MALLA REDDY ENGINEERING COLLEGE FOR WOMEN

Autonomous Institution – UGC, Govt. of India

Accredited by NBA & NAAC with 'A' Grade

NIRF Indian Ranking, Accepted by MHRD, Govt. of India | Band – Excellent, National Ranking by ARIIA

Maisammaguda, Dhulapally, Secunderabad – 500 010, Telangana

A.Y : 2021-22   VOL.2

Under
Student Chapter IEEE, IETE & Technical Association Electro Spikes

TECHNITRONIX

HALF YEARLY TECHNICAL MAGAZINE

DEPARTMENT OF
ELECTRONICS AND COMMUNICATION ENGINEERING

E C E

DEPARTMENT VISION

• Our vision is to develop the department in to a full fledged Centre of learning in various fields of Electronics and Communication Engineering keeping in view the latest developments and to invoke enthusiasm among the Students to continually renew their education in rapidly developing technological scenario.

Vision

DEPARTMENT MISION

• Our mission is to inculcate a spirit of scientific temper and analytical thinking & train the students in contemporary technological trends in electronics and communication to meet the challenging needs of the industry by providing versatile sound knowledge in the field of engineering and technology

Mission

ABOUT THE DEPARTMENT

The Department of Electronics and Communication Engineering is accredited by NBA, with an intake of 240 in B.Tech Programme and also offers M.Tech Programme in Embedded Systems. The department has state of the art laboratories with latest softwares like MENTOR GRAPHICS, CADENCE, MATLAB, XILINX, CCSTUDIO, KEIL, RTOS, RT Linux, OSCAD, PSPICE and MULTISIM. The department consists of well equipped Robotics- Centre of Excellence to train the students in specific modules to design and develop innovative projects that extend the state of the art in Robotics. It has well qualified and experienced faculty members. The highly competent and professional faculties, many of them drawn from premise institutions and industry have extensive experience and contribute to the holistic development of academics, research and career building of students. 32faculty members attained patent rights. The department faculty published 82 papers in SCI/Scopus indexed journals, 156 papers in UGC indexed/International journals and presented 226 papers in various national & international conferences and published 28 textbooks with ISBN. The department established IEEE, IETE & ISTE student chapters under which it organizes Technical Symposiums and various co-curricular activities every Academic Year. The department organized National Conference on Signal Processing Communications and System Design (SPCOMSD) in 2014and is organizingInternational Conference on Signal Processing Communications and System Design (ICSPCOMSD) every year, from past 7 years. The department also organized Faculty Development Programmes on Analog & Digital Design using CADENCE Tools, Embedded System using 32 bit processor, Programmable System on Chip Mixed Signal Microcontroller, Refresher Courses on Analog and Digital Communications, Digital Signal Processing, VLSI Design using CADENCE Tools and One Week Refresher Course on "VLSI & Embedded Systems". The department organized AICTE Sponsored Two Week Faculty Development Programme on "Speech, Image & Video Processing Techniques, Analysis & Applications", AICTE Sponsored One Week Short Term Training Programme on "Optimization Techniques through Machine Learning for Wireless and IOT", AICTE Sponsored One Week Short Term Training Programme on "Emerging Trends in Wireless Sensor Networks and Applications", AICTE Sponsored One Week Short Term Training Programme on "Deep Learning Techniques for Electronic Health Record Analysis", AICTE Sponsored One Week Short Term Training Programme on "Emerging Trends in Advanced Signal & Image Processing", AICTE Sponsored One Week Short Term Training Programme on "Emerging Trends in VLSI Technology" and the department also received AICTE sanctioned MODROB's on "Advanced VLSI Lab" and Advanced Microwave Engineering Lab". The department also publishes the Registered Journal "International Journal of Research in Signal Processing, Computing and Communication-System Design (IJRSCSD)" with an ISSN: 2395-3187.

PO'S

PO1	Engineering knowledge	An ability to apply knowledge of mathematics (including probability, statistics and discrete mathematics), science, and engineering for solving Engineering problems and modeling
PO2	Problem analysis	An ability to design, simulate and conduct experiments, as well as to analyze and interpret data including hardware and software components
PO3	Design / development of solutions	An ability to design a complex electronic system or process to meet desired specifications and needs
PO4	Conduct investigations of complex problems	An ability to identify, formulate, comprehend, analyze, design synthesis of the information to solve complex engineering problems and provide valid conclusions.
PO5	Modern tool usage	An ability to use the techniques, skills and modern engineering tools necessary for engineering practice
PO6	The engineer and society	An understanding of professional, health, safety, legal, cultural and social responsibilities
PO7	Environment and sustainability	The broad education necessary to understand the impact of engineering solutions in a global, economic, environmental and demonstrate the knowledge need for sustainable development.
PO8	Ethics	Apply ethical principles, responsibility and norms of the engineering practice
PO9	Individual and team work	An ability to function on multi-disciplinary teams.
PO10	Communication	An ability to communicate and present effectively
PO11	Project management and finance	An ability to use the modern engineering tools, techniques, skills and management principles to do work as a member and leader in a team, to manage projects in multi-disciplinary environments
PO12	Life-long learning	A recognition of the need for, and an ability to engage in, to resolve contemporary issues and acquire lifelong learning

PSO'S

The graduates of the department will attain:

PSO1: The ability to analyze, design and implement application specific electronic system for complex engineering problems for analog, digital domain, communications and signal processing applications by applying the knowledge of basic sciences, engineering mathematics and engineering fundamentals.

PSO2: The ability to adapt for rapid changes in tools and technology with an understanding of societal and ecological issues relevant to professional engineering practice through life-long learning

PSO3: Excellent adaptability to function in multi-disciplinary work environment, good interpersonal skills as a leader in a team in appreciation of professional ethics and societal responsibilities.

PEO'S

PEO1-PROFESSIONAL DEVELOPMENT

To develop in the students the ability to acquire knowledge of Mathematics, Science & Engineering and apply it professionally within realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability and sustainability with due ethical responsibility.

PEO2-CORE PROFICIENCY

To provide ability to identify, formulate and solve engineering problems with hands on experience in various technologies using modern tools necessary for engineering practice to satisfy the needs of society and the industry.

PEO3- TECHNICAL ACCOMPLISHMENTS

To equip the students with the ability to design, experiment, analyze and interpret in their core applications through multi disciplinary concepts and contemporary learning to build them into industry ready graduates.

PEO4- PROFESSIONALISM

To provide training, exposure and awareness on importance of soft skills for better career and holistic personality development as well as professional attitude towards ethical issues, team work, multidisciplinary approach and capability to relate engineering issues to broader social context.

PEO5- LEARNING ENVIRONMENT

To provide students with an academic environment and make them aware of excellence, leadership, written ethical codes and guidelines and the life-long learning to become a successful professional in Electronics and Communication Engineering

MESSAGES

Founder Chairman's Message

MRECW has made tremendous progress in all areas and now crossing several milestones within a very short span of time and now I feel very happy to know that the students and faculty of the ECE department of MRECW are bringing out the volume-2 of the Technical magazine Technitronix in A.Y 2021-22. As I understand this magazine is intended to bring out the inherent literary talents in the students and the teachers and also to inculcate leadership skills among them. I am confident that this issue will send a positive signal to the staff, students and the persons who are interested in the educational and literary activities

Ch. Malla Reddy
Founder Chairman, MRGI
Hon'ble Minister, Govt. of Telangana State

Principal's Message

I congratulate the department of ECE, MRECW for bringing out the issue of the prestigious half yearly department technical Magazine Technitronix under A.Y: 2021-22, I am sure that the magazine will provide a platform to the students and faculty members to expand their technical knowledge and sharpen their hidden literary talent and will also strengthen the all round development of the students. I am hopeful that this small piece of literary work shall not only develop the taste for reading among students but also develop a sense of belonging to the institution as well. My congratulations to the editorial board who took the responsibility for the arduous task most effectively. I extend best wishes for the success of this endeavor.

Dr. Y. Madhavee Latha
Principal

HOD'S MESSAGE

It is an occasion of great pride and satisfaction for the department of ECE, MRECW to bring out the issue of the half yearly of the Technical magazine Technitronix under A.Y:2021-22, it gives me immense pleasure to note that the response to the magazine has been over whelming. The wide spectrum of articles gives us a sense of pride that our students and faculties possess creative potential and original thinking in ample measures. Each article is entertaining interesting and absorbing.

I applaud the contributors for their stimulated thoughts and varied hues in articles contributed by them.

Dr. N. Sreekanth
HOD

SCIENTIST OF THE HALF YEAR

S.V CHANDRASHEKHAR

S.V. Chandrashekhar Aiya (1911–1992) was an Indian scientist and engineer who mathematically demonstrated the effect of thunderstorms and lightning on television and radio broadcasting signals (RF signals).

He was the second Chairman of the Department of Electrical and Communications Engineering in the Indian Institute of Science (1959-1969). The S.V.C. Aiya award is named after him. He was also the first full time director of the National Council of Educational Research and Training.

He is credited with starting the BE, ME and PhD programs at the College of Engineering, Poona (COEP) and setting up electronics and telecommunications engineering laboratories from scratch. COEP is the third oldest engineering college in Asia and was the only Engineering college in Pune at the time. Aiya also acted as the Dean in the Universities of Bombay, Poona and Ahmedabad.

He was the second chairman (1959-1969) of the department of Electrical and Communications Engineering in the Indian Institute of Science. The bust of Heinrich Hertz installed at the entrance of the Department is said to have been gifted by the Govt. of West Germany during his tenure. The Indian Institute of Science's first PhD was granted to Aiya's student BS Sonde. Dr. Sonde went on to become the Chairman of the Department in 1981.

FACULTY ARTICLES

ROBOTIC PROCESS AUTOMATION (RPA)
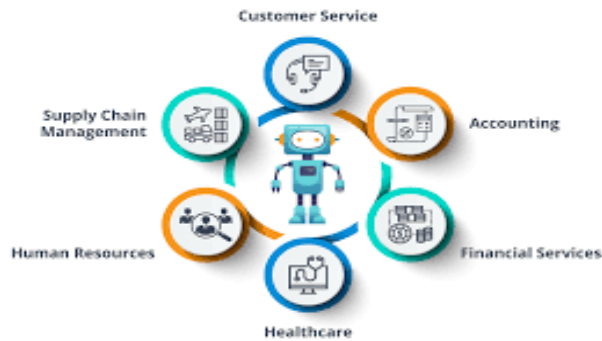
INTRODUCTION

Technology is ever-changing and those wanting to remain at the helm of innovation must adapt. As tech trends such as robotic process automation (RPA) become more pervasive, the world will look to brands who can deliver with accuracy and real-time efficiency. Robotic process automation is a term that is gaining ground recently. It involves automating tasks using bots that previously required human labor and follow a repetitive pattern to accomplish more of these computer-based tasks with enhanced efficiency. Many businesses are embracing RPA to help achieve more efficient workflows for rule-based tasks.

ROBOTIC PROCESS AUTOMATION :

The process of automating business operations with the help of robots to reduce human intervention is said to be Robotic Process Automation. RPA is the use of software to automate business processes such as interpreting applications, processing transactions, dealing with data, and even replying to emails. RPA automates repetitive tasks that people used to do. RPA offers plenty of career opportunities, including developer, project manager, business analyst, solution architect and consultant.

RPA Tools & Benefits

RPA Tools/Vendors are the software through which we can configure tasks to get automated. RPA Vendors such as Blue Prism, Automation, UiPath, WorkFusion, Pega Systems and many more.

Dr. L. Malliga
Department of ECE

# INTERNET OF THINGS APPLICATION IN IMAGE PROCESSING

Image processing offers various type of camera based sensors and processing of their generated data could lead to multiple types of IOT applications.

The system consists of a sensor, digital camera, database in the fog and the mobile phone. Sensors are placed in the frame of the door which alerts camera, to capture an image who intends to enter the house, then sends the image to the database or dataset that is stored in the fog. Image analysis is performed to detect and recognize and match the image with the stored dataset of the authenticated people or pets. If the image captured does not match with the dataset then an alert message is send to the owner of the house. The image processing algorithms are considered for the processing spatial and time complexity of the image captured to cross check with the dataset stored in the fog.

Dr. N. Jagadeesan
Department of ECE

QUANTUM CELLULAR AUTOMATA

(a)   (b)
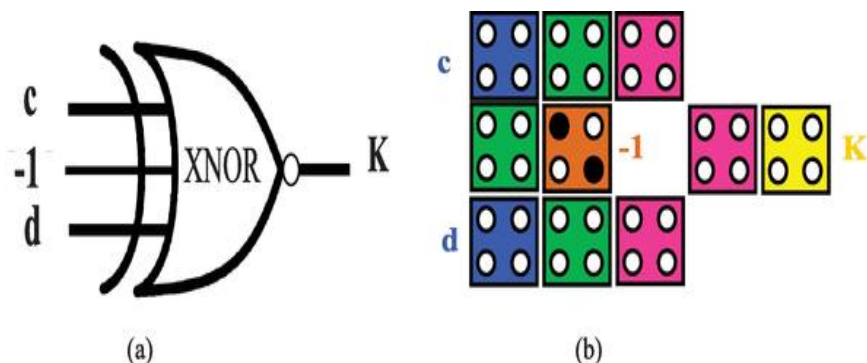
Quantum Cellular Automata (QCA) is new nanotechnology which recently has become one of the top six emerging technologies with the potential for applying in building future computers. This technology is a realization of the circuit design at the Nano-scale. The concept of the QCA was first introduced by Lent et al. in 1993

Today, standard solid state QCA cell design considers the distance between quantum dots to be about 20 nm, and a distance between cells of about 60 nm. Just like any CA, Quantum (-dot) Cellular Automata are based on the simple interaction rules between cells placed on a grid. A QCA cell is constructed from four quantum dots arranged in a square pattern. These quantum dots are sites electrons can occupy by tunneling to them.

Nowadays, QCA transistor-less technology, single electron transistor (SET), and carbon nanotube (CNT) are being used as an alternative to CMOS technology. The use of QCA on the nanoscale has a promising future because of its ability to achieve high performance in terms of clock frequency, device density, and power consumption if it is compared to similar implementations with conventional VLSI technology. These advantages make the proposed QCA technology useful for high-performance electronic applications applied on mobile or autonomous devices where power consumption and real-time processing low are needed.

N. Venkatesh
Department of ECE

STUDENT ARTICLES

SMART MONITORING
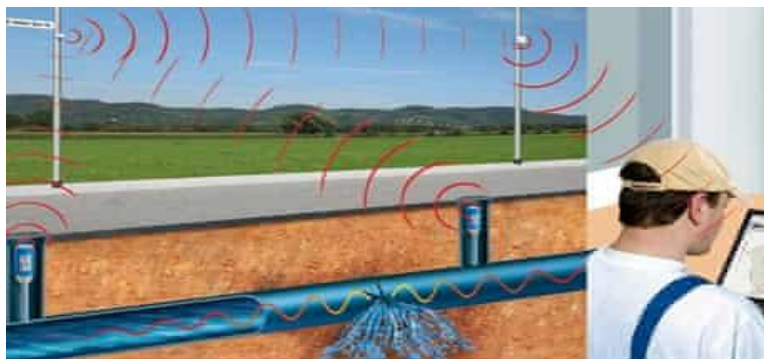
In developing countries alone, it is estimated that 45m cubic metres are lost every day in distribution networks. Leaks are not only costly for companies, but increase pressure on stretched water resources and raise the likelihood of pollutants infiltrating supplies.

"It does not make commercial sense to invest billions in additional reservoirs and water catchment, treatment plants [and] pumping stations, when as much as 60% of water produced is unaccounted for," says Dale Hartley, director of business development at Sebum, a water leak detection specialist.

New monitoring technologies help companies to ensure the integrity of their vast water supply networks. Electronic instruments, such as pressure and acoustic sensors, connected wirelessly in real time to centralised and cloud-based monitoring systems will allow companies to detect and pinpoint leaks much quicker. SMART may not function equally well for all hard disks that it has been installed on and enabled. We suggest you conduct some research on using this system (perhaps for your specific drives) before deciding how much you can rely upon it. Different hard disk manufacturers appear to have various ideas on what to include or exclude for SMART monitoring. Among the data different drives provide there can be different threshold settings for what/when SMART should report changes to the hard drive

A. Ankitha
20RH1A0402
II ECE A

ATM SECURITY USING FACE RECOGNITION

The growth in the electronic transactions has resulted in a greater demand for fast and accurate user identification and authentication. User have been largely depending on and trusting the Automatic Teller Machine (ATM) to conveniently meeting their banking needs . However, numerous advantages of ATM system, the ATM fraud has recently become more widespread. This system used to avoid the ATM robberies and wrong person miss uses the ATM. With the technological advances in financial infrastructure, most bank customers prefer to use Automatic Teller Machines (ATMs) and Internet websites for carrying out their banking transactions. Financial users especially utilize ATMs for physical transactions like cash withdrawal or cash deposit. However, just like any other system,The main goal of our work is to propose a computer vision framework which uses the embedded ATM camera to perform face detection and recognition in order to prevent such unnecessary losses generated by CCF.

In the studied scenario, we consider the case where a customer withdraws money from an ATM in a conventional setting. After the customer inserts the card into the ATM, the proposed system starts to perform face detection and builds a temporary face database for the customer using the camera located inside the ATM. If the customer leaves the ATM without taking his/her card or cash, the ATM waits for the customer to be back instead of retracting the forgotten item. If the system finds out there is a different customer approaching the ATM before the card/cash holder, the card/cash will be retracted at that moment
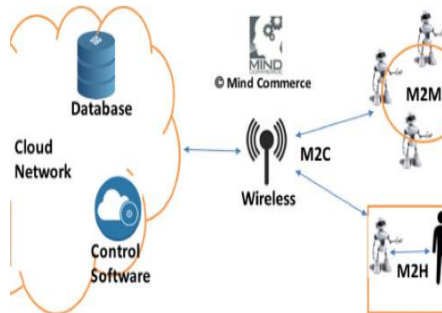
Sathvika Chanda
20RH1A0445
II ECE A

CLOUD ROBOTICS

Cloud robotics is a field of robotics that tries to enhance robotics by employing cloud infrastructure and shared services. RoboEarth, RoboBrain, Knowrob, and the majority of other firms do research.

RoboEarth's purpose is to provide robotic systems the capacity to learn from the experiences of other robots. RoboBrain is a huge computational system that learns from freely accessible Internet information, computer simulations, and real-world robotics experiments. KnowRob is a spin-off project from RoboEarth. It is a knowledge-processing system that combines knowledge representation and reasoning methods with methods for acquiring knowledge and storing that knowledge in a physical system, and it may serve as a common semantic framework for integrating data from several sources. With on-demand human coaching and assistance, you may evaluate, learn, and recover from mistakes. Assistance in robot learning, as well as the exchange of outcomes, trajectories, and dynamic control techniques. Humans may exchange "open-source" code, data, and designs for programming, experimentation, and hardware manufacturing, which are important components of a cloud for robots.

Pooja Bandla
18RH1A04H3
IV ECE C

SMART SKIN

Today, there is no solution for restoration of a natural sense of touch for people using prosthetic limbs. In this paper, a concept for providing a natural sensation of touch is presented. The aim is to help improve quality of life for amputees, with improved function and capacity to use the prosthesis in activities and improved participation in family and society. The concept is based on embedding miniature, soft-MEMS tactility sensors into a silicone based "skin".

It employs scalable, event driven, ULP wireless communication to convey the sensor data to the actuation control module enabling the sensors to be placed almost anywhere. Powering is provided by a novel, stretchable powering subsystem that also serves as a waveguide for the wireless communication. Sensory feedback is based on the phantom mapping principle which is leveraged to provide natural sensation of touch by appropriate points on the amputee's residual limb using a tactile display.
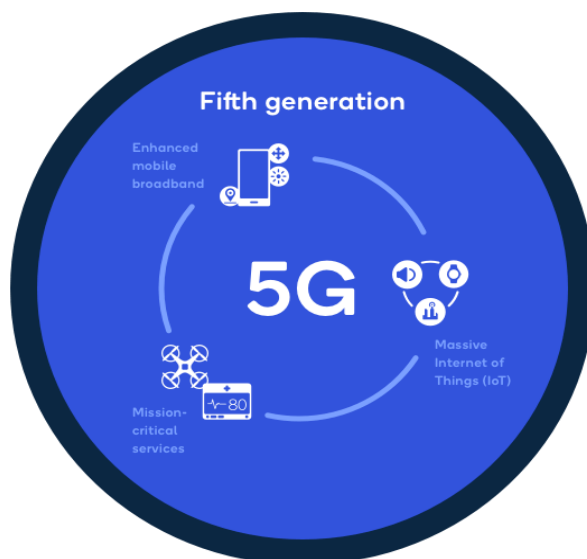
K. Varshini
20RH1A04B0
II ECE B

5G TECHNOLOGY

5G is the 5th generation mobile network. It is a new global wireless standard after 1G, 2G, 3G, and 4G networks. 5G enables a new kind of network that is designed to connect virtually everyone and everything together including machines, objects, and devices. 5G wireless technology is meant to deliver higher multi-Gbps peak data speeds, ultra-low latency, more reliability, massive network capacity, increased availability, and a more uniform user experience to more users. Higher performance and improved efficiency empower new user experiences and connects new industries.

5G is a unified, more capable air interface. It has been designed with an extended capacity to enable next-generation user experiences, empower new deployment models and deliver new services. With high speeds, superior reliability and negligible latency, 5G will expand the mobile ecosystem into new realms. 5G will impact every industry, making safer transportation, remote healthcare, precision agriculture, digitized logistics and more a reality. The development requirements of the new 5G network are also expanding beyond the traditional mobile networking players to industries such as the automotive industry.

C. Niharika
20RH1A0452
II ECE A

AI - LEARNED TO READ THE TIME ON AN ANALOGUE CLOCK

Artificial intelligence trained on computer-generated images of clocks taken from different angles has succeeded in learning to read the time.

Reading the time on an analogue clock is surprisingly difficult for computers, but artificial intelligence can now do so accurately using a method that had previously proved tricky to deploy. Computer vision has long been able to read the time from digital clocks by simply looking at the numbers on the screen. But analogue clocks are much more challenging because of factors including variation in their design and the way shadows and reflections can obscure the hands. Researchers at the University of Oxford have developed a system Artificial intelligence (AI) trained on computer-generated images of analog clocks captured at different angles has learned to read the time. Researchers at the U.K.'s University of Oxford enabled the system to realize 74% to 84% accurate readings on three sets of test images.These images, plus the correct time shown by the clocks, were fed into a spatial transformer network, which can warp an image taken at an angle in order to perceive it face on. The researchers also trained the model on time-lapse videos of clock faces, which enhanced accuracy when tested against 4,472 clock images.Google AI's Arsha Nagrani said, "Given the challenge with getting manually labeled data, the authors creatively use synthetic data and the fact that time progresses to automatically correct pseudo labels."

K. Sneha
21RH5A0413
II ECE C

CELL PHONE OPERATED LAND ROVER

Traditionally, wireless controlled robots make use of RF (Radio Frequency) circuits, which have their disadvantages of restricted operational range, limited frequency range, and limited control. This project introduces the use of the mobile phone for robotic control. This technology is more controller friendly as it doesn't interfere with other controllers and can use up to twelve controls. It also has the advantages of robust control and provides a working range as large as the coverage area of the service provider. Although the look and capabilities of these robots vary, they share mechanically movable structures under some form of control. The robots are controlled in three phases namely reception, processing, and action. Here preceptors are sensors mounted on the robot and the processing is done by an on-board microcontroller or processor.

This robot works either with the help of motors or with some other actuators. The robot is controlled by making a call on the mobile phone attached to the robot. In the course of the call if any button is pressed a 'dual-tone multiple-frequency' (DTMF) tone is heard at the other end of the call. The cell phone mounted on the robot perceives this tone and then the robot processes it by the ATmega16 microcontroller with the help of DTMF decoder MT8870.

U. Alekhya
18RH1A04M9
IV ECE D

HOLOGRAPHIC CAR ASSISTANT

Eye Lights, a developer of augmented reality devices for mobility, has today launched Eye Drive on **Indiegogo.** Eye Drive turns any car windshield into a holographic surface, enabling safer navigation, music control, and phone calls, while keeping eyes away from distracting smartphones. Eye Drive is available for pre-order now with early-bird pricing starting at $199. Backers will begin to receive orders in March 2019.

In addition to the Eye Drive holographic display, backers can pre-order accessories for the full-car experience. Accessories include the Eye Drive Gesture Control©, a gesture sensor that uses infrared technology to detect your hand movement and launch an action. Use various gestures to accept or decline a call, manage your music or activate the rearview camera. The Eye Drive rearview camera is also available for pre-order, a wireless and waterproof backup camera that integrates with the Eye Drive display.

B. Prasuna
18RH1A0411
IV ECE A

EV CHARGING

Electric vehicles require a source of AC or DC power to recharge their batteries, which is commonly supplied from the power grid. Electric vehicles are usually supplied with an AC EVSE, or electric vehicle supply equipment, that will have a vehicle plug on one end and a residential wall plug on the other. Hard-wired AC chargers are also available for residential installation but are more commonly found at workplaces or in public parking areas.DC fast chargers, on the other hand, can often be found at dedicated EV charging plazas, such as Tesla's Superchargers, and often supply 50kW to 400kW or more.

Communication between the power source and the vehicle's battery and on-board charger is critical to ensure the safety of the user and the longevity of the battery and the charging connectors. Allowing the vehicle to detect when the plug is fully inserted allows the on-board charger and supply equipment to ensure that both sides of the connection are always safe to touch. The vehicle must detect when the latch is pressed on the connector to allow the vehicle to stop drawing power before the connector is unplugged to prevent arcing.

B. Divya Sri
18RH1A0434
IV ECE A

MEMRISTOR

Memristors are basically a fourth class of electrical circuit, joining the resistor, the capacitor, and the inductor, that exhibit their unique properties primarily at the nanoscale. Theoretically, Memristors, a concatenation of "memory resistors", are a type of passive circuit elements that maintain a relationship between the time integrals of current and voltage across a two terminal element.

Thus, a memristors resistance varies according to a devices memristance function, allowing, via tiny read charges, access to a "history" of applied voltage. The material implementation of memristive effects can be determined in part by the presence of hysteresis (an accelerating rate of change as an object moves from one state to another) which, like many other non-linear "anomalies" in contemporary circuit theory, turns out to be less an anomaly than a fundamental property of passive circuitry.

Y. Shravani
18RH1A04P8
IV ECE D

CLUSTER ANALYSIS
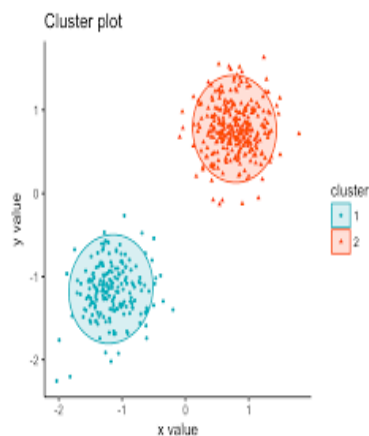
Cluster analysis is the term applied to a group of analyses that seek to divide a set of objects into a number of homogeneous groups or clusters when there no a priori information about the group structure of the data. The tutorial considers the nature of clusters and the underlying nature and quantification of similarity between objects and groups of objects.

The major types of clustering techniques are listed but attention is focused on the widely-available and popular hierarchical and optimization techniques. These are demonstrated by application to a set of fatty acid profiles of meat samples which allows comparison of the results. The importance of visually inspecting the data is emphasized. Finally there is discussion of several newer and less widely-available techniques such as fuzzy and kernel density clustering.

The Benefits of Cluster Analysis: Clustering allows researchers to identify and define patterns between data elements. Revealing these patterns between data points helps to distinguish and outline structures which might not have been apparent before, but which give significant meaning to the data once they are discovered.Once a clearly defined structure emerges from the dataset at hand, informed decision-making becomes much easier.

Ch. Mounika
18RH1A0442
IV ECE A

ARTIFICIAL INTELLIGENCE TECHNOLOGY IN OPTICAL FIBER COMMUNICATION ENGINEERING

Optical fiber communication engineering as a kind of "wired" optical communication mode which uses light wave as carrier and optical fiber as transmission medium to transmit information from one place to another, especially optical fiber has a special position in the communication industry due to its unique advantages of wide transmission frequency band, high anti-interference and small signal attenuation.

It has important practical value for the deep research of the area setting and protection of optical fiber and cable in the optical fiber communication engineering. However, at present, there is no complete management system in the aspects of hardware processing, fiber optic cable protection and the guarantee of the introduction of related talents, so it is urgent to innovate and develop the existing path. Based on this, this paper first analyzes the problems of optical fiber guarantee in the intelligent technology system construction of optical fiber technology in the field of communication engineering, and then puts forward the construction strategy of intelligent protection and breakthrough technology in optical fiber communication technology system.

G. Archana
21RH5A0410
II ECE B

AUTOMATIC STREET LIGHT USING LDR

We need to save or conserve energy because most of the energy sources we depend on, like coal and natural gas can't be replaced. Once we use them up, they are gone forever. Saving power is very important, instead of using the power in unnecessary times it should be switched off. In any city "STREET LIGHT" is one of the major power consuming factors. Most of the time we see street lights are ON even after sunrise thus wasting lot of energy. Over here we are avoiding the problem by having an automatic system which turns ON and OFF the street lights at given time or when the ambient light falls below a specific intensity. Each controller has an LDR which is used to detect the ambient light. If the ambient light is below a spcific value the lights are turned ON. A light dependent sensors is interfaced to the microcontroller it is used to track the sun light and when the sensors goes dark the led will be made on and when the sensors founds light the led will be made OFF. It clearly demonstrates the working of transistors in saturation region and cut-off region. The working of relay is also known Microcontroller and the code is written in C language, the resulted value can be seen with the help of LCD display. Automatic Street Light Control System is a simple yet powerful concept, which uses transistor as a switch.By using this system manual works are 100% removed.

It automatically switches ON lights when the sunlight goes below the visible region of our eyes. This is done by a sensor called Light Dependent Resistor(LDR) which senses the light actually like our eyes. It automatically switches OFF lights whenever the sunlight comes, visible to our eyes. Aim of this article is to control the street light using LDR. When the light falling occur means resistance value will be change. There is no light then the resistance change the voltage variation can be obtained this value is given to ADC of PIC. PIC is stand for Peripherical Interface Controller.

A. Shirisha
19RH1A0408
II ECE A

EDGE COMPUTING

Gartner defines edge computing as a part of a distributed computing topology in which information processing is located close to the edge—where things and people produce or consume that information. At its basic level, edge computing brings computation and data storage closer to the devices where it's being gathered, rather than relying on a central location that can be thousands of miles away. This is done so that data, especially real-time data, does not suffer latency issues that can affect an application's performance. In addition, companies can save money by having the processing done locally reducing the amount of data that needs to be processed in a centralized or cloud-based location. Edge computing was developed due to the exponential growth of IoT devices, which connect to the internet for either receiving information from the cloud or delivering data back to the cloud. And many IoT devices generate enormous amounts of data during the course of their operations.Think about devices that monitor manufacturing equipment on a factory floot or an internet-connected video camera that sends live footage from a remote office.
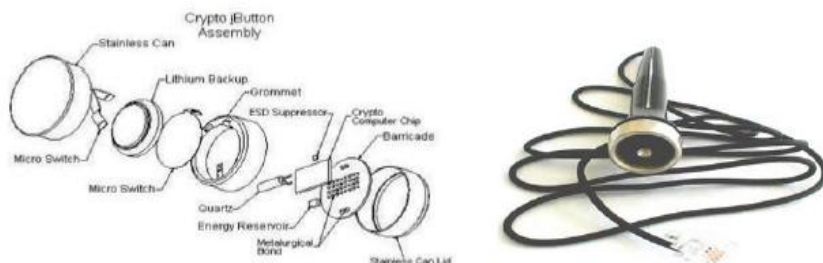
B.Tejaswi
19RH1A0417
II ECE A

iBUTTON TECHNOLOGY

Structure of iButton:

iBUTTON is a computer chip placed in a 16mm thick stainless steel can. The container used for this is unique and durable. It can transfer up-to-date information through a person or object at anywhere. Its construction is such that it can withstand harsh environments, indoors or outdoors. Also due to this properties it can be mounted virtually anywhere. We can use it in a key fob, ring, watch or other personal items due to its small size and portability. The parts of the ibutton are a Can and Grammet. Can is made by stainless steel and it is used as an electronic communication interface. Each Can has a data contact and ground contact. Data contact is called 'lid' and ground contact is called 'base'. These contacts are connected to the silicon chip inside. Lid is the top part and base is formed as sides and bottom. Also base includes a flange to attaching the button to anyone. These two contacts are separated by a polypropylene grammet. Each ibutton has an unique and unalterable address. The address is etched on to its chip inside the can by laser technology. This address can be used as a key for each ibutton devices. We can transfer information between ibutton devices and a pc with a momentary contact. The size of each information can be up to 142kbps. We can do it by simply touching ibutton device to a Blue Dot receptor or device probe, which is connected to a 1-wire adaptor through which to a pc. Blue dot receptor and 1-wire adaptor is shown below.

K. Nikitha
19RH5A0413
IV ECE C

MEMORABLE EVENTS

SAYONARA – 2K22

GURU PRANAM – 2K22

VIJAYOTSHAV – 2K22

An Interactive Talk on National Education Policy 2020 & Internship in Engineering Education

WOMENS DAY – 2K22

SUCCESS MEET – 2K22

ALUMNI MEET – 2K22

7th International Conference- AICTE Sponsored International Conference on Signal Processing and Communication System Design ICSPCOMSD-2022

MRECW STUDENTS RECIEVED 7 UNIVERSITY GOLD MEDALS
FROM JNTUH GIVEN BY
HONORABLE GOVERNOR OF TELANGANA STATE

ALUMNI TALK

Each and every student will get placed in the company because they train us in such a manner that our technical skills and educational skills provided by the college will be extremely great. This college will train us to get good technical skills in every programming language according to required for my branch

M. Asritha
17RH1A04C1

Peaceful Environment, Placements with high packages, Supportive faculty, Events conducted by the college are really helpful, Providing trainings with the updated technology and also they provide us CRT trainings with highly qualified teachers from institutions like FACE,TALENTIO etc.

S. Karishma
17RH1A04J5

"MRECW- my place of learning, loving and living with a lots of happiness"

Positive are many I'm very glad that I came to this college i have to bad affect. after coming here I even changed some of my attitude and even managed my anger it was all because of my HOD and teachers. they helped me allot in all factors.

B. Purna Chandrika
17RH1A0435

IMPORTANT WEBSITES

www.ieee.org/india

www.engineering.careers360

www.technologyreview.com

www.mathworks.in/products/matlab/

www.microwaves101.com/

www.ece.utoronto.ca/student-life-links

https://www.ece.org/

Science Commons.org

MathGV.com:

http://www.engineeringchallenges.org/

http://engineering.stanford.edu/announcement/stanford-announces-16-online-courses-fall-quart

http://www.tryengineering.org/

http://www.engineergirl.org/

http://www.discoverengineering.org/

http://www.eng-tips.com/

http://efymag.com

http://efymagonline.com/

http://electronicsforu.com

www.dspguide.com

www.howstuffworks.com

http://nptel.iitm.ac.in

http://www.opencircuitdesign.com/

http://www.futuresinengineering.com/

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