation. Our strength lies in our pragmatic approach. Our success lies in our will to do.

Message Sri L.L. Naidu, SECRETARY

Aditya Institute of Technology and Management is founded to meet the increasing demand for competent engineering graduates. Within a short span of its inception, AITAM has grown to be a premier engineering college of its kind and has won laurels and kudos from the industry. The faculty and staff in AITAM are dedicated to providing first-class education that instils strong and potent basic knowledge for sound practice in science and engineering for the well-being of the society. The Institute offers curricula that nurtures creative thinking and prepares students for productive and rewarding careers. The Institute offers programmes that deepen learning experiences of our students and prepare them for successful careers as engineers.

Message from Prof. V.V. Nageswara Rao, DIRECTOR

Engineering education at AITAM is indeed a rewarding intellectual experience. The Institute prepares the engineering professionals of tomorrow imbued with insight, imagination and ingenuity to flourish as successful engineers. Our programs are attuned to the needs of the changing times. The classrooms are ultra-modern; the library and labs are cutting-edge; and all the members of the faculty are workaholic professionals and masters in their fields. Not surprisingly, our students are recruited by such renowned organizations as HCL, Satyam, WIPRO, INFOSYS, TCS, Visual Soft, Innova-Solutions and InfoTech. The exceptional dedication of our students, faculty and staff, and our collaborations with Industry and other institutions ensure that the Institute is well-poised to create a unique niche in the horizons of engineering education.

Message from Dr. K.B. Madhu Sahu, PRINCIPAL

It is only through knowledge that man attains immortality. Knowledge has to expand or grow to remain as knowledge. The road to excellence is toughest, roughest and steepest in the Universe. The world requires and honors only excellence. Available information has to be directed by wisdom and intelligence to create new knowledge. Promotion of creativity is the new role of education. It is only through creative thinking that the present and future problems can be addressed to find dynamic solutions. Technology should be used to help remove poverty from the world. In fact forty per cent of the world's poor are in India. Confidence leads to capacity. It is faith in oneself that produces miracles. Education at AITAM helps build character, strengthen the mind, expand the intellect and establish a culture of looking at problems in a new perspective. The student is put through rigorous training so that he can stand on his own feet after leaving the portals of the Institute.

Message from Dr. Sateesh Kumar, H.O.D of ECE

Aditya Institute of technology and management (AITAM) is one among the reputed engineering colleges imparting finest quality education. The department of Electronics and Communication Engineering was established in the year 2001. Our aim is to produce graduates capable of effectively using professional skills with values for betterment of society and to meet the varying demands of industry and research environment. The department is well equipped with significant infrastructural design and state of art laboratories for both academics and research purpose.

Our department has a fine blend of a team of qualified and experienced faculty. The faculty members have excellent academic credentials. The notable asset of our department is the available diversity of expertise and highly motivated, well experienced faculty members ensure quality education from our department. The faculty and students are associated with memberships of professional bodies such as Institution of Electronics and Telecommunications Engineering (India), Institution of Engineers (India), Indian Society for Technical Education.

Our students earned name and fame all over the globe and rendering best of their services to topmost companies. The department of ECE endeavors to provide to our students best professional opportunities and look forward their bright future. We as a team resolve to take the department to heights of success and prepare our students for future challenges. We are striving hard continuously to improve upon the quality of education. Our goal is to ensure that the education we provide opens the doorway to greater opportunities.

B.TECH PROJECT ABSTRACTS

Sl. No.	Roll No.	Name of the Student	Project Title
1	15A51A0405	A.KrishnaChandramouli	**WIRELESS NOTICE BOARD USING VOICE COMMANDS**
	15A51A0429	B.Kartheek	
	15A51A0421	B.Manasa	
	16A55A0404	B.Aravind	

Abstract: In general there are various situations where we need to urgently display notices on a screen. For areas like railway stations and other such busy facilities, the station administrator need to type in every announcement message manually so that it displays on the screen. So, an innovative android notice display system that allows the user to display notices without typing them in manually is to be designed. Here the administrator may speak out the message through android phone which is then transferred wirelessly and displayed on the screen. LCD screen is used to display notices. The LCD is interfaced with Arduino. Bluetooth is used as slave to get the android transmitted messages and send the received messages to the Arduino. The Arduino then displays the message on the LCD screen. This innovative system can be used in a variety of places including railway stations, schools, colleges, offices for displaying emergency announcements on the screen instantly by just speaking out the message instead of typing it in each time.

Sl. No.	Roll No.	Name of the Student	Project Title
2	15A51A0459	G.Madhuri	**K-MAP BASED FIR FILTER DESIGN USING WINDOWS FOR EFFECTIVE DE-NOISING OF SIGNALS**
	15A51A0434	CH.Manasa	
	15A51A0431	B.Anusha	
	15A51A0455	G.Chaitanya	

Abstract: In signal processing, the filtering of noise from signal is one of the important operations to enhance the signal against noise disturbances which are attacking signal at different stages of signal procurement to its usage. Design of filter is always a challenging task as it has to filter the noise from the signal with restored signal properties. The project aims at to design filter with a new optimization technique that will optimize the filter coefficients and that optimization technique is called KARNAGUH MAP method, for effective de-noising of signal using a hybrid approach. To implement a hybrid filter by k-map methodology, consider three random FIR filters using BOXCAR, KAISER, HAMMING of windows and one reference filter with LMS algorithm and extracted coefficients from all these filters posed on truth table of k-map. The above three filters required to design a hybrid filter. Assume the order of each filter as N=8. Before minimization of filters consider the average of filter coefficients from digitization method and set the average value as threshold level of digitization. Replace the lower threshold value of all filter coefficients as logic zero's and upper threshold value of all filter coefficients as logic one's and continue the minimization technique. Finally compare all filters individually with resultant (obtained)

filter in terms of their spectral characteristics.

Sl. No.	Roll No.	Name of the Student	Project Title
3	15A51A0422	B Manikanth	**FACE RECOGNITION USNG SUPPORT VECTOR MACHINE (SVM) ALGORITHM**
	15A51A0411	M Arthi	
	15A51A0415	B Santosh Kumar	
	15A51A0424	B Jaswanth	

Abstract: In this digital world, protecting confidential information is becoming more difficult.Traditional passwords no longer provide enough security to ensure that data is kept out of the hands of hackers and unauthorized individuals. So the usage of different biometrics such as fingerprints, voice recognition etc. came into existenceto authenticate access to electronic assets. Biometric information is unique to each person. Comparing with other biometric techniques face recognition is better because it is more accurate and convenient.It works with the most obvious individual identifier - the human face. It is used to automatically identify a person through a digital image. Face recognition identifies each individual's skin tone of a human face's surface and the curves of the eye hole, nose, and chin, etc. It can view the face in different angles to identify.

Support Vector Machine (SVM) is a supervised machine learning algorithm used for the classification.In this algorithm a SVM classifier is used in order to classify the complete feature vectors obtained from the image set taken and the features of query images is compared with this trained set.

Face recognition is alive and flourishing. In the real time scenario, the concept of face recognition has becoming an essential focus in research/study communities. It is used in many broad areas, including social networking, photo editing, security, law enforcement, casinos. It is also used for crime restriction purpose because face images that have been recorded and archived, so that it will help us to identify a person later.

Sl. No.	Roll No.	Name of the Student	Project Title
4	15A51A0432	B Suryateja	**IMPLEMENTATION OF SMART STICK FOR BLIND PEOPLE**
	15A51A0451	G Damayanthi	
	15A51A0452	G Dilleswari	
	15A51A0427	B Maheswari	

Abstract: Blind people need some help to feel safe while moving. One has to ask guidance to reach their destination. They have to face more struggles in their daily life. They have to tackle daily routine tasks with such a precision including walking where a number of different obstacles blocking their passage. Smart stick comes as a proposed solution to improve the mobility of both blind people and visually impaired people.

Generally, blind people use normal white stick. This stick detects obstacle only when they touch it and hence prior detection of obstacle is problem. To overcome these problems faced

by the blind, a smart stick is designed which incorporates the ultrasonic sensors that can detects the distance in which the object actually resides. Also we are adding one more feature with which he can be able to know about the object in front of him. For the whole project to work, we are using Raspberry-pi module integrated with camera module with open CV Preinstalled. The open CV has a capable of identifying objects along with its names. This identification is called 'Object detection using Tensor flow' with this, the voice output is delivered to the blind so that he can visualize the objects through ears.

Sl. No.	Roll No.	Name of the Student	Project Title
5	15A51A0420	B.Haritha	**AUTOMATED HEALTH CARE SYSTEM FOR DISABLED PERSONS**
	16A55A0401	B.Yamuna	
	15A51A0443	D. Kezia	
	15A51A0417	B.NeelakanteswaraRao	

Abstract: Over the past few decades, the advancements in the technologies had been tremendously increased and ultimately lead to miniaturization which leads to wearable tech. One such field that demands the need of wearables is the medicine when patient's health is concerned. Monitoring a patient's health status requires constantly measuring pulse rates. Hence the automation is required for whole process of health monitoring by calculating the number of pulses and for the automation battery powered wearable health monitoring system that constantly monitors patient heart pulses using pulse sensor is too used. The Arduino after receiving the commands form the pulse sensor displays the exact beats of the patient on interfaced display. Besides the monitoring of heart pulses the issues of disabled people who are not capable of full body movement as compared to a normal person are also raised. Hence this also should be automat zed to help disabled person display a message by simple motion of any part of his body. Accelerometer is used in order to measure the statistics of motion and displays the particular message on the LCD as per predefined parameters obtained with the help of Arduino. It also sounds a buzzer along with message as soon as it receives motion signal from the accelerometer.

Sl. No.	Roll No.	Name of the Student	Project Title
6	5A51A0438	D.Srilatha	**SIERPINSKI TRIANGLE MICROSTRIP ANTENNA FOR WLAN APPLICATIONS**
	5A51A0439	D.Sudheerkumar	
	15A51A0448	E.Jyothsana	
	15A51A0453	G.Udaykumar	

Abstract: The implementation of a microstrip patch antenna with the use of a CPW feeding technique is described. A flexible coaxial feed is attached to the main microstrip line feed of a perturbed sierpinski monopole gasket, single and multiple operational frequencies are observed during the movement of the feed. The antenna system was designed, simulated in HFSS software and verified to show the feasibility of the proposed concept for WLAN applications. Due to their multiple-functionality nature, these antennas find their applications in space, communication, multiple-input-multiple-output (MIMO) systems, etc.

Index Terms— HFSSsoftware, Sierpinski triangle, CPW feeding.

Sl. No.	Roll No.	Name of the Student	Project Title
7	15A51A0423	BARATAM PADMA PRIYA	**HEALTH MONITORING SYSTEM USING BLYNK APPLICATION**
	15A51A0413	ARUN TILAK LADE	
	15A51A0416	BAGGU SRIJA	
	15A51A0440	DESILLA SURYANARAYANA	

Abstract: The Internet of Things (IoT) is the internetworking of physical devices, vehicles and other objects which consists of an embedded system with sensors, because of network connectivity that enable to collect and exchange data. The IoT allows objects to be sensed and/or controlled remotely across existing network infrastructure, creating opportunities for more integration of the physical world into computer-based systems, and result in improved accuracy, efficiency and economic benefit. The IoT is a rapidly increasing and promising technology which becomes more and more present in everyday lives. Furthermore, the technology is an instance of the more general class of cyber-physical systems, which also encompasses technologies such as smart grids, smart homes and smart cities.

In Health monitoring system DHT11 sensor used to transit temperature and humidity from transmitter side to receiver side by using wireless media. For connecting both media that's transmitter and receiver, blynk app is used. Its platform which provide feature to design an app acts like a receiver, when the DHT11 goes into active state it transmits some data through wifi module on blynk server that server is connect with our app. So, monitoring the data is possible, which is transmitted by DHT11 sensor. Not only monitor but also notification will receive when the temperature or humidity parameter change and as per the requirement user able to control that data because of bidirectional connection and also able to transmit data for maintaining the room temperature as well as humidity. 230 volt ac power appliances can be controlled by mobile phone. So it's also act like automation which is used for controlling home appliances. Besides, the Heart beat sensor attached to the hand (like band) can send heart beat information to the blynk app

Sl. No.	Roll No.	Name of the Student	Project Title
8	15A51A0404	AKKALAPOTU DHANALAKSHMI	**IMPLEMENTATION OF MINIATURIZED MICRO**

	15A51A0409	AMPOLU LAXMI PRASANNA	**STRIP** PATCH ANTENNA WITH & WITHOUT DEFECTED GROUND STRUCTURE
	16A51A0402	BEHARA KOTESWARA RAO	
	15A51A0437	CHINTADA JAGADEESH	
	14A51A04F4	TOGARAM PRAMOD ADITYA	

Abstract: This project proposes design of a compact microstrip antenna for wide bandwidth applications. Instead of semi-infinite ground plane, the proposed antenna adopts the defected ground plane. The Radiating patch lies on the FR-4 substrate which is having dielectric constant of 4.4, thereby provides good bandwidth. Proposed work introduces a methodology to increase the bandwidth as well as return loss with defected ground structure (DGS). Since communication systems require small size, broad band and multiband antennas, monopoles have to be ensued for fabricating broad-band antennas. Intensive investigations are carried out in the proposed work to design a new antenna with broad-band properties. The fundamental antenna parameters like resonant frequency, Return loss, VSWR, gain and band width of the antennas are going to be discussed. The simulation is going to be carried out through 3D electromagnetic simulation software Ansoft HFSS.

Sl. No.	Roll No.	Name of the Student	Project Title
9	15A51A0446	DURGASI HARITHA	**DESIGN OF GARBAGE MONITORING SYSTEM FOR MUNCIPALITY APPLICATIONS**
	16A55A0403	BOYINA PRANEETHA	
	15A51A0447	DUVVADA HARI CHANDANA	
	15A51A0454	LAKSHMIDHARAMAHANTHI AJAYKUMAR	

Abstract: Keeping the city clean has been always an ongoing task which needs laborious efforts of people working on ground level emptying the garbage bins whenever they are full. The event of garbage bin getting full is not strictly dependent on a time pattern, instead it sometimes becomes rapidly full or sometimes requires more than normal time to become full. And also sometimes weight of fill has reached the limit of what the garbage can withstand. IOT Garbage Monitoring with Weight Sensing project is an innovative step towards making this process smoother and efficient. This system monitors the garbage bins and informs about the level of garbage collected in the garbage bins via NodeMcu. This system uses ultrasonic sensors placed at the edges of bins to detect the garbage level and includes load cell attached below the garbage bins for knowing the exact weight of the filled garbage. If the comparison meets the predefined threshold, system sedan alert to the municipality servers through NodeMcu along with the location by fetching the GPS co-ordinates from GPS module, and they will send garbage pickup vehicles for evacuating the garbage.

Sl. No.	Roll No.	Name of the Student	Project Title
10	15A51A0402	ADIMULAM KANAKA MAHALAXMI	**DESIGN OF A ROVER WITH SNIPER FOR BORDER SURVELLIANCE APPLICATIONS**
	15A51A0426	BATTULA SANDEEP	
	15A51A0425	BATTULA MOHAN KRISHNA	
	15A51A0449	ESAKOTI KIRAN KUMAR	

Abstract: The advancements in the technologies had been grown exponentially from telecommunications, wireless networks, data delivery and to robotics. Besides, there has been a massive demand for automation in every sector including defense services. But even the presence of these advancements, some countries are been exposing to terrorist attacks especially when border areas are concerned. The terrorist's illegally enters into the borders and attacking the nearby small villagers by escaping from Border security force (BSF)sight. In the worst case, they don't step back to kill the BSF soldiers who fight against them. This is because of the lack or less use of automation in developing countries. Specifically, our work addresses this issue by introducing a Rocker Bogie rover fitted with a sniper that can shoot any illegal entry of terrorist's in the border areas. The rocker bogie as the name implies that it can move in any uneven terrain land as the border areas are rocky. This rover comes with the thermal sensors which can detect any movements in front of it by using the principle of Infra-red Absorption and interfacing with Arduino board. The servo mechanism attached to the sniper and it takes the commands from the thermal sensors and shoots the target accordingly. This rover can be avoided to hit any tress or bigger rocks by incorporating ultrasonic sensors. The entire functions and instructions of all the modules can be programmed using Arduino IDE software. If the BSF soldiers intended not to attack the terrorists instead wants to see who is entering in the border can opt for manual control of sniper so that they can shoot once they commence for orders. This manual feature is useful when the rover is at near the villages so that villagers are not to be shot down.

Sl. No.	Roll No.	Name of the Student	Project Title
11	15A51A0444	DUMPA MANI MALATHI	**MULTI LEVEL IMAGE THRESHOLDING FOR SEGMENTATION USING FIREFLY ALGORITHM**
	15A51A0407	ALLU MOHANA SIVA MANIKANTA REDDY	
	15A51A0457	GORLE RAMBABU	
	15A51A0419	BALAKA CHANAKYA	

Abstract: Image thresholding is the process of extracting objects in a scene from the background accompanies for the analysis and interpretation of image which is mostly employed for its advanced simplicity, robustness, less convergence time and accuracy. The main intend of image segmentation is to segregate the foreground from background. As ordinary thresholding method of image segmentation is computationally expensive while extending for multilevel image thresholding, the need for optimization techniques is highly recommended. This project proposes multilevel image thresholding for image segmentation by using Shannon entropy maximized by naturally inspired firefly algorithm. A firefly

based multilevel image thresholding results will prove better in misclassification, standard deviation, Structural Similarity Index and segmented image quality while comparing with Particle swarm optimization.

Sl. No.	Roll No.	Name of the Student	Project Title
12	15A51A0458	GUDIYA PRANATHI SAHU	**DETECTION AND IMPLEMENTATION OF VEHICLE NUMBER**
	15A51A0410	ANDAVARAPU NAVYA SRI	
	15A51A0401	VOONNA HEMANTHKUMAR	
	15A51A0430	BOORJI NAVEEN KUMAR	

Abstract: The Vehicle Number plate Recognition system is based on image processing technology. It is one of the necessary systems designed to detect the vehicle number plate. With the development of this system it becomes easy to recognize the number plate at any moment. Characters on number plate may be of different size,colour and styles. Due to variations in the representation of number plates, vehicle number plate extraction, edge detection, character segmentation and recognition are crucial. Number plate extraction is done using median filter and morphological operations. Edge detection is done using canny edge detection algorithm as it reduces the time and memory consumption. Character segmentation is done by using connected component analysis. The system is implemented and simulated in Matlab.

Sl. No.	Roll No.	Name of the Student	Project Title
13	15A51A0428	BOGI AMULYA	**INNOVATIVE SOLUTION FOR VEHICLE PARKING PROBLEM**
	15A51A0436	CHAPPATI SHANMUKHARAO	
	15A51A0433	BURAGANA VANITA	

Abstract: Now a day's Car parking is a major issue in modern congested cities from public places to various shopping malls due to the increase of numerous cars. There are simply too many vehicles on the road and not sufficient parking space. This has led to the need for efficient parking management systems. By addressing this issue, the use of IOT based parking management system has been demonstrated that allows efficient way of parking and results in proper space utilization. The system detects status of parking slots whether occupied or not by using ultrasonic sensors and send the commands to NodeMCU which acts as a server thus allowing edge sensors (Ultrasonic sensors) directly communicate with the end server like blynk. By using the blynk application in the mobile phones, the end user can easily connects with the server created by the NodeMCU. The designed system will senses the number of parking slots available and updates the data along with the location by fetching the coordinates from GPS module to the blynk server which allows the users to check for the availability ofparking slots by monitoring in the blynk application. It also includes the slot

booking option by clicking the desired slot in the blynk application and once done, the blynk server updates the NodeMCU server and makes the light at the parking slot to turn red (indicates the slot has been booked), green (indicates the slot is empty). Thus the system resolves the parking issue for cities and get users an efficient IOT based parking management system.

Sl. No.	Roll No.	Name of the Student	Project Title
14	15A51A0414	AYUSHA SINGISETTI	**DESIGN OF ROBOTIC ARM FOR MULTIPURPOSE APPLICATIONS**
	15A51A0456	GORLE KUMAR RAJA	
	15A51A0408	ALUGUBILLI AKHIL KUMAR	
	15A51A0435	CHALLA VAMSI KRISHNA	

Abstract: Today technology is developing, in the same direction the human needs are also increasing rapidly.Robot arm work with an outside user or by performing predetermined commands.Now the most developed field of robot arm is used in the industry and medicine sector.Designed and realized in the project, the robot arm has the ability to move in different directions with the help of motors.The robot arm can take the desired material from one place and carry it to the another place, and also mix it with the material it receives. While doing this, robot control is provided by connecting to the android application via Bluetooth module connected to the ArduinoUno. A robotic arm is a mechanical arm, similar to the functions of a human arm. The parts of these manipulators or arms are interconnected through articulated joints that allow a translational linear move. These robotic arms are also widely employed in military for the bomb disposal purposes.

Sl. No.	Roll No.	Name of the Student	Project Title
15	15A51A0460	GULIVINDALA RAMYA	**ARDUINO BASED SMART IRRIGATION SYSTEM USING IOT**
	15A51A0406	ALLADA SIREESHA	
	15A51A0412	ARUGULA VASANTHA	
	15A51A0442	DIKKALA HARSHAVARDHAN	

Abstract: Agriculture is the backbone of all developed countries. It uses 85% of available fresh water resources of population growth and increased food demand. Due to this, efficient water management is the major concern in many cropping system in arid and semi-arid areas. An automated irrigation system is needed to optimize water use for agricultural crops. The need of automated irrigation system is to overcome over irrigation and under irrigation. Over irrigation occurs because of poor distribution or management of waste water, chemical which leads to water pollution. To overcome these problems and to reduce the man power smart irrigation system has been used. In order to help the farmers to overcome the difficulties, smart irrigation system has been used.

In this system, various sensors such as pH, soil moisture, DHT11, PIR (intruder detecting

system) and pressure sensors are connected to the input pins of arduino microcontroller. The sensed values from the sensors are displayed in LCD. If the sensed value goes beyond the threshold values set in the program, the pump will be automatically switched ON/OFF by the relay circuit and it is connected to the driver circuit which helps to switch the voltage. The farmer will be intimated about the current field condition through GSM module and also updated in the web page. By using this system, the farmer can access the details about the condition of the field anywhere at any time.

Sl. No.	Roll No.	Name of the Student	Project Title
16	15A51A0475	KILLANA LAVANYA	**DESIGN AND DEVELOPMENT OF ELLIPTICAL SLOT ANTENNA WITH CIRCULAR RADIATOR FOR WIDE BAND AND ULTRA WIDEBAND APPLICATIONS**
	16A55A0406	GORINTA TARUN KUMAR	
	15A51A04B3	PARAPATI YOGESWARA RAO	
	15A51A04C0	PONNADA SATYA RAJU	

Abstract: The main challenging task for antenna design engineers and scientists is to design compact printed antennas with multiband characteristics with good efficiency. The antenna should also be well-positioned in terms of cost, size, radiation pattern, gain and ease of integration in the circuit board.In view of the above facts, intensive investigations are carried out in the present project to design, and analyze the Elliptical Slot Antenna with Circular Radiator micro strip patch antenna. Ground plane and feeding mechanism are main interest areas in most of the micro strip antenna designs for optimum performance. This leads to the design of such printed micro strip antennas. The present work describe about the development and analysis of compact wide band and Ultra wideband antenna.A suitable micro strip feed technique is going to be considered. The parameters like resonant frequency, Return loss, VSWR, S-parameters, gain and band width of the antennas are analyzed for uwb suitable for medical applications. The simulation will be carried out through Ansys: HFSS Software .

Sl. No.	Roll No.	Name of the Student	Project Title
17	15A51A0487	KOTTAKOTA NAVYA	**SMART CARE SYSTEM BY USING IOT**
	15A51A0476	KILLANA UMAMAHESWARI	
	15A51A0466	INJARAPU HARITHA	
	15A51A04B1	PANDRANKI BHARGAV NAIDU	

Abstract: Now-a-days many of the people are suffering because of patient health care. If a person suffering with health issues like paralysis, organ disable then the problem will be faced by both patient and the care taker. The patient needs to switch on/off the fan or light, or

need any help which they can't do on their own.

To overcome the above problem, Smart Care is one of the best solutions. Patients who have disabled body due to the paralysis attack or any other diseases. To solve this situation we propose a system that helps disabled person to send a message to g-mail or twitter by just simple motion of any part of his body which has motion abilities in XYZ direction of accelerometer sensor. Our proposed system works by reading the tilt direction of the user part. The user just needs to tilt the device in a particular angle to convey a message. Here we use accelerometer in order to measure the statistics of motion, and passes this data to Arduino UNO. The microcontroller now displays the associated information as message to g-mail, tweet and notification will be shown in mobile application BLYNK. It also sounds a buzzer along with message as soon as it receives motion signal from the accelerometer. If there was no one to take care of patient when buzzer beeps sound then Patient can tilt the device for some more amount of time which trigger a message to the registered care taker of the patient . In this way Automated Patient Care System truly automates the care taking ability of the patient.

Sl. No.	Roll No.	Name of the Student	Project Title
18	15A51A0471	KANCHADA KRANTHI KUMAR	**DESIGN OF AUTOMATED FRUIT GRADING SYSTEM**
	15A51A0470	KAMBOTHULA SANTHOSH KUMAR	
	15A51A04B5	PASUPULA NALINI	
	15A51A04A3	MUGADA SAI KIRAN	

Abstract: In recent years, automatic visual inspection technology has become more potential and important to fruit grading applications. This is due to that the quality of fruits is the important factor for the consumer and essential for marketing uniform high quality products. The automated fruits grading technique have been set up to reduce the production costs and replace the manual technique for grading of fruits as manual inspection is facing problems in maintaining consistency and uniformity.

A prototype of an automated fruit grading system is designed and developed to detect size and defects on the surface of fruit. For this the system is capturing the fruit and image is processed using MATLAB and grading is done by micro controller based interfacing module. In this project Canny edge detection method is used to detect the edge of the image of the fruit .The dark patches or spots will be occurred at the area of fruit defects, which almost has a circular shape. Grading process take place by identifying size of the fruit, number of patches or spots and their circumference.

Keywords— fruits, Grading System, Matlab, Image Processing

Sl. No.	Roll No.	Name of the Student	Project Title
19	15A51A0495	MADUGULA SAI KUMAR	ARDUINO GLASSES **A HEAD MOUNTED DISPLAY FOR MULTIMETER**
	15A51A0473	KARAKAVALASA S S S E VARA PRASAD	
	15A51A0465	INJARAPU GOWRI SANKAR	
	15A51A04A1	MEESALA SAI LOKESH	

Abstract: Generally to know the voltage of terminal / device voltmeter or multi meter will be used, at complex circuit side it is difficult to handle with multi meter as well and mislead might to damage/accident. So, to reduce this mislead we will be doing a wireless glass which will show the reading of the voltage on glass itself. Embedded Wireless Glasses with Transparent Heads-up Display that has the capability of reflecting projected digital images as well as allowing the user to see through it, or see better with it. One of the usages of these smart glasses is in Circuits lab and in Real time projects. Connecting the Digital Multi meter embedded with Bluetooth. This multi meter has to build with Bluetooth, so we can connect it to your phone or tablet also.

Sl. No.	Roll No.	Name of the Student	Project Title
20	15A51A04A5	MUPPIDI SHARAN	**SIMULATION OF A NOVEL MINIATURIZED MICROSTRIP PATCH ANTENNA WITH I SHAPE DEFECTED GROUND STRUCTURE FOR CBAND APPLICATIONS**
	15A51A0464	INDUPURI SURYA	
	16A55A0407	JALAMANA KISHORE	
	15A51A04A0	MEELA SAI KUMAR	

Abstract: Microstrip patch antennas have been a topic of intense investigation over the last two decades, due to their several advantages and better prospects. Moreover, Microstrip patch antennas can be easily designed to operate in dual-band and multi-band applications, for dual or circular polarization. Thus, they are widely used in many practical applications such as medical applications, satellites and military systems.

With the rapid development in wireless communications, much effort has been devoted to reduce the size of microstrip antennas. In this way, several methods have been proposed recently, such as using a dielectric substrate of high permittivity, Defected Microstrip Structure (DMS), Defected Ground Structure (DGS) at the ground plane or a combination of them. Mainly DGS is a periodic or non-periodic cascaded defect configuration etched in the ground plane of a planar transmission line. The defect geometry is easy to implement and does noted a large area. DGS has been widely used in the development of miniaturized

antennas. This project proposes a low cost compact edge fed rectangular patch antennas by way of the Defected Ground Structure (DGS). The proposed I shape DGS antenna operate at resonating frequencies of C-Band. The performance measures of DGS antennas going to be simulated in An soft HFSS Simulation software.

Sl. No.	Roll No.	Name of the Student	Project Title
21	15A51A04A2	MENDA SANDHYA RANI	**COMPUTATIONAL ELECTROMAGNETICS USING FINITE DIFFERENCE METHOD**
	15A51A04B0	PALLI SIRISHA	
	15A51A0491	GONDU ANANTHA RAO	
	15A51A0499	MANDALA KUMAR	

Abstract: The finite difference method (FDM) is simple to formulate and can readily be extended to two or three-dimensional problems and requires less computational work than the finite element method (FEM) and more recently, with the advent of numerical grid generation approach, the FDM has become comparable to FEM in dealing with irregular geometries. A formulation based on FDM for solving the 2 dimensional electromagnetic field problems. The goal of this work is to implement a comprehensive and general set of FDM equations derived from the Maxwell's equation. The output of 2-dimensional electromagnetic field can be observed by using MATLAB. The output of 2 –D Laplace equation, 2-DPoissons equation, heat diffusion in 1-D wire using explicit method and implicit method, calculating the capacitance of a pair of coaxial rectangles can be seen using MATLAB.

Sl. No.	Roll No.	Name of the Student	Project Title
22	15A51A04A9	P V L SRI HARSHITA	**Smart Railway Announcement Board**
	15A51A0484	KONDAKA SRINIVASARAO	
	15A51A0467	JANAPANA VENKATA REDDY	
	15A51A0490	LAKHINANA VENKATA SAI	

Abstract: Now-a-days in railway stations to give announcements or give information to passengers display boards are using. In order to make this process, we have to connect our computer local server to display boards. Then, data will transmit from computer system to display boards. Then it displays the information. So, one person is required to operate the system from a particular place. It is totally wired system, it consumes more power & circuit is complex. Later GSM (Global System Mobile Network) based display boards were proposed. In this the sender doesn't know whether the message sent from GSM is displaying on the display boards or not because of network issues.

To overcome the demerits mentioned above, we came up with a solution called Smart Railway Announcement Boards. Instead of sending the data from computer local server to display boards, send the information through mobile application blynk which

interfaces to microcontroller ESP8266 through cloud as input to the display boards. Then the information sent from blynk application display on the display boards as output. In this the senders know whether the information is displaying on the display boards or not which sent from mobile application blynk. Instead of using local server of the computer, mobile application blynk is used. The Smart Railway Announcement Boards works on the platform IoT (Internet of Things) in this less power is consumed, wireless system & also circuit design is easy

Sl. No.	Roll No.	Name of the Student	Project Title
23	15A51A04B6	PATNAIKUNI HARIKA	**IMPLEMENTATION OF SMART ATTENDANCE MONITORING SYSTEM USING RFID SYSTEM**
	15A51A0462	GUNDBALA HASHITHA	
	15A51A0461	GUNA SIRISHA	
	15A51A0489	KUNA RAMPRASAD	

Abstract: Now-a-days monitoring of attendance is time consuming in many organizations and educational institutions. This problem can be overcome by using the proposed system. The main objective of this project is to record the attendance of students in educational institutions and workers in the organizations using RFID tags. Each person is provided with his or her authorized tag to swipe over the reader to record their attendance. In classrooms, time is wasted in roll calls as it is done manually. In this proposed system, authorized student is given an RFID tag. This tag contains an integrated inbuilt circuit that is used for storing, processing information through modulating and demodulating of the radio frequency signal that is being transmitted. Thus, the data stored in this card is referred as the identification or attendance of the person. Once the person places the card in front of the RFID card reader, it reads the data and verifies it with the data stored in the microcontroller. If the data matches, then it displays a message on the LCD confirming the entry of that person and displays it to the PC wirelessly using Arduino IDE software. Hence, a lot of time is saved and attendance is directly stored in the data base.

Sl. No.	Roll No.	Name of the Student	Project Title
24	15A51A04A6	NANDANA SUPRIYA	**CLUSTERBASED ENERGY EFFICIENT ROUTINGPROTOCOL FOR WIRELESS SENSOR NETWORKS**
	15A51A0463	GURUBELLI CHANDINI	
	15A51A0492	LANDA YAMUNA SRI	
	15A51A0486	KORADA PAVANI	

Abstract: Wireless Sensor Networks (WSNs) are well known due to its multiple application areas. Itconsists of tiny nodes, which are cheap and easy to deploy in several types of application areas ranging from industrial to health. The Wireless Sensor Networks are popular in health applications and play an important role for monitoring the critical patients. Among different operations, routing is always recognized as a resource hungry operation. Therefore, it is pertinent to design an energy efficient routing protocol for WSNs. The main aim of this projectis to implement a Cluster Based Body Area Protocol (CBBAP) in order to enhance the overall energy efficiency over the existing approaches. The Base Station (BS) is

assumed to be placed far in the routing protocol of CBBAP, while the gateway approach is adopted, which is proposed to be placed in the centre of the sensing area. The proposed protocol uses the Cluster Head (CH) mechanism as a Low Energy Adaptive Clustering Hierarchy (LEACH). The performance of the proposed CBBAP protocol will be compared with LEACH for Wireless Sensor Networks(WSNs) efficiency.

Sl. No.	Roll No.	Name of the Student	Project Title
25	15A51A04A4	MUKHESH PEDDINA	**IOT BASED GAS LEAKAGE DETECTION AND ALERTING SYSTEM**
	16A55A0408	KONDETI ARUNA KUMARI	
	15A51A0477	KILLARI POOJITHA	
	15A51A0483	KONADA VAMSIKRISHNA	

Abstract: There have been many incidents like explosions and fire due to LPG leakage. Such incidents can cause dangerous effects if the leakage is not detected at an early stage. IOT based LPG leakage detection system is a project which will help in determining gas leakage in the surrounding and send data to the intended users.

IOT based LPG leakage detection system senses the LPG leakage with the help of an LPG sensor. The Signal from this sensor is sent to the microcontroller. The microcontroller is connected to an LCD, Buzzer and IOT module (ESP8266).This is a Wi-Fi module which is used for connecting microcontrollers to Wi-Fi network and make TCP/IP connections and send data. Data, which is sensed by these sensors, is then sent to the intended user. The IOT module then sends the data over to the Internet. Once the gas leakage is detected, the buzzer is turned ON and a 'Leakage detected' message is displayed on the LCD, along with a mail and tweet to the user, also the exhausted fan will be turned on.

The Pre-requisite for this LPG leakage detection and smart alerting project is that the Wi-Fi module should be connected to a Wi-Fi zone or a hotspot.

Sl. No.	Roll No.	Name of the Student	Project Title
26	16A55A0405	DUPANA KAMESWARAREDDY	**BIKE LOCATOR AND CONTROLLER EFFICIENT (EBLC)**
	15A51A04A7	NANUPATHRUNI MURALI KRISHNA	
	15A51A04B7	PENDYALA VEERA VENKATA SAI KRISHNAKANTH	
	15A51A0482	KOMARAPU RAMAKRISHNA	

Abstract: Now-a-days basically vehicle thefts are more at the shopping malls, at the traffic

areas, hospitals, etc... Even after completion of robbery also it's very difficult to get our vehicle back by giving police complaint or by any other sources. So, to overcome the above problem we come with an idea called efficient Bike locator and controller. In this project the node MCU control's the vehicle engine in such a way that we can switch on and off the engine from our mobile application Blynk which interfaces with the microcontroller ESP8266. If unknown person theft the vehicle then notification will be shown in the mobile application and in our Gmail account as well as in twitter also. Based on the notification if any unauthorized or unknown person steals the vehicle then we switch off the bike engine and we get to know the location of our vehicle in our mobile too.

Sl. No.	Roll No.	Name of the Student	Project Title
27	15A51A0493	LOLLA SRIJA	**IMPLEMENTATION OF CONTENT-BASED IMAGE RETRIEVAL BASED ON SHAPE FEATURE EXTRACTION**
	15A51A0474	KEDARASETTY BHAVANIKUMAR	
	15A51A0468	KAKARLA SWAPNA	
	15A51A0478	KIRRU GOWTHAMI	

Abstract: Information in the early days was generally obtained and processed in the form of text. Nowadays the information can be obtained in the form of graphics, which are a more comprehensive and a more accurate representation of information. Information is basically given out in a two-step process. The first step involves the capture of information and then the captured information is retrieved and analyzed for the respective needs. The concept of retrieving images based on their content is called as Content Based Image Retrieval (CBIR). Consider an image as data has certain parameters called as 'metadata. This technique had some disadvantages. Firstly, a search engine that relies on metadata produces a lot of garbage results and also it is really difficult to manually search for the keywords of an image.

A method was required which would give us more accurate retrieval results. Thus, the concept of recognizing images with respect to their content came into being. Content based image retrieval is widely used in multimedia technology, security and military applications etc. the rapid increasing usage of large image database becomes possible. To carry out its management and retrieval, Content-Based Image Retrieval (CBIR) is an effective method. This paper shows the advantage of content-based image retrieval system, as well as key technologies. Compare to the shortcoming that only certain one feature is used in the traditional system, this project introduces a method that combines color, texture and shape for image retrieval and shows its advantage. Then this project focuses on the shape based feature extraction and representation, several commonly used algorithms and image matching methods.

Sl. No.	Roll No.	Name of the Student	Project Title
28	15A51A04B2	PANGA NIHARIKA	**IOT BASED DANGER ZONE DETECTION**
	15A51A0494	LOLUGU SOWMYA	

	15A51A04A8	NARAVA GANESH	
	15A51A04B8	PINAKANA GAYATRI	

Abstract: A manhole is a large hole in a road or path, covered by a metal plate that can be removed. Workers climbed on through manholes when they want to clean the drains. Now a days in the streets and main roads **Abstract:** of the city daily many vehicles met accidents because of man holes at night time mostly. In few places kids have fallen down in manholes unfortunately while playing. It's being a major issue in present society. If the surrounding people or citizens of city give complaint to the government official even if they are not responding in time. The common ones includes falls, fire or explosion, oxygen depletion, heat, stress etc,.

Human life is more valuable than anything else, timely helping is more important than leading a helping hand. This project is one among those which is designed in way to save human lives in a timely manner. To overcome the above problem we come up with an idea called "**DANGER ZONE DETECTION**". In this project, when a vehicle or a kid or any object come near to it. The alert will be shown in a LCD display, a red light will blow as well as the siren will glow to prevent from harm. This project is doing on the open source IOT platform of Node MCU-ESP8266.

Sl. No.	Roll No.	Name of the Student	Project Title
29	15A51A0480	KODI PRAMEELA	**DETECTION OF CARDIAC ABNORMALITIES IN ECG SIGNAL USING TIME BASED SIGNAL PROCESSING ALGORITHM**
	15A51A0498	MAMIDI PAVANI	
	15A51A04B9	PINAKANA LIKITHA	
	15A51A0481	KOMANAPALLI SAI MANOHAR	

Abstract: An electrocardiogram is a bioelectrical signal which records electrical activity of heart. A lot of information on the normal and pathological physiology of the heart can be obtained in the form of ECG. The electrical activity of the heart is irregular, faster or slower than normal is considered as abnormality in ECG signals. The early detection of cardiac abnormalities are very important for cardiac patients to prevent stroke or sudden cardiac death.

The irregularity of the heart resembles the shape of ECG. One cardiac cycle of ECG signal consists characteristic points of P-QRS-T. The amplitude and interval values of P-QRS-T segment determine functioning of heart for every human. In this work, modified Pan Tompkins algorithm is used for identifying the characteristic points. Further, different cardiac abnormalities (AF (Atrial fibrillation), RBBB (Right bundle branch block), CI (Cardiac Ischemia), LBBB (Left bundle branch block), Bradycardia, Tachycardia) are detected using time and amplitude features of ECG.

Sl. No.	Roll No.	Name of the Student	Project Title
30	15A51A0485	KORADA AVINASH	**3D RECONSTRUCTION OF HUMAN FACE**
	15A51A0496	MADUGULA SWETHA	

	15A51A0488	KOTTURU ESWARIBAI TRIVENI KUMARI	
	15A51A0497	MAJJI MANOJ KUMAR	

Abstract: Creating photo realistic 3D models from a set of photographs is challenging problem in computer vision because the technology is still in its development stage while the demands for 3D technology and for new methods of 3D reconstruction are increasing rapidly. The traditional approach of computer graphics has been to create a geometric model in 3D and try to reproduce it onto a two-dimensional image with rendering. A method used in this model is, unlike traditional approach, the way to create photorealistic 3D models from 2D images. It is mostly focused on detecting, grouping, and extracting features (edges, faces, etc.) present in given picture and then trying to interpret them as three-dimensional clues. In operational part of this article, it will be specifically explained how to create photorealistic human face from the set of images with two different methods automatic and direct. So here it offers a solution to the problems that occur in the reconstruction of 3D models from photos, such as variations in geometric scale and a mix of textured, uniformly colored, and reflective surfaces. Given facial image, classifying the facial pose into one of five predefined poses. The results obtained by usingsurface construction in Matlab, these results obtained can be displayed using new technologie such as 3D monitor or printed on the 3D printer.

Sl. No.	Roll No.	Name of the Student	Project Title
31	15A51A0469	KALLA KAVYA	**SMART SOLAR TRACKING SYSTEM**
	15A51A04B4	PASALA RAMYA	
	15A51A0479	KODA VENKATESH	

Abstract: Solar panel has been increasing in recent years to convert solar energy to electrical energy. The solar panel can be used either as a stand-alone system or as a large solar system that is connected to the electricity grids. The earth receives 84 Terawatts of power and our world consumes about 12 Terawatts of power per day. We are trying to consume more energy from the sun using solar panel. In order to maximize the conversion from solar to electrical energy, the solar panels have to be positioned perpendicular to the sun. Thus the tracking of the sun's location and positioning of the solar panel are important. Renewable energy resources are getting priorities in the whole world to lessen the dependency on conventional resources.

The goal of this project is to design an automatic tracking system, which can locate position of the sun. The tracking system will move the solar panel so that it is positioned perpendicular to the sun for maximum energy conversion at all time. ESP8266-Node MCU microcontroller based design methodology is used in Smart solar tracking system. Light dependent resistors are used as the sensors of the solar tracker.

Sl. No.	Roll No.	Name of the Student	Project Title
32	15A51A04H6	RANGOYI JEEVITHA	**An Analysis on Bandwidth improvement of a Microstrip Patch Antenna using Surface Area**
	15A51A04F4	TANKALA SANTHOSH KUMAR	
	15A51A04C7	PULLATA HARSHAVARDHAN	
	16A55A0411	RONANKI SATYANNARAYANA	
	16A55A0413	YENNI PAVITRA KUMAR	

Abstract: A rectangular Micro strip patch antenna with edge feeding technique is presented in this project. The H-shape patch antenna has wide bandwidth and high Gain. The surface area plays a major role in bandwidth of any antenna. This project describes the comparison of the increase in the bandwidth with the increase in the surface area of the patch. A novel H-shaped patch antenna suitable for wireless and satellite communications is presented. This project represents the dual U slot H-shaped Micro strip patch antenna feed by transmission line. The decrease in the prices of handheld devices and services has made available on the move internet and web services facility to the customers, small antennas requirement are increasing. In this project H-shaped patch antenna is designed using FR4 substrate. The proposed modified H shaped antenna is designed and simulated using HFSS and caters to various wireless applications such as Wi-Fi, UMTS and Digital Multimedia Broadcasting (DMB) e.g. T V, etc.

Sl. No.	Roll No.	Name of the Student	Project Title
33	15A51A04C6	POTNURU SUNIL	**ACO Based Routing Algorithm for Mobile Ad-hoc Network**
	15A51A04D3	SAKALABATTULA DILEEP KUMAR	
	16A55A0412	SAHUKARI DHARANI	
	16A55A0409	MOYYA JAGAPATHIBABU	
	14A51A04G9	MUDDADA GOUTHAMI	

Abstract: Mobile Ad-hoc Networks (MANETs) have Routing as a censorious challenge. The substantial issue in ad-hoc network is seeking out a shortest path among communicating nodes. The contemplations in MANET framework and the constitution of the mobile nodes create inconveniences that bring the necessity to evolve special routing techniques to eliminate such issues. The activities of individual ants in ant colonies are not administered by any centralized infrastructure. The robust self-organizing nature of ant colony is because of interacting behavior among neighbor ants and dynamics of individuals. This novel feature has made ant societies an inspiring model for developing routing algorithm in MANET frameworks. In this project, Ant Colony based routing algorithms and its variations will be examined and evaluated. Here the delivery ratio of packets and end to end delay has been especially taken as the performance factor for MANETs. The fundamental thought of this project is to use Ant Colony Optimization (ACO) in MANET protocol Ad-hoc On Demand Distance Vector (AODV) to optimize its performance by reducing Route discovery latency.

Sl. No.	Roll No.	Name of the Student	Project Title
34	15A51A04D6	SALANA TEJESWARA RAO	**IMPLEMENTATION AND ANALYSIS OF FRACTIONAL ORDER FIR LOW PASS AND HIGH PASS FILTERS**
	15A51A04D7	SANAPALA TIRUMALA	
	15A51A04H1	WOOLLA KAVYA	
	15A51A04D6	SALANA TEJESWARA RAO	

Abstract: In recent years, the topic regarding fractional calculus has attracted much attention and successfully introduced in the field of digital signal processing, control systems and electronic circuit devices. Generally speaking, the notion of fractional calculus is to enlarge integer order to fractional order in numerical representations to provide a more flexibility in real applications. The project aims on the implementation of fractional order FIR low pass and high pass filters using Hamming window technique in which a new method for the calculation of fractional order derivative using Riemann-Liouville (RL) technique is proposed. The effect of fractional order on frequency response will be analyzed.

Sl. No.	Roll No.	Name of the Student	Project Title
35	15A51A04D5	SAKALABHAKTULA SAISRI	**Head-Light Automation By Using Ldr And Ultrasonic Sensors**
	15A51A04D9	SANAPATI N S S PATRUDU	
	15A51A04F1	T JOTHSNA	
	15A51A04G8	ADDALA RAVIKUMAR	

Abstract: Now-a-days many road accidents take place because of the high intensity of light. Beam light of vehicles pose a great damage during night driving. The drivers of most vehicles use high, bright beam while driving at night times. This causes a discomfort to the person travelling from the opposite direction. Person experiences a sudden glare for a short period of time, driver or person who is traveling from opposite direction may become blind. This is caused due to high intense headlight beam from the other vehicle coming towards person from the opposite direction. This is a major cause of road accidents.

To overcome the above problem, Smart Headlight Dimmer project is the best solution. In this project Light Dependent Resistor (LDR) and ultrasonic sensor play a role to dim the headlight of vehicle to avoid eye effects and accidents based on sunlight and streetlight intensities. Based on the distance of the opposite vehicle, our vehicle headlight gets dim to avoid the accidents at the time of foggy conditions. This automatically switches the high beam of light into low beam of light. Person expected to dim the headlight manually to avoid this glare. An automatic dimmer of the Beam light is proposed in this project, which will dim the high beam in the following conditions.

They are: 1. when a vehicle is approaching from the opposite direction and

2. when there is enough ambient light (street lights on).

Sl. No.	Roll No.	Name of the Student	Project Title
36	15A51A04C4	POTNURU SAIROJA	**Ber Performance Evaluation**

	15A51A04C1	POTHALA SUSMITHA	**Of Mimo-Ofdm Wireless Communication System Over Rayleigh Fading Channel**
	15A51A04D2	RUPPA DIVYA	
	15A51A04G7	VAVILAPALLI SAI KIRAN	
	15A55A0427	TADDI CHAKRAPANI	

Abstract: Multiple-input-multiple-output (MIMO) systems, uses multiple antennas at the transmitter and receiver ends of wireless communication system. By using multiple antennas at the transmitter and receiver there will be a potential improvement in communication system capacity. Here the multiple antennas use the spatial dimension in addition to the time and frequency.

Orthogonal frequency division multiplexing (OFDM) is a multicarrier modulation technique. It can provide large data rates with sufficient robustness to radio channel impairments. It is having a problem of high PAPR. The MIMO signaling can easily be overlaid on an OFDM based system. The use of MIMO technology in combination with OFDM seems to be an attractive solution for future fastest broadband wireless systems.

This project describes the combination of MIMO with OFDM to get the advantages of both. The simulation work will be done using MATLAB, which provides the performance of MIMO-OFDM regarding bit error rate in Rayleigh fading environment.

Sl. No.	Roll No.	Name of the Student	Project Title
37	15A51A04E7	SINDHUJA VARNASI	**RAILWAY TRACK CRACK DETECTION USING ULTRASONIC SENSORS, GSM INTERFACE AND GPS MODULE**
	15A51A04F2	TALASU SUNISHA	
	15A51A04E8	SIRISHA P	
	15A51A04D8	SANAPATHI UMAMAHESH	

Abstract: The rail accidents are increasing day by day and this is because of improper maintenance of rail road's which leads to crack in railway tracks hence the proper maintenance should be provided and cracks should be detected to avoid such bad situations. But this is difficult to determine manually hence the solution is given by using the ultrasonic sensor. For reducing the derailments, the crack detection systems are designed using various techniques. This type of technology introduces the detection of cracks in rail road's using ultrasonic sensor and IR sensor. This system mainly consists of ultrasonic transmitter and receiver, GPS module and GSM modem, IR sensor. The IR sensor helps to detect the cracks and the ultrasonic sensors help for measuring the distance and where the exact location of crack is obtained using GPS module. The communication is done through GSM technique. After detecting the crack the message is send to nearest station with location of crack. This system is simple in operation and advantageous over both day and night crack detection. There are several different techniques to detect the cracks but this technique of crack detection is inexpensive and gives more accurate result.

Sl. No.	Roll No.	Name of the Student	Project Title
38	15A51A04H4	YARABATI MOUNIKA	**SMART DOOR LOCK SECURITY AND THEIF DETECTION SYSTEM**
	15A51A04D0	RAGHUPATRUNI AKHIL	
	15A51A04G2	VAIDYABHUSANA INDRAJA	
	15A51A04D1	ROUTHU SARAT KUMAR	

Abstract: Computer communication systems and the Internet are playing an important role in our everyday environment. Increasingly smart phones are constantly connected to the Internet over third and fourth generation networks. This network connectivity will play an important part in this project. As the technology is emerging a lot, it's time for the users to be more technical related to homes & banks security and easy access to the user. Burglaries are the major problems of security in homes and banks in today's world. An Intruder may easily open the padlock with duplicate key or even break the door. To avoid this problem one of the best solutions is Smart Door Lock Security System and Theft Detection, which provides a digital locking mechanism and sends the information through mail or twitter to the house owner or a bank manager. When an unknown person tries to open the door by typing a wrong pin number more than three times or a forced hit. This project is done by using Microcontroller NodeMCU ESP8266 which is interfaced with Arduino UNO and mobile application BLYNK using INTERNET OF THINGS as a platform. The BLYNK application helps to send a mail or tweet to the house owner or a bank manager and shows an alert notification if any unknown person tries to open the door. Even though by taking all these precautions if the unknown person or thief enters into the house by breaking windows or through any other way, then PIR sensor senses the motion of the thief within a wide range up to 30 meters and 0°-180° around its location. When the sensor detects any movement then NodeMCU ESP8266 will send a mail or tweet to alert the house owner or the bank manager

Sl. No.	Roll No.	Name of the Student	Project Title
39	15A51A04F5	TANKALA SNEHA	**IMPLEMENTATION OF NOVEL ANALOG TO DIGITAL CONVERTER USING PASCAL TRIANGLE**
	15A51A04E5	SILLA TANUJA	
	15A51A04H2	YABAJI SASANK	
	14A51A04C8	SAI SHIREESH MAHAPATRO	

Abstract: An attempt is made to implement a novel analogue to digital converter i.e., S-parameter to Z-parameter conversion using window method. In this process, considerations among the possible window function to the proposed task can be done. This work will be used to convert the analogue low, high, band pass and band stop filters of Butterworth to their corresponding digital filters. Let consider the Pascal matrix methodology which is used for extracting the digital filter coefficients from analogue filters. The main key function of this work is that first to develop proper analogue to digital converter from the existing window based function and second one is the multiplication of obtained co-efficient of the window functions with the Pascal matrix triangle methodology to achieve the proposed digital

conversion. Finally, the obtained results are made to compare the existing Al-Alaoui and Bilinear methods in terms of their frequency characteristics of Butterworth filters.

Sl. No.	Roll No.	Name of the Student	Project Title
40	15A51A04C9	PYDISETTI VENKATA SAI KUMAR	**MOVING SHADOW DETECTION AND REMOVAL USING DISCRETE WAVELET TRANSFORM**
	15A51A04G1	VADDI ALEKHYA	
	15A51A04G6	VAPPANGI SUJAN	
	15A51A04G0	V VAMSI KRISHNA	

Abstract: Computer Vision applications are often confronted by the need to differentiate between objects and their shadows. A number of shadow detection algorithms have been proposed, while most of these existing approaches are dependent on scene environments and object types others are not classified as superior conceptually and in terms of accuracy. Despite these efforts, the design of a generic, accurate and efficient shadow detection algorithm still remains an open problem.

Shadow detection and removal in real life scenarios including surveillance system, indoor, outdoor scenes and computer vision system remains as a challenging task. Shadow in traffic surveillance system may misclassify the actual object reducing the system performance. Also high resolution satellite images offers great possibilities for urban mapping. Unfortunately shadows cast by buildings in high density urban environments obscure much of the information in the image leading to potentially corrupted results.

In this project, a new method is proposed for shadow detection and removal using Discrete Wavelet Transform (DWT) with relative standard deviation as a newly proposed threshold. Thresholding is most effective in images with high level of contrast. It can separate dark and light of an image. The value of threshold is automatically determined and does not require any supervised learning or manual calibration. The proposed method is flexible and does not depend on any other parameters except the wavelet coefficients. The HSV colour model in DWT domain is used as it corresponds closely to the human perception of colour.

Sl. No.	Roll No.	Name of the Student	Project Title
41	15A51A04G5	VANDANA SWATHI	**SMART TRANSPORTATION CARD**
	15A51A04C2	POTNURU GAYATHRI	
	16A55A0410	PARIDALA RAMYAKRISHNA	
	15A51A04H0	VYSYARAJU MANISH	

Abstract: Modern cities of today have developed multiple means of communication including Buses, trains, metros and private vehicles. Now each transport system has their own smart card or passes and it becomes a hectic process for users to manage separate smart cards or passes for every transport medium and even by using all these cards or passes few times passengers might not reach their destinations in time because of traffic issues. To avoid this problem one of best solution is a Smart Transportation Card which integrates all these

systems together and allows for a single transportation card and a centralized system for all transportation mediums. To demonstrate this concept three Radio Frequency Identification RFID scanners to be to be used for bus, train and metro train smart card scanners respectively. This system uses three smart cards that work particularly on each of the systems with one Radio Frequency Identification RFID card for bus, one for train and one for metro respectively. This system can also provide one more card that is the master smart card that can work on all three scanners thus making it very easy for the user to use any transport as desired using the same card. The system also allows for source and destination selection and based on that deducts particular amount from the user master card.

Sl. No.	Roll No.	Name of the Student	Project Title
42	15A51A04F6	TEKI JAYANTH	**IMPLEMENTATION OF FIR LOW PASS FILTER USING SHUFFLED FROG LEAPING ALGORITHM**
	15A51A04G9	VOONNA VINEETH KUMAR	
	15A51A04G3	VAJJA SAIKUMAR	
	15A51A04E1	SANTOSHKUMAR PANDA	

Abstract: Digital filters have found important applications in an increasing number of fields in science and engineering such as signal processing. Several design techniques have been developed to achieve desired filter characteristics earlier. This project work presents a Shuffled Frog Leaping Algorithm (SFLA) optimization technique for the design of optimal FIR low pass filter. The SFLA is a meta-heuristic search method inspired from the mimetic evolution of a group of frogs when seeking for food. It consists of a frog leaping rule for local search and a mimetic shuffling rule for global information exchange. The magnitude response and filter coefficients are demonstrated for the optimization technique. This in turn improves design efficiency as well as the algorithm's numerical stability which is of critical importance for the design filter.

Sl. No.	Roll No.	Name of the Student	Project Title
43	15A51A04C5	POTNURU SOWJANYA	**LEAF DISEASE DETECTION USING IMAGE PROCESSING**
	15A51A04C3	POTNURU MANEESH KUMAR	
	15A51A04E3	SASANAPURI KRISHNA PRAVEEN	
	14A51A0483	KUPPANNAGARI GAYATRI	

Abstract: Identification of the leaf diseases is the key to preventing the losses in the yield and quantity of the agricultural product. The study of the leaf diseases means the observation of visual patterns seen on the leaf. Health monitoring and disease detection on leaf is very critical for sustainable agriculture. It is very difficult to monitor the leaf diseases manually.

It requires tremendous amount of work, expertise in the leaf diseases, and also require the excessive processing time. Hence, image processing is used for the detection of leaf diseases. Disease detection involves the steps like image acquisition, image pre-processing,

image segmentation, feature extraction and classification. This project will be implemented for the detection of leaf diseases using its leaf images. In this project we use segmentation and feature extraction algorithms to detect diseases on leaves by using MATLAB software.

Sl. No.	Roll No.	Name of the Student	Project Title
44	15A51A04E0	SANKUROTU SNEHA	**WOMEN SAFETY DEVICE USING IoT**
	15A51A04G4	VAKADA RAJITA	
	15A51A04C8	PUNNANA SUNEEL	
	15A51A04F8	TENTU KALYANI KUMARI	

Abstract: Women safety is a very important issue due to rising crimes against women these days. To resolve the issue, IoT (Internet of Things) based women safety device that has dual security feature is implemented in this project. The safety device consists of a system that ensures dual alerts in case a woman is harassed. It can be turned on by the person using the device in case of any trouble or any insecure conditions. In existing button press alerting system, in case a woman is hit on the head from behind, may never get the chance to press panic button and no one will know that the woman is in trouble.

Women Safety Device is a system solves the above problems. If woman is in unconscious stage and if unable to press the button, the system does not get any input to microcontroller ESP8266 by pressing a button on time and it automatically starts the device and an alert message will be sent to the pre fed emergency contacts. It can be useful for everyone who needs help, have to press the panic button of the device and then the alert message will send to the contacts. The safety device will prove to be very useful in saving lives as well as preventing atrocities against women. The safety device is implemented by using microcontroller ESP8266 which interfaces mobile application blynk through cloud based circuit to achieve this system. The project is implemented by using Arduino IDE on embedded system.

Sl. No.	Roll No.	Name of the Student	Project Title
45	15A51A04D4	SAKALABATTULA PAVANKALYAN	**AUTOMATIC DOOR ACCESS SYSTEM USING FACE RECOGNITION AND ONE TIME PASSWORD**
	15A51A04E9	SIVANGI ROHITHKUMAR	
	15A51A04F0	SUGGU HEMA REDDY	
	15A51A04E6	SIMHADRI SAI MANIKANTA	

Abstract: An effective way of accessing doors which are based on face recognition and One Time Password (OTP) is very important for wide range of security application. Most of the countries are gradually adopting smart security systems. The most important major part of any security systems are identifying accurately the persons who want to open the door. Face recognition is probably the most natural way to perform authentication between human beings. Most of the security systems was implementing by Principal Component Analysis(PCA) algorithm for face recognition on hardware platform for its dimensionality reduction and simplicity.

Wireless technologies for example Gsm, Zigbee, Radio Frequency Identification (RFID) etc are used in security systems. This project proposes security system which provides both Intruder detection and security for door access control by using facial recognition and OTP module. When any of the security system fails, immediately it alerts the owner about the intruder through SMS alert.

Sl. No.	Roll No.	Name of the Student	Project Title
46	15A51A04F3	TANKALA GEETHA	**HETEROGENEOUS RING CLUSTERING ROUTING PROTOCOL FOR WIRELESS SENSOR NETWORKS**
	15A51A04F7	TENNETI APPALA HARIKRISHNA	
	15A51A04F9	TEPPALA RAVEENA	
	15A51A04E4	SEEDI SAI TEJA	

Abstract: An attempt is made to solve the energy balance problem in RPL (IPv6 Routing Protocol for Low Power and Lossy Networks) using a heterogeneous ring domain communication topology with equal area in each ring. A new clustering algorithm and event-driven cluster head rotation mechanism are also proposed based on heterogeneous ring topology. The clustering information announcement message and clustering acknowledgment message are designed according to RFC and original RPL message structure. An Energy-Efficient Heterogeneous Ring Clustering (E2HRC) routing protocol for wireless sensor networks is then proposed and corresponding routing algorithms and maintenance methods are established. Related messages are analyzed in detail. RPL and E2HRC routing protocols will be compared for wireless sensor networks in terms of energy consumption.

Faculty publications

A COMPARATIVE STUDY OF WINDOWS FOR SPECTRAL ANALYSIS

D.V.L.N.Sastry, B. Anil Kumar, P.Kameswar Rao, V.Laxmi, A.Jayalaxmi, J.Swathi

Asst. Professor.,Professor, Department of ECE, Aitam, Tekkali, India

Abstract: In this paper we presented a spectral analysis of different windows designed based on cosine functions. this paper includes comparative study of different windows based on their spectral characteristics like side lobe attenuation (SLA) half bandwidth (HBW) and side lobe fall of ratio (SLFOR).since windowing method one of the best method in the design of linear phase FIR filters using in digital signal processing applications like audio processing, video processing, speech processing and bio medical signal processing etc. Windows plays major role in design of Finite Length digital filters for removing pikes in stop band and improves pass band attenuation characteristics. And lot of research also did on windows. Many windows are developed based on their side lobe attenuation characteristics. Optimization techniques also applied in the field of window based FIR design, which shows better results compare to conventional methods. Here we proposed basic mathematical kernel functions to develop window functions.

Design of High Speed FIR Filter Using RoBA (Rounding Based Approximate) Multiplier with Parallel Prefix Adder

Dr.A.S.Srinivasa Rao, Principal, Aditya Institute of Technology and management (A), Tekkali, AP, India

Abstract: A Novel Rounding Based approximate multiplier approach is to round the operands to the nearest exponent of two. This way the computational intensive part of the multiplication is omitted improving speed and energy consumption at the price of a small error. The proposed approach is applicable to both signed and unsigned multiplications. I propose three hardware implementations of the approximate multiplier that includes one for the unsigned and two for the signed operations. The efficiency of the proposed multiplier is evaluated by comparing its performance with those of some approximate and accurate multipliers using different design parameters. The proposed architecture of this paper analysis the logic size, area and power consumption using Synthesis Tools.

Design and Implementation of Pentagon Patch Antennas with slit for Multiband Wireless Applications

M. Lakshmu Naidu, M. Bala Krishna, Dr.B. Rama Rao
Sr.Asst. Professor.,Professor, Department of ECE, Aitam, Tekkali, India

Abstract:- This paper describes the design of printed slot antenna and prototyping on available low-cost FR-4 material fed by a microstrip line with a pentagon slot for bandwidth enhancement. In WIFI frequency band which are using now a days, there are two WIFI frequency bands: Lower frequency WIFI band at 2.4 GHz and Higher frequency WIFI band at 5.8 GHz. In this paper, a pentagon microstrip antenna with pentagon slot is designed and analyzed its properties for WIFI connectivity application at 2.45 and 5.8 GHz. The dielectric material FR-4 with relative permittivity (εr) of 4.4 and loss tangent (δ) 0.02 has been used as a substrate material for designing of the proposed antenna. The thickness of substrate material used in suggested antenna is 1.6mm. The microstrip line feeding technique with patch insertion has been used to feed the power to the antenna with proper impedance matching of 50Ω so maximum power can transfer. The pentagon microstrip antenna with pentagon slot parameters has been analyzed in terms of return loss (dB), gain (dB) and VSWR, etc. The Ansoft High frequency structure simulator (HFSS) Simulation software has been used for the analysis and simulation. The proto type is fabricated and measured on Vector network analyzer of pentagon microstrip antenna with pentagon slot antenna.

Modified Phase Sequence in Hybrid Pts Scheme for PAPR Reduction in OFDM Systems

Dr.B. Rama Rao Department of ECE, Aitam, Tekkali, India

Abstract:- It is well known fact that high PAPR value degrades the performance of OFDM system. In this paper, PTS (Partial transmit sequence) based approach is opted for the reduction of PAPR and three major attributions are made to the traditional PTS scheme. First, the phase sequence that is to be multiplied is changed, second the system is extended with hybrid mechanism of SLM (selective mapping) and PTS scheme in which additional hybrid scheme is opted. Third the benefits of DHT (Discrete Hartley transform) are incorporated with this system. It is found from the experimental results that the proposed MSD (modified

sequence DHT) based system able to decreases the PAPR at a considerate factor and also able to preserve the OBI (out of band interference).

Compact Spiral Shape Microstrip Patch Antenna for LTE Applications with Defected Ground Structure

M.Lakshmu Naidu,Dr. B.Rama Rao Sr.Asst. Professor.,Professor, Dept of ECE, AITM Tekkali,

Abstract:-This paper presents the design of compact Microstrip antenna for multiband operation using low cost substrate material. This antenna suitable for long-term evolution (LTE) applications is seemed handheld devices. The transmitting area is planar winding shape. The radio wire uses the CPW feed line same as that of the standard round microstrip gathering mechanical social gathering. The social event mechanical party works in the intermittent level of 2.13 to 5.70 GHz and gives a virtual size decreasing of 41% with broadside radiation qualities at each working band. The experimental and reenacted results are in unprecedented synchronization with each other. This radio wire may find applications in LTE, Wi Max and specific remote correspondence applications.

IMPLEMENTATION OF FPGA-BASED ARTIFICIAL NEURAL NETWORK (ANN) FOR FULL ADDER

Dr. B.Rama Rao , Professor, Dept of ECE, AITM Tekkali, A.P.INDIA.

Abstract:-This work describes the implementation of generalized Multilayer Perception (MLP) architecture based ANN and its hardware realization using hardware description language (VHDL) on FPGA. The complete work undergoes in three phases, in the first phase, the development and training of an MLP architecture based ANN using MATLAB is done. In the Second phase, A MATLAB-SIMULINK model is created to test the network .In the third phase, the ANN SIMULINK model is implemented on FPGA using VHDL. As a part of the development, Back propagation algorithm is used for the training of ANN and the sigmoid function is used as Activation function in the network. Since the sigmoid function is nonlinear function, its realization becomes impractical on FPGA. Hence a linearly approximated sigmoid function is developed to replace the original sigmoid function. Fixed point approximation is used for the representation of network parameters and to carry out the mathematical operations on FPGA. In this work, ANN is implemented for full adder circuit as an example of general purpose application and the results of FPGA are compared with that of ANN SIMULINK model using various plots. Synthesis and simulation details of ANN on FPGA are also verified.

Side Information Mitigation with new Phase Sequence for Hybrid PTS Scheme

Dr. B.Rama Rao, Professor, Dept of ECE, AITM Tekkali, A.P.INDIA.

Abstract:- This paper focus on presenting a new phase sequence based hybrid PTS approach for OFDM systems to mitigate the problem of PAPR without use of side information. The proposed approach is the exponential constant multiplied for each phase vector so that it can accommodate more number of sub carriers. The modified phase vectors are then multiplied to the original phase vectors so as to obtain a modified version of phase vectors that includes an offset. Experimental results shows that the PAPR is reduced about 04~0.8 db when compared against the traditional PTS scheme deployed for Hybrid systems.

Smart Parking Solutions – It's Not About The Parking

M. Chaitanya Kumar, M.Bala Krishna, Laxmi Vandana, P.Sirish Kumar
Asst. Professor.,Professor, Dept of ECE, AITM Tekkali, A.P.INDIA.

Abstract:- Now a day's Car parking is a major issue in modern congested cities from public places to various shopping malls due to the increase of numerous cars. There are simply too many vehicles on the road and not sufficient parking space. This has led to the need for efficient parking management systems. By addressing this issue, the use of IOT based parking management system has been demonstrated that allows efficient way of parking and results in proper space utilization. The system detects status of parking slots whether occupied or not by using ultrasonic sensors and send the commands to NodeMCU which acts as a server thus allowing edge sensors (IR sensors) directly communicate with the end server like blynk. By using the blynk application in the mobile phones, the end user can easily connects with the server created by the NodeMCU. The designed system will senses the number of parking slots available and updates the data along with the location by fetching the coordinates from GPS module to the blynk server which allows the users to check for the availability of parking slots by monitoring in the blynk application. It also includes the slot booking option by clicking the desired slot in the blynk application and once done, the blynk server updates the Node MCU server and makes the light at the parking slot to turn red (indicates the slot has been booked), green (indicates the slot is empty). Thus the system resolves the parking issue for cities and get users an efficient IOT based parking management system.

Human Tracking Using Weighted Running Window Background Model Based Gmma

HARIHARA SANTOSH DADI Assoc. Professor, Dept of ECE, AITM Tekkali, A.P.INDIA

Abstract:- Tracking of humans in video streams is important for many applications. Many algorithms for tracking have come up in the recent years. The most prominent one is Gaussian Mixture Model. This algorithm is basically for tracking the object in the Video scene. The algorithm has been modified for the purpose of tracking the humans. GMM uses only single rectangular template for tracking an object. In order to track human specifically, the template has been divided in to four regions. The top region is for head and the remaining regions are for the chest, waist and the leg respectively. All the regions are of rectangle shape. Connection has been established among all the regions assuming that all four regions will move at a time for humans. There is 10% horizontal variation allowed between the regions. The proposed algorithm could handle partially occlusion and fully occlusion. The new algorithm is compared with tracking system with GMM algorithm. The precision, recall, false alarm per frame, false negatives, false positives and mostly lost are compared with existing GMM. The time taken for processing a single frame is reduced by using new algorithm when compared with the existing algorithm. Performance metrics shows that the WRWB background model based GMM algorithm out performs when compared with GMM algorithm in terms of time taking. Keywords: Human Tracking, Gaussian Mixture Model (GMM), Regions, Object Tracking, Dataset.

MEDICAL IMAGE ENHANCEMENT BY HYBRID IMAGE FUSION TECHNIQUE

Anil Kumar Bethapudi, D.V.L.N Sastry, P.Kameswara Rao J.Swathi
Assistant Professor, Dept of ECE, AITM Tekkali, A.P.INDIA

Abstract:-In Medical image enhancement , image fusion techniques are extensively applied to aid medical diagnosis by integrate best features of two or more images of various modalities such as Computed Tomography (CT) , positron emission tomography (PET),and Magnetic Resonance Image (MRI) into a single output image that contains salient features from all inputs. In this paper various hybrid fusion algorithms are applied on a CT and MRI images, such as PCA, DCT, DWT and SWT. The largest Eigen value of the covariance matrices of each image are used to obtain weights for next stage image by Principal component analysis (PCA),different frequency components of input images are separated by Discrete Cosine Transform (DCT),detection of break down points to overcome the lack of translation invariance of Discrete Wavelet Transform (DWT) by stationary wavelet Transform(SWT). Enhancing the image quality by fusioning of two input images with individual algorithms, these fused images again fused by multi hybrid fusion. This improves the image quality compared to established methods. Overall, the non-linear fusion rule holds strong potential to help improve image fusion applications in medicine and indeed other fields.

IMPLEMENTATION OF MESI PROTOCOL USING VERILOG

Ch. Rajasekhara Rao, K. Krishnam Raju L. Rambabu
Assoc. Professor, Assistant Professor, Dept of ECE, AITM Tekkali, A.P.INDIA

Abstract:- Multiprocessor system has two or more processors working simultaneously and sharing the same memory. Nowadays multiprocessors are being widely used due to their high throughput and reliability. It is important to maintain data consistency in multi-processor systems as different processors may communicate and share the data with each other. In multiprocessor systems caching plays a vital role. Cache coherence is a major issue in multiprocessor systems. In the present paper, three direct- mapped caches are designed and to maintain the cache coherence and data consistency among the processors, MESI protocol is used. The MESI protocol is the invalidation based cache coherence protocol. In this protocol each cache block can be in one of four states i.e., Modified, Exclusive, Shared and Invalid. In this protocol, whenever a processor writes into the local cache, all copies of it in other processors are invalidated in order to maintain data consistency and cache coherence. The cache design is simulated and syn papered using Xilinx ISE 14.7 Simulator and XST Synthesizer

A Review on Microstrip Antennas with Defected Ground Structure Techniques for Ultra-Wideband Applications

Lalitha Bhavani Konkyana, Assoc. Professor, Dept of ECE, AITM Tekkali, A.P.INDIA

Abstract:- Wireless communication systems have grabbed predominant role in disparate areas of human civilization. Wireless applications have great demand which initiates the new specifications for the architecture of transmitter and receiver in radio communication system. In the study of microstrip antennas, Defected Ground Structure (DGS) is a new approach which has many applications in various domains. This paper presents the knowledge of DGS and the consequences of its developments. The improvement of different characteristics of DGS antennas are studied in this paper. DGS has unfolded new aspects of research in microwave engineering field which leads to several advancements till date. DGS technology can be applied to meta material microwave antennas and microstrip antenna arrays for the improved performance of microwave devices. The range of applications can be widened by

merging DGS technique with the other developments in microwave devices. In the proposed approach DGS Technology based metamaterial antennas can be developed for obtaining the better performance in UWB microstrip antennas. Band notch can be used to reduce interference in UWB frequency ranges.

Design and Analysis of Dual Notch Band Ultra-Wide Band Antenna Using Complementary Split Ring Resonator for Wireless Applications

Lalitha Bhavani Konkyana, Assoc. Professor, Dept of ECE, AITM Tekkali, A.P.INDIA

Abstract:- Design of a novel compact microstrip patch antenna for Ultra-Wide Band with dual notch band characteristics is proposed in this paper. The Split Ring Resonator and Complementary Split Ring Resonator of different sizes are etched on the circular radiating patch, and by adjusting the dimensions of the resonator, the proposed antenna performance is improved. A full-wave electromagnetic tool has been used to analyze the effects of different parameters (radius of the patch, width of the feed, the overall size of the antenna and radius of CSRR) on the antenna performance. To validate the design, the proposed antenna is fabricated on a low-cost laminate of FR4 substrate with a dielectric constant of 4.4 and 1.6 mm thickness. The measured return loss, SWR and radiation pattern are in good agreement with the fabricated UWB antenna.

Comparative Analysis of Three Single Trait Biometric Authentication Models

Lalitha Bhavani Konkyana, Assoc. Professor, Dept of ECE, AITM Tekkali, A.P.INDIA

Abstract:- In traditional authentication model, user identification is based on Password, PIN or Signature, but sometimes these can be lost, stolen, or subjected to spoofing attack. In biometric authentication system, a user is identified through physical or behavioral features. These features include fingerprint, palmprint, face, iris, signature, speech, and so on. The main challenging task in biometric is about storage problem, and transmission of huge data. By replacing PINs, use of biometric traits can certainly deny unauthorized access or fraudulent use of ATMs, mobile phones, smart cards, data centers, personal computers, and computer networks. The performance can be measured by evaluating performance metrics i.e., FAR, FRR, FTC, and EER. This paper proposes three different uni-modal biometric authentication systems using fingerprint, face, and voice signal as sources. A new technique is designed and applied to each biometric authentication system**.**

COMPARISON OF DIFFERENT MEASUREMENT APPROACHES FOR LOCATING THE RECEIVER POSITIONING SYSTEMS

P.Sirish Kumar P.Krishna Rao Y.Srinivasa Rao
Assistant Professor, Department of E.C.E, AITAM, Tekkali.

Abstract:- The two significant perspectives that decide a nation's abilities in electronic fighting and Air Traffic Services (ATS) are precise position assurance of an obscure emanating source (viz. radar, flying machine) utilizing source limitation framework and an obscure recipient (or item) utilizing GPS. A few components should be considered while structuring a situating framework, for example, the working medium (homogeneous and non homogeneous), estimation system (TOA, TDOA, RSS, DOA), ecological impacts on the estimations (water saltiness, thickness, multipath), source to beneficiary geometry, situating

arrangement and so forth. The transcendent factor that influences the situating framework execution is the decision of estimation method. Inappropriate determination of an estimation strategy makes the situating framework veer far from the genuine arrangement. In this manner, the decision of the pertinent estimation procedure for explicit applications concerning assorted fields like resistance, common aeronautics area and so on is examined with regards to the Indian subcontinent. To have better comprehension about these situating frameworks (Source confinement and GPS), the TOA and TDOA estimation strategies are executed utilizing the GPS beneficiary situated at IISc, Bangalor, India and the RSS and DOA procedures are actualized utilizing reenacted information.

Enhancement of Old Images and Documents by Hybrid Binarization Techniques

P Krishna Rao
Assistant Professor, Dept. of ECE, AITAM, Tekkali, Andhrapradesh, India

Abstract:-Documents can be valuable source of information but often they suffer degradation problems, especially in the case of historical documents, such as strains, background of big variations and un-even illumination, ink seepage, etc…. Binarization techniques should be applied to remove the noise and improve the quality of the documents. Binarization is a process of converting the document image into binary image containing text as foreground and plain white as background or vice versa. Characters from the document image should be extracted from the binarized image, in order to recognize them. So performance of the character recognition system is completely depends on the binarization quality. A hybrid binarization approach is proposed in this project for improving the quality for the old documents. Combination of global and local thresholding techniques are used for the same. Initially, a technique named global thresholding is applied to the whole image. The image area that still has background noise is detected and the technique is again re-applied to each area separately. Therefore, a better adaptability is achieved for the algorithm where various kinds of noise re exist in different areas of same image the proposed technique is efficient to tolerate the high inter and intra intensity variation in the degraded document image. The proposed method is based on spatial domain techniques: Laplacian operator, Adaptive Bilateral filter and Gaussian filter and works well for degraded documents and palm leaf manuscript images. Advantage of applying global thresholding, is that it avoids the computational and time cost of applying a local thresholding in the entire image. Hence it is indicated that this technique is pretty effective in removing background noise and improving the quality of degraded images.

CONGESTIVE HEART FAILURE RECOGNITION BY ANALYZING THE ECG SIGNALS USING WAVELET COEFFICIENTS

P. Sirish Kumar, Sanapala Umamaheshwararao, M. Bala Krishna, L.Rambabu
Assistant Professor, Department of ECE, AITAM, Tekkali, Srikakulam, AP, India.

Abstract:-In this paper we have analyzed the digital data collected using the electrocardiogram for finding the heart disease considering data sets of twenty different disease cases using mat lab. Firstly we have filtered the ecg data for hum noise and muscle noise, using a series of filters and applied the zero cross algorithm for finding the no of zero crossings and the heart rate of each disease case. We have applied wavelet transform and found the wavelet 3D plot which is the representation of the wavelet coefficients, which helps for estimating the cardiac disease from the wavelet 3D plot of the patient's electrocardiogram.

A Hypothetical Analysis on GPS Evolution, Error Sources, Accuracy Measures and Positioning Services

P. Sirish Kumar Assistant Professor, Department of ECE, AITAM, Tekkali, Srikakulam, AP, India.

Abstract:- People have invented different solutions to find out the location of a person or an object on the earth. In the beginning, mariners used angular measurements to calculate their location for celestial bodies such as the sun and stars. In the earlier 1920s, implemented a more sophisticated radio navigation scheme depends on radio waves that give access to the navigators to determine the direction of the transmitters. Soon after, the advancement of satellites made it achievable to transmit with high accuracy, line of sight radio navigation signals created a new era in the technology of navigation. To find the position of an object, a 2-dimensional navigation system called transit was used in olden days. This method was to set the basic building blocks to introduce the global positioning system. This new GPS concept provided outstanding innovative methods to find the position of an object to the public, scientists, military, etc. The predominantly GPS known as Global Positioning System is a range-based positioning system that yields an obscure object's 3D position on top of the earth. This system collects estimates or range data from realized emanating sources to determine the position of obscure objects and the system is also called as a positioning system based on satellites. The precision of the object location frequently relies on the error of the satellite clock, atmospheric delays, multipath, positioning of the satellite, noise and multiple parameters of the receiver. Mostly, none of the above parameters have consistent behavior worldwide and should be checked to provide an exact solution. This paper mainly focuses on the study of GPS evolution, error sources, popular accuracy measures and positioning services of GPS.

Investigation of underwater sound wave propagation character-istics for channel modelling

S Umamaheswararao, M N V S S Kumar Department of ECE, AITAM, Tekkali, India

Abstract:- Unlike terrestrial communication which is based on radio communication principle, sound is the means of communication in underwater. This is because sea water conducts electricity pretty well, and anything that conducts electricity will absorb the electromagnetic energy of the radar and not allow it to penetrate. The dielectric constant of water is not good for RF propagation. However water is good for propagating sound wave though it propagates much slower than the RF waves. The distance that sound waves (which is a pressure waves) travel is vastly longer than Radio Waves in water. In underwater medium the propagation of sound is affected by characteristics such as velocity of sound wave, sound pressure and sound power, transmission loss of sound in underwater environment, sound absorption in sea water, viscosity, ionic relaxation and scattering. Sound waves while propagating underwater they get attenuated due to cylindrical and spherical spreading of the energy. In this paper, sound wave propagation characteristics are analyzed.