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 : 2022-23 **VOL.2**

Under

Student Chapter IEEE, CSI, ISTE & Technical Association CYNOSURS

INFOSPARK

HALF YEARLY TECHNICAL MAGAZINE

SCHOOL OF COMPUTER SCIENCE

www.mallareddyecw.com

DEPARTMENT VISION

- Visualizing a great future for the intelligentsia by imparting state-of the art Technologies in the field of Engineering and Technology for the bright future and prosperity of the students.
- To offer world class training to the promising Engineers.

Vision

DEPARTMENT MISION

- To nurture high level of Decency, Dignity and Discipline in women to attain high intellectual abilities.
- To produce employable students at National and International levels by effective training programmes.
- To create pleasant academic environment for generating high level learning attitudes.

Mission

ABOUT THE DEPARTMENT

The School of Computer Science offers B.Tech Programmes with 240 intake in CSE, 180 intake in CSE(AIML), 120 intake in CSE(DS), 60 intake in CSE(CS) and 60 intake in CSE(IOT) and also offers M.Tech programmes in COMPUTER SCIENCE AND ENGINEERING & COMPUTER SCIENCE. The programmes ensure that the student effectively meets the highest benchmarks of competence required by the industry.

The Dept has state of the art laboratories with latest softwares like Windows 2008, Visual Studio 2012, Ecllipse, WinRunner, QTP, J2EE, .NET, Fedora & Weka Tool. The Dept established IEEE & ISTE student chapters and Dept. Technical Association-CYNOSURES under which it organizes National level Technical Symposium - FUTURE SASTRA and State level Technical Symposium MEDHA every academic year and Student Development Programmes like Workshop on Web Designing, Android & its Application, ADOBE PhotoShop, Ethical Hacking and HTML5.

The Department also organizes Pre-placement training programmes on C-Skills, Java Skills and Project Based training programmes on C, C++, JAVA and Web Technologies and also organizes Intra College Student Conferences on Network Security and Data Base Management Systems and Recent Advancements in Computer Science and also organizes regular student seminar sessions of two hours per week for I - IV B.Tech student to enhance their all round performance. To provide value added certification courses to students, The Dept. established Micro Soft Innovation Center which offers Micro Soft Certification, CISCO Networking Academy which offers CISCO Certification and in association with ORACLE Corporation, India, It offers Java Certification. The Dept. also offers Business English Certification (BEC) with the help of Center for Development of Communication Skills.

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, code and test application specific or complex engineering problems in Cryptography and Network Security, Design and Analysis of Algorithm, Computer Networks, Data Mining, Cloud Computing, Mobile Computing, Cloud Computing, Internet of Things (IoT), Data Science, Artificial Intelligence, Machine Learning, Cyber Security, Block chain Technology, and Big Data 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 ENHANCEMENT

Provide the students with strong fundamental and advanced knowledge in Mathematics, Science and Engineering with respect to Computer Science and Engineering discipline with an emphasis to solve Engineering problems

PEO2-CORE COMPETENCE

Prepare the students through well - designed curriculum to excel in various programmes in Computer Science and Engineering, to meet the needs of the industry and for higher education pursuit.

PEO3- TECHNICAL ACCOMPLISHMENTS

Train the students with intensive and extensive engineering knowledge and skill to analyze, design and create novel products and solutions in the field of Computer Science and Engineering.

PEO4- PROFESSIONALISM

To inculcate in students professional attitude, multidisciplinary approach, ethics, team work, communication, ability to relate computer engineering issues with societal needs and contribute towards nation building.

PEO5- LEARNING ENVIRONMENT

To provide students with an academic environment that inculcates the spirit of excellence, creativity, innovation, leadership, lifelong learning, ethical codes and guidelines to become a successful professional in Computer Science and Engineering.

MESSAGES

Founder Chairman's Message

Ch. Malla Reddy

Founder Chairman, MRGI
Hon'ble Minister, Govt. of Telangana

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 School of Computer Science of MRECW are bringing out the volume-2 of the Technical magazine Infospark in A.Y 2022-23. 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

Principal's Message

I congratulate the department of School of Computer Science, MRECW for bringing out the issue of the prestigious half yearly department technical Magazine Infospark under A.Y: 2022-23, 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

INFOSPARK-,Our Department magazine show cases the various achievements and talents of students. The primary objective of the department has been to impart quality technical education to the students. We providing the students with most conductive academic environment and making them towards serving the society with advanced technologies. Our department provides training sessions, workshops, hands-on, webinars, Industrial visits, Internships and Personality development classes. I am privileged to offer my best wishes. I congratulate students who have contributed their articles in huge volume

Dr.CVPR Prasad

HOD, CSE

CSE- AIML

HOD'S MESSAGE

Dr. G. Kalpana
HOD, AIML

It is an occasion of great pride and satisfaction for the School of Computer Science, MRECW to bring out the issue of the half yearly of the Technical magazine INFOSPARK under A.Y:2022-23, 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.

CSE- CS

HOD'S MESSAGE

Dr. P.Srivani
HOD, CS

It is an occasion of great pride and satisfaction for the School of Computer Science, MRECW to bring out the issue of the half yearly of the Technical magazine INFOSPARK under A.Y:2022-23, 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.

CSE- DS

HOD'S MESSAGE

Dr. Ch.Smitha Chowdary
HOD, DS

I am gratified to know that the department of CSE-DS, MRECW is bringing out the issue of the half yearly Technical Magzine under A.Y 2022-2023. Nurturing creativity ans inspiring innovation are the two key words of a successful education and college magzine is the perfect amalgamation of both. This is a productive technical material and subsidiary skill developing tool for the students. The wide spectrum of articles gives us the sense of pride that our students and faculties possess creative potential and original thinking in ample measures. Each article is unique in its nature. I applaud the contribution for their stimulated thoughts and varied hues in articles contributed by them.

FACULTY ARICLES

Blockchain Technology

Blockchain was popularized in the context of cryptocurrency and Bitcoin and the security it provides. However, it offers security that can be useful in several other ways as well. Blockchain can be defined as data that you can only add to, not take away or alter. It results in many sections of data which form a 'chain', hence the name Blockchain.The fact that existing data cannot be altered or removed makes Blockchain a highly secure technology. Blockchains are consensus-driven, which means no single person or organization can take control of the data. There is no need for a third party to oversee transactions. As more industries adopt and implement blockchains, the demand for skilled blockchain developers has also increased. It requires the hands-on experience of programming languages, basic knowledge of OOPS, flat and relational databases, data structures, networking and web application development.

Dr.V. Pradeep
Professor

Importance of Cybersecurity

Since the dawn of computers, cybersecurity has played a major role in ensuring safer user experiences. It is not a new trend, but given that technology is evolving rapidly, cybersecurity measures need to be constantly upgraded and improved. Threats and hacking attempts are growing in number and intensity, which calls for improving security protocols and strengthening systems against malicious attacks. Data is the most valuable asset today, and hackers are constantly trying to steal data or information. This is why cybersecurity will always be a trending technology and need to constantly evolve to stay ahead of hackers. Demand for cybersecurity professionals is growing three times faster than any other tech jobs today. More and more businesses realize its importance, resulting in businesses spending about $6 trillion on cybersecurity by 2022.Cybersecurity job roles transition from the ethical hacker to security engineer to Chief Security Officer. The pay is significantly more than in other technology job roles due to its significance in ensuring a secure user experience.

Dr.DBK Kamesh
Professor

Internet of Things (IOT)

It is one of the most promising technologies of the decade. Multiple devices or 'things' today are wifi-enabled, which means they can be connected to the internet. The Internet of Things is a network of diverse connected devices. Devices within the network can communicate with each other, collect data and transfer it across the network without human intervention. There are hundreds of real- life Internet of Things (IoT) applications - from tracking activity using smart devices that connect to your phone, to remotely monitoring home doors or switching applications on and off. Businesses also use IoT for many things like monitoring activity in remote locations from a central hub and predicting when a device will malfunction so that corrective measures can be taken before it's too late. It is predicted that by 2030, over 50 billion devices will be connected via the Internet of Things. Global spending on this latest technology will reach an estimated $1.1 trillion in the next two years. IoT is currently in its initial stages and will advance rapidly in the near future. It requires knowledge of AI and Machine Learning fundamentals, as well as information security and data analytics.

Dr.AR Siva Kumaran
Professor

Virtual Reality (VR) and Augmented Reality (AR)

VR and AR have been popular for almost a decade now. Virtual Reality immerses the user into a new environment, while Augmented Reality enhances the user's existing environment. While their applications so far have been majorly linked with gaming and filters on social media, simulation software such as Virtual Ship is also used to train the US Navy, Army and Coast Guard ship captains. A whopping 14 million AR and VR devices were sold in 2019. The global market for this trending technology is predicted to reach $209.2 billion by 2022, which means more job opportunities for professionals in this field. By 2022, AR and VR are expected to integrate into our everyday lives much more deeply than today. They have huge potential and possible applications in training, entertainment, education, marketing and therapy or post-injury rehabilitation. It is also widely used by advertisers and brands to create new immersive experiences for their customers. Starting a career in VR or AR doesn't require too much specialization.

Dr. A. Swarupa Rani
Professor

Impact of Web3

Web3 is the name some technologists have given to the idea of a new kind of internet service that is built using decentralized blockchains — the shared ledger systems used by cryptocurrencies like Bitcoin and Ether.The term has been around for years, but it has come into vogue in the past year or so. Packy McCormick, an investor who helped popularize web3, has defined it as “the internet owned by the builders and users, orchestrated with tokens.”Proponents envision web3 taking many forms, including decentralized social networks, “play-to-earn” video games that reward players with crypto tokens, and NFT platforms that allow people to buy and sell fragments of digital culture. The more idealistic ones say that web3 will transform the internet as we know it, upending traditional gatekeepers and ushering in a new, middleman-free digital economy.But some critics believe that web3 is little more than a rebranding effort for crypto, with the aim of shedding some of the industry’s cultural and political baggage and convincing people that blockchains are the natural next phase of computing.

Dr. Sumaiya Samreen
Professor

DevOps

DevOps is a combination of software development (dev) an operations (ops). It is a software development process that integrates the roles of developers and system administrators. It's a collaboration between these two groups to work together to deliver software faster and more efficiently. The goal of this process is to improve the quality, security, and stability of code by integrating both sides’ skills into one. The term "DevOps" was first used in 2013 by Patrick Deboer (a developer) and James Lewis (an infrastructure engineer). The process was created as a way to improve communication between developers and IT professionals. The DevOps process flow is all about agility and automation. Each phase in the DevOps lifecycle focuses on closing the loop between development and operations and driving production through continuous development, integration, testing, monitoring and feedback, delivery, and deployment. DevOps as a career: DevOps Engineer. The DevOps way is to create a team who works together on a project, making sure that the product is created with flexibility and maintainability in mind. This is achieved by creating a culture of openness and transparency, where all stakeholders can work towards creating great products for the company.

Dr. K. Ramakrishna
Professor

STUDENT ARICLES(CSE)

AI CHATBOTS TO PROMOTE PHYSICAL ACTIVITY AND A HEALTHY DIET

Chabot's empowered by artificial intelligence (AI) can increasingly engage in natural conversations and build relationships with users. Applying AI chatbots to lifestyle modification programs is one of the promising areas to develop cost-effective and feasible behavior interventions to promote physical activity and a healthy diet. The purposes of this is to present a brief literature review of chatbot use in promoting physical activity and a healthy diet, describe the AI chatbot behavior change model our research team developed based on extensive interdisciplinary research, and discuss ethical principles and considerations. We conducted a preliminary search of studies reporting chatbots for improving physical activity and/or diet in four databases in July 2020. We summarized the characteristics of the chatbot studies and reviewed recent developments in human- AI communication research and innovations in natural language processing. Based on the identified gaps and opportunities, as well as our own clinical and research experience and findings, we propose an AI chatbot behavior change model. The proposed AI chatbot behavior change model consists of the following four components to provide such guidance: (1) designing chatbot characteristics and understanding user background; (2) building relational capacity (3) building persuasive conversational capacity; and evaluating mechanisms and outcomes. The rationale and evidence supporting the design and evaluation choices for this model. As AI chatbots become increasingly integrated into various digital communications, our proposed theoretical framework is the first step to conceptualize the scope of utilization in health behavior change domains and to synthesize all possible dimensions of chatbot features to inform intervention design and evaluation.

K. Gayathri Reddy (20RH1A05A3)

SYNTHESIA AI: REVOLUTIONIZING MUSIC EDUCATION

Music is a powerful form of expression that brings joy to millions of people around the world. However, learning to play an instrument can be a challenging and time-consuming process, often requiring years of dedicated practice and access to quality instruction. Synthesia AI is a technology that seeks to change this, making music education more accessible and enjoyable for everyone. Synthesia AI utilizes artificial intelligence to provide a personalized and interactive music education experience. The platform offers a fun and engaging way for users to learn and perform music, allowing them to progress at their own pace and receive feedback on their performance in real-time. With its machine learning algorithms, Synthesia AI adapts to the user's skill level, adjusting the difficulty of the lessons accordingly. The platform provides instant feedback on the user's performance, using computer vision and audio processing algorithms to analyze the playing. This helps users identify areas for improvement and make faster progress, making the learning experience more efficient and effective. Synthesia AI also offers a vast library of songs, allowing users to try out different styles, genres, and techniques, finding new ways to express themselves through music.

Kandula Sai Satwika Reddy (20RH1A05A4)

CLOUD ENCRYPTION

The process by which a customer's data is converted into cipher text and stored in the cloud using encryption techniques is known as cloud encryption. With one significant exception, cloud encryption I nearly comparabletoon.premises encryption. The cloud customer must take the effort to familiarize themselves with the provider's encryption and encryption key management policies and processes. The level of sensitivity of the housed dais must be compatible with the Service provider's cloud encryption capabilities. Platforms for cloud encryptions secure information when it is sent to and from cloud-based services and storage, as well as to authorized users in various locations. Additionally, when data is kept on cloud-based storage devices, these solutions encrypt it. These security features stop unauthorized users from reading files saved to cloud storage or data travelling to and from the cloud. Data-at-rest cloud encryption is offered by storage providers like Amazon Web Services (AWS), Dropbox, Microsoft Azure, and Google Cloud. Users only need to have valid authorization and authentication to access data. The program takes care of encryption key exchanges, encryption, and decryption procedures in the background.

D.Neharika (20RH1A0563)

IMPORTANCE OF CHATGPT TECHNOLOGY

Since OpenAI released its blockbuster bot ChatGPT in November, users have casually experimented with the tool, with even Insider reporters trying to simulate news stories or message potential dates. To older millennial who grew up with IRC chat rooms — a text instant message system

— the personal tone of conversations with the bot can evoke the experience of chatting online. But ChatGPT, the latest in technology known as "large language model tools," doesn't speak with sentience and doesn't "think" the way people do. That means that even though ChatGPT can explain quantum

physics or write a poem on command, a full AI takeover isn't exactly imminent, according to experts. That bot currently uses technology like Google Dialogue flow, another large language model tool. Linna

said he's experimenting with Chat GPT to help "Rentervention" come up with better responses and draft more detailed letters, while gauging its limitations. In conclusion, ChatGPT is a powerful language

model developed by OpenAI that can be used for a wide range of natural language processing tasks and conversational applications. The case study demonstrated how it could be applied to a real-world setting, such as an online competition on Kaggle.

Medepally Rajeswari (20RH1A05E3)

CLOUD COMPUTING

Cloud Computing is the delivery of computing services such as servers, storage, databases, networking, software, analytics, intelligence, and more, over the Cloud (Internet).Cloud Computing provides an alternative to the on-premises data centre. With an on-premises data centre, we have to manage everything, such as purchasing and installing hardware, virtualization, installing the operating system, and any other required applications, setting up the network, configuring the firewall, and setting up storage for data. After doing all the set-up, we become responsible for maintaining it through its entire lifecycle. There are four main types of cloud computing: private clouds, public clouds, hybrid clouds, and multi-clouds. There are also three main types of cloud computing services: Infrastructure- as-a-Service (IaaS), Platforms-as-a-Service (PaaS), and Software-as-a-Service (SaaS).

In conclusion, Cloud computing provides advance computing resources available on-demand, that scale as needed, with regular updates and without the need to buy and maintain an on-premise infrastructure. With cloud computing, teams become more efficient and reduce time to market as they can rapidly acquire, scale services, without the considerable effort that requires managing a traditional on-premise infrastructure.

Mohammad Ayesha Fathima Begum (20RH1A05E4)

IMPORTANCE OF DEVOPS IN AN ORGANIZATION

The traditional method of product development process is divided into two teams.1. Development team (Plan, Design, and Build). 2. Operations team (Test, Implementation, and Feedback)

.This process is a usual one. But the organization's main aim is to develop the product in short span of

time. But in traditional method, when the operations team is working, the development team must wait for the feedback generated by development team. This undoubtedly extends timelines and delays in the products. In recent years DevOps came into picture, where development and operation teams work together. It clearly eliminated all the limitations of the traditional method. So, DevOps became a hotcake in the market.

DevOps has the potential to transform the way you software development. Organizations can deliver better software, faster, and stay ahead of the curve in an ever- approach

Koppuravuri Sruthi (20RH1A05B7)

RAINBOW TECHNOLOGY

Corruption exists in our country even under the table. So, this corruption includes lots of black money transactions. All these transactions will be stored in the database. Why don't we say that database is not reliable? The reason is, we don't have any access on the database and the admin can change the details anytime. So, if there exist such system which is decentralized and becomes near too impossible to change the data then such system is said to be reliable. Such system is called Block chain. Block chain was found in 1990's but actually implemented in 2009. In 2009, Satoshi Nakamoto invented bit coin using Block chain. If we consider an instance say a shop, it contains lots of records about the items sold, bought etc. So, all these records are stored in a book and this book is called ledger. The block chain is same as the ledger. Every single block is a single record. Block chain is nothing but chain of blocks i.e., chain of records. Every single block contains relevant information such as in bit coin the transaction information is stored. The data stored in the block generates a unique hash code. Block also stores the hash of previous block. It records transactions in a way that is secure, transparent, and tamper-resistant. Once a transaction is recorded, it cannot be altered, making it a reliable and trustworthy to conduct transactions without the need for intermediaries. Block chain technology has many potential applications beyond just financial transactions such as supply chain management, identity verification, and voting systems.

Racharla Laxmi Prasana (20RH1A05J9)

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DevOps as a career: DevOps Engineer. The DevOps way is to create a team who works together on a project, making sure that the product is created with flexibility and maintainability in mind. This is achieved by creating a culture of openness and transparency, where all stakeholders can work towards creating great products for the company. It dramatically increases the velocity of application delivery and simplifies IT operations and application development by merging the worlds of developers and operations into one team. Organizations can deliver better software, faster, and stay ahead of the curve in an ever- approach.

Srinithya Pogula (20RH1A05M3)

NATURAL LANGUAGE PROCESSING

Natural language processing is the technological understanding of languages from computational outlook. It is a study of computer science and linguistics related to the communications between computers and human (natural) languages (Steven, Ewan, & Edward, 2009). Technologies established on natural language processing are becoming progressively well-known Furthermore, natural language generation systems translate information from computer files into understandable human language. Many hitches within natural language processing affect both creating and understanding. Natural language processing has considerable coincide with the study of computational linguistics, and is repeatedly regarded a sub-field of non-natural intelligence. Although natural language processing may include both text and speech, effort on speech processing is normally made in a separate field. In NLP, the computers are developed to understand the commands set in accepted language and act in accordance.

Presently, to work with computer, the information is required to be set in formal languages. The formal languages are the understandable machine commands (FOTRAN, Pascal) which are exclusively developed to communicate with computer (Daniel and James, 2008; Christopher, Prabhakar and Hinrich, 2008).

B.Vaishnavi (21RH1A0517)

GREEN CLOUD COMPUTING

Green cloud is a buzzword that refers to the potential environmental benefits that IT services delivered over the internet can offer society. The term combines the words green -- meaning environmentally friendly -- and cloud, the traditional symbol for the internet and the shortened name for cloud computing .There is some confusion around the meaning of the term green cloud (or green cloud computing). In some cases, industry sources use the term to describe the environmental benefits that result from the general movement to the cloud. For example, the cloud consolidates data centers and better supports a remote workforce, leading to improved resource utilization and the overall reduction of emissions. However, it would be more accurate to describe these characteristics as the green -- or environmental --benefit of cloud computing, rather than green cloud. Even with these benefits, data center operators might make little effort to reduce their carbon footprint. That stance is likely to change, given the projected growth of cloud computing and increasing pressure to address the environmental impact of data centers. Today, cloud data centers are behemoth facilities, housing thousands of servers, racks of storage devices, miles of network and the peripheral infrastructure necessary to keep everything running.

B. Chandana sahithi (21RH1A0529)

COMMUNICATION TECHNOLOGY AND SPECIALIZATION

Communication can be as basic as a birdcall at dawn, or as complicated as making a satellite phone call that crosses continents. Communication takes on many different forms; the most commonly applied media of communication between two people is speech. However, people communicate by use of gestures, facial expressions, the written word, images, or coded language. In the present day and age, where globalization and technology have led to a level of interconnectedness between people, countries and continents as has never been there in the past, communication remains key.

In every American household, there is at least one television set. Eighty five percent of households in America own a desktop. There is an estimate of five billion mobile handsets in circulation worldwide today. It is further estimated that by the year 2013, there will be a minimum of ten trillion text messages sent annually. Within the past decade, there have been major transformations in the way people choose to communicate. Barely ten years ago, was it considered a privilege to own a handheld device. However, cheaper methods of production and improved technology have enabled these devices be available to almost anyone. While computers, mobile phones and other handheld devices have enabled easy communication, and easier access to information, their negative aspects are now beginning to be understood. Some scientists and sociologists argue that these devices have run over our lives; so much so that there is less value in human to human communication. People are spending less and less time actually talking to and relating with each other as they become more hooked to the virtual realm.

C.Rishika (21RH1A0546)

CYBER SECURITY

Cyber security is the practice of protecting critical systems and sensitive information from digital attacks. Also known as information technology (IT) security, cyber security measures are designed to combat threats against networked systems and applications, whether those threats originate from inside or outside of an organization. In 2020, the average cost of a data breach was USD 3.86 million globally, and USD 8.64 million in the United States. These costs include the expenses of discovering and responding to the breach, the cost of downtime and lost revenue, and the long-term reputational damage to a business and its brand. Cybercriminals target customers' personally identifiable information (PII) — names, addresses, national identification numbers (e.g., Social Security number in the US, fiscal codes in Italy), and credit card information — and then sell these records in underground digital marketplaces. Compromised PII often leads to a loss of customer trust, the imposition of regulatory fines, and even legal action. Security system complexity, created by disparate technologies and a lack of in-house expertise, can amplify these costs.

Yosmitha.S (20RH1A05L3)

Communication Technology and Specialization

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C.Rishika (21RH1A0546)

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Yosmitha.S (20RH1A05L3)

STUDENT ARTICLES (CSE-AIML)

THE RISING POPULARITY OF AIOPS

The entire goal of AIOps is to manage complexity. AIOps can help modernize the IT operations and operations teams, predict management, and speed up the MTTR (Mean time to resolution). Indeed, AIOps can modernize IT operations by bringing intelligence to the alerting system by only reporting issues that are worthy of reporting with complete diagnostic details and the best possible solution. It also keeps learning with each alert raised making future diagnosis easier and helping keep the lights on. Besides, AIOps tools perform continuous monitoring without the need to rest or sleep. This helps the IT operations team to focus on serious, complex issues and initiatives that can then increase business stability and performance. Ultimately, AIOps is aimed at helping IT teams with some of their most important missions and most pressing priorities: ensuring the reliability, stability, and uptime of the applications and digital services that have become critical to business success.

NUNE. S.V.S.D.L.PRAVALLIKA 20RH1A6646

THE ERA OF MACHINES WITH BRAIN

It all starts with loads of data. Data is everywhere in different sizes and formats. Training an ML model requires tons and tons of data. Collecting and preprocessing the data is the first step in any ML project. Then comes the process of analyzing and diving deep into the data to find hidden patterns and insights for better decision making. After the data is well prepared, the algorithm is chosen. There are different algorithms for different purposes, and choosing the right one is the important task. Clean data is fed to the algorithm and the model is trained to perfection. It is then tested with unseen samples of data and fine tuning is done. Once the model is perfectly designed, it is deployed on the server for people to use. The entire process seems a little hefty but doing it with enthusiasm is fun.
Here comes another hand of ML, Deep learning, abbreviated as DL. DL deals with the artificial neural network that is designed as a human brain neuron with similar functionalities. DL is used to identify patterns using images. Self-driving cars and classification of cat and dog images are famous examples of deep learning. ML and DL together are the left and right hands of AI.

JANET MILLICENT 20RH1A6628

AI IN SPACE SCIENCE

The main concept, artificial intelligence, has aroused a great deal of interest. Because of the emergence of Big Data and the expansion of computer intelligence, development is now feasible. Artificial intelligence can be created in two ways: machine learning and deep learning. The study of natural events and tangible things that exist in space, as well as astrobiology and space medicine, are all included in the field of space science.

Space research, which revolves around a star and was recently found as Kepler 90i, is one of the accomplishments of artificial intelligence, is the main driving force behind technological progress. The NASA Kepler space observatory is said to have used machine learning to find the planet. According to a NASA news statement, there are 35,000 potential planetary indications in the Kepler Fourier dataset. In tests, the network 96% of the time accurately recognized TRUE planets and FALSE results. The researchers then told their model to look for lower signs and reasoned that multiple planet systems in 670, which already have multiple known planets, would be the ideal locations to look for more exoplanets since the neural network had learned to recognize the pattern of a transiting exoplanet.

Y. BHANU LEKHA (20RH1A6660)

CONVOLUTIONAL NEURAL NETWORKS

A Convolutional Neural Network (CNN) is a type of Deep Learning architecture commonly used for image classification and recognition tasks. It consists of multiple layers, including Convolutional layers, Pooling layers, and fully connected layers. The Convolutional layer applies filters to the input image to extract features, the Pooling layer downsamples the image to reduce computation, and the fully connected layer makes the final prediction.

The network learns the optimal filters through back-propagation and gradient descent. Artificial Neural Networks are used in various classification tasks like image, audio, words. Different types of Neural Networks are used for different purposes, for example for predicting the sequence of words we use Recurrent Neural Networks more precisely an LSTM, similarly for image classification we use Convolution Neural networks. In any feed-forward neural network, any middle layers are called hidden because their inputs and outputs are masked by the activation function and final convolution.

A CNN typically has three layers: a convolutional layer, a pooling layer, and a fully connected layer. Convolutional neural networks are very good at picking up on patterns in the input image, such as lines, gradients, circles, or even eyes and faces. It is this property that makes convolutional neural networks so powerful for computer vision. Unlike earlier computer vision algorithms, convolutional neural networks can operate directly on a raw image and do not need any preprocessing. Convolutional neural networks contain many convolutional layers stacked on top of each other, each one capable of recognizing more sophisticated shapes.

SAHRUTHI GARIPELLY (20RH1A6625)

SEEING AI

Seeing AI is a Microsoft research project that brings together the power of the cloud and AI to deliver an intelligent app designed to help you navigate your day. Point your phone's camera, select a channel, and hear a description of what the AI has recognized around you. Designed for the blind and low vision community, this research project harnesses the power of AI to describe people, text, currency, color, and objects.
With this intelligent camera app, just hold up your phone and hear information about the world around you. Seeing AI can speak short text as soon as it appears in front of the camera, provide audio guidance to capture a printed page, and recognizes and narrates the text along with its original formatting. The app can also scan barcodes with guided audio cues to identify products, recognize and describe people around you and their facial expressions, as well as describing scenes around you using the power of AI. An ongoing project, the latest new ability to be added to Seeing AI's roster is identifying currency bills when paying with cash and describing images in other apps such as your photo gallery, mail, Twitter.

Seeing AI app from Microsoft Seeing AI is a free app that narrates the world around you. Designed for the blind and low vision community, this ongoing research project harnesses the power of AI to open up the visual world and describe nearby people, text and objects.

RAMYA SRI (20RH1A6603)

WEB DEVELOPMENT

. To add some fun and logic, javascript has to be added. It allows us to create dynamic and interactive web pages and to load the content without loading the webpage. All these categories come under front-end development. The latest application known as Progressive Web Apps (PWAs) is a web app that uses service workers, manifests, and other web-platform features to give you a faster, more reliable, and more engaging version of your website. The languages used in this PWA are HTML, CSS, JavaScript and Web Assembly, Web assembly allows developers to build high-speed web apps in the language of their choice. Back-end development means working on server-side software, which focuses on everything that can't see on a website. like databases, back-end logic, application programming interface (APIs), architecture, and servers. Languages used in this are PHP, Python, java, ruby, SQL, etc. A full-stack web developer is a person who can develop both client and server software and has a thorough knowledge of front-end and back-end technologies. And finally, to deploy the websites to the public, there are some procedures to do it. Step one is, Pick the right hosting provider. Choose the tool and method to upload your website. Upload files to your website. Move the website files to the main root folder. Import your database. Check if your website works worldwide.

MS. PEDDINTY HARSHITHA (20RH1A6650)

BLOCK CHAIN TECHNOLOGY

Though the Block chain Technology was invented in 1991, it was popularized by a person (or group of people) using the name Satoshi Nakamoto in 2008 to serve as the public transaction ledger of the cryptocurrency bitcoin, based on work by Stuart Haber,
W. Scott Stornetta, and Dave Bayer. The identity of Satoshi Nakamoto remains unknown to date. A blockchain is a digital record of transactions. The name comes from its structure, in which individual records, called blocks, are linked together in single list, called a chain. Blockchains are used for recording transactions made with cryptocurrencies, such as Bitcoin, and have many other applications. Blockchain is the technology that underpins the cryptocurrency Bitcoin, but Bitcoin is not the only version of a blockchain distributed ledger system in the market. There are several other cryptocurrencies with their own blockchain and distributed ledger architectures.The blockchain is a chain of data blocks. Each block can be thought of as a page in a ledger. The individual blocks are composed of several components. Generally as block contains Hash, Data, Previous Hash. Hashing is the process of converting a given key into another value.

B. DURGA SONY 20RH1A6613

CHATGPT: ADVANCED CONVERSATIONAL AI

hatbot developed by OpenAI, one of the leading companies in artificial intelligence research. It is a large language model that has been trained using a massive amount of data to understand natural language and respond to user inputs.The primary purpose of ChatGPT is to provide a conversational experience to users by answering their questions, responding to their requests, and engaging in meaningful discussions. The chatbot uses a sophisticated algorithm that allows it to understand the context of a conversation and respond appropriately, making it one of the most advanced chatbots available today.
One of the most remarkable features of ChatGPT is its ability to learn from its interactions with users. As it interacts with more people, it becomes more intelligent and better equipped to handle complex conversations.

In conclusion, ChatGPT is a highly advanced chatbot that uses natural language processing and machine learning to provide a conversational experience to users. Its ability to learn from its interactions with users makes it increasingly intelligent over time, and it has the potential to revolutionize a wide range of industries. As technology continues to advance, it will be exciting to see how ChatGPT and other AI-powered chatbots will

MOHAMMAD ASRA (21RH1A6640)

MIND READING SYSTEM

The Mind Reading device take the mental state of a person as a input. Mind-reading devices make use of facial expressions of people in knowing what they feel. The goal of such a device is to increase the interaction between a computer and a human being.
Researchers are now working towards making the computers predictions more accurately by training them with additional sources of information. The mind-reading really includes estimating the volume and oxygen level of the blood of the user. The user wears a headband that sends light into the tissues of the head where it is consumed by the blood-filled tissues. People wearing these headbands were made to perform different tasks. This is one of the method they used to collect data and update the intelligence of computers. Electrodes of the mind reading computers are implanted in the brain. Brain-Computer Interface technology is used to transfer the electric signals from the brain to the computer and computer translates these signals. The thoughts of the person appears as words on the screen. There are many applications of this computers like Paralyzed people are being given voice and movement, Police and Military

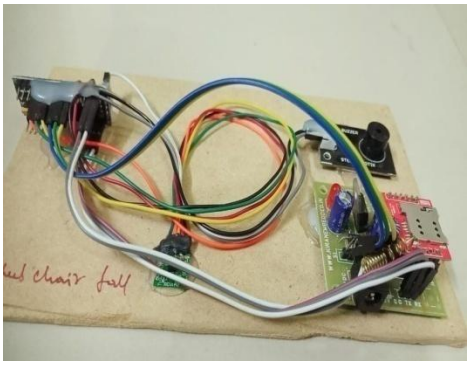
G. SRAVANI 21RH1A6622

UNLOCKING THE POWER OF AUTOML: THE FUTURE OF MACHINE LEARNING.

Machine learning has become a game-changer for businesses, revolutionizing everything from fraud detection to personalized marketing. However, building and training machine learning models can be a complex and resource-intensive process that requires specialized expertise. That's where automated machine learning (AutoML) comes in. AutoML is a set of tools and techniques that automate the process of building, training and evaluating machine learning models. With AutoML, businesses can harness the power of machine learning without needing a team of data scientists and machine learning experts. Consider the example of a small business owner who wants to predict customer churn. In the past, this would have required hiring a team of data scientists, building a custom model, and continually tweaking it to improve its accuracy. With AutoML, the business owner can simply upload their data and let the algorithm do the rest. The algorithm will search through a range of machine learning models and automatically select the best one for the task, freeing up the business owner's time and resources. One of the biggest benefits of AutoML is that it democratizes machine learning. Previously, only large organizations with dedicated data science teams could use machine learning effectively..

MORLA LIKHITHA SREE 21RH1A6641

SMART WHEEL CHAIR FALL DETECTION



Falling is among the major causes of medical problem that are faced by the elderly people and movement disability person. These people tend to injure themselves from falling when they are alone. When a falling event occurred, medical attention needs to provide immediately in order to reduce the risk of fallen from getting severe injuries which may lead to death. Several technologies have been developed which some utilized webcams to monitor their activities. However, the cost of operation and installation is expensive and only applicable for indoor environment.

Some users also worried about their privacy issues. Current commercialized device is by wearing wearable wireless emergency transmitter which restrict movement of user and produce high false alarm. This research proposed a wheel chair person fall detection system with IOT which is cost effective and reliable to detect fall and alert surrounding to call for help. For fall detection, gyroscope, GSM module and micro-controller are implemented into the system.

V.CHITHRIKA(20RH1A04P4), S.NITHYA SREE(20RH1A04M4), V.RAMYA(21RH5A0422)

EXPLORING AI ML TEMPLATES AND FUNCTIONS

Artificial Intelligence Markup Language (AIML) is a markup language used to create chatbots and virtual assistants. It is based on XML and is used to create patterns and templates that enable the chatbot to respond to user input. AIML templates and functions are essential components of creating an intelligent chatbot that can engage users and provide valuable information. AIML templates are the building blocks of AIML. They are used to create a response to a user input. AIML templates consist of patterns, which are used to match user input, and templates, which are used to provide a response. AIML templates can also contain wildcards, which are used to match multiple patterns. AIML functions are used to perform actions within the chatbot. They are typically used to retrieve or manipulate data. AIML functions can also be used to manipulate data. AIML templates and functions are essential components of creating an intelligent chatbot. Templates are used to match user input and provide responses, while functions are used to retrieve or manipulate data. By using AIML, developers can create chatbots that can engage users and provide valuable information.

S.VAISHNAVI (21RH1A6653)

METAVERSE

The metaverse is a virtual world that has gained popularity in recent years thanks to the advancement of virtual reality and augmented reality technologies. It is essentially an immersive, 3D version of the internet where people can interact with each other and virtual objects and environments .The metaverse has the potential to revolutionize the way we live, work, and play. In a fully realized metaverse, users could attend virtual concerts, shop in virtual stores, and even work in virtual offices. It offers endless possibilities for entertainment and communication, but also raises concerns about cyberbullying, addiction, and privacy. Despite these challenges, many companies are investing in the development of the metaverse. Facebook, for example, has announced plans to create a metaverse that is accessible to anyone with an internet connection. Other companies are already creating virtual worlds that attract millions of users.

M.PRIYANKA 21RH1A6634

YOLO V5 - AN OBJECT DETECTION MODEL

YOLO V5 stands for You Only Look Once .It is a popular object detection algorithm used in computer vision. YOLOv5 is the latest version of the YOLO family of models. It is an improvement over previous versions of YOLO in terms of speed, accuracy, and model size.

FEATURES OF YOLO V5:

YOLO V5 uses a single neural network to process an entire image. The image is divided into regions and the algorithm predicts probabilities and bounding boxes for each region. It uses a deep neural network to detect objects in images or videos. It can detect objects of various sizes, shapes, and orientations, and it can identify multiple objects in a single image. It uses a method for generating the anchor boxes, called "dynamic anchor boxes." YOLOv5 achieves high accuracy by using a combination of anchor boxes, feature pyramid networks, and focal loss.It is faster and more accurate, with a smaller model size.

ARCHITECTURE:

YOLO is of Single-stage object detectors architecture are composed of three components: Backbone, Neck and a Head to make dense predictions. **Model Backbone:** The backbone is a pre-trained network used to extract rich feature representation for images. This helps reducing the spatial resolution of the image and increasing its feature resolution.

Model Neck: The model neck is used to extract feature pyramids. This helps the model to generalize well to objects on different sizes and scales.

Model Head: The model head is used to perform the final stage operations. It applies anchor boxes on feature maps and render the final output: classes , objectness scores and bounding boxes

SAI CHIKKI 21RH1A6642

STUDENT ARTICLES(CS)

DRIVER DROWSINESS DETECTION SYSTEM USING DEEP LEARNING

Driver Drowsiness detection is one step towards lowering the global rate of road accidents.For detection and alarm creation, it combines computer vision and machine learning technology. Due to driving exhaustion and drowsiness, the number of fatalities and accidents on the road has increased year over year. The gadget is reliable and economical, and it can typically stop traffic accidents. The device features a camera via which it continuously observes the driver's eye and analyses the image in preparation for sleep at a predetermined time. A neural network is used to process photos taken at random intervals and identify eye movements and sleep stages. The motorist may be warned to wake up and pay attention if they are just starting to nod off. The device will warn the appropriate emergency contacts that the driver is about to fall asleep if they detect a higher level of tiredness in the user. The emergency contacts can then take any appropriate action to wake up the driver. The GPS tracking technology of the device allows the emergency contacts to additionally obtain the driver's location coordinates. When driving while distracted or carelessly, the consequences can be severe for both the driver and other drivers on the road..

CHANDANA (20RH1A6201) A. MANI MANOGNYA (20RH1A6202) B. VYSHNAVI (20RH1A6208)

AUTOMATIC VEHICLE SPEED CONTROL SYSTEM IN THE LOW SPEED ZONE

The project's goal is to use RF communication to build an effective autonomous wireless vehicle speed control in limited speed zones. Wireless RF transmitter and receiver modules are among the modules in the project. DC motors for the vehicle movement controller, and communication. A motor driver connects the RF receiver module and DC motors to the microcontroller, which controls the entire system. Every time a vehicle enters a low-speed zone, the vehicle system will receive data from the low-speed zone's RF transmitter. The vehicle's microprocessor automatically reduces the speed to that zone's speed limit. The microcontroller runs the program encoded in it to verify the data and then controls the electric motors. Embedded C is used to program the microcontroller. Safety is crucial for cars in order to limit the likelihood of collisions in speed-restricted areas. It reduces the loss of lives and property. Recent polls show that over the past few years, accidents near hospitals, schools, and abrupt turns have significantly increased due to people's hasty attempts to reach their destinations. Controlling vehicle speed has therefore been an important factor to take into account. In order to decrease the frequency of accidents, this project intends to provide a workable, minimal, and straightforward design for an autonomous vehicle speed control system that must be immediately installed in schools, colleges, hospitals ,and sharp turning zones.

A. ANUSHA (20RH1A6204) K. HARIKA (21RH5A6202) P. JHANSI(21RH5A6205)

FLUID LEVEL INDICATOR

The main concept, artificial intelligence, has aroused a great deal of interest. Because of the emergence of Big Data and the expansion of computer intelligence, development is now feasible. Artificial intelligence can be created in two ways: machine learning and deep learning. The study of natural events and tangible things that exist in space, as well as astrobiology and space medicine, are all included in the field of space science.
Space research, which revolves around a star and was recently found as Kepler 90i, is one of the accomplishments of artificial intelligence, is the main driving force behind technological progress. The NASA Kepler space observatory is said to have used machine learning to find the planet. According to a NASA news statement, there are 35,000 potential planetary indications in the Kepler Fourier dataset. In tests, the network 96% of the time accurately recognized TRUE planets and FALSE results. The researchers then told their model to look for lower signs and reasoned that multiple planet systems in 670, which already have multiple known planets, would be the ideal locations to look for more exoplanets since the neural network had learned to recognize the pattern of a transiting exoplanet.

CH.SATHVIKA (20RH1A6215) TEJESWANI (20RH1A6218) AFSHAN 20RH1A6230 SUFIYA 20RH1A6251

GAS LEAKAGE DETECTION AND AUTOMATIC SYSTEM

LPG gas is the most commonly used Domestic fuel in every household. Booking of the new gas cylinder manually is time-consuming. With this fastgrowing technology, it is not feasible for a person to spend time booking manually when this technology can be used to do such tasks. So, using IOT gas booking can be done simply. Gas booking can be automated by knowing the status of the amount of gas in the cylinder using a Load cell, weight sensor. When the weight of the cylinder goes below a specified limit, it is notified to the gas agency directly thus booking the new cylinder. Many domestic accidents occur due to the leakage of LPG gas. It is dangerous if it is inhaled and also if its level increases it may explode. So, as safety plays an important role this IoT project is also designed for the detection of LPG gas leakage. The gas is detected using an MQ6 gas sensor and the concentration is measured in ppm. When the concentration goes beyond a specified amount, it is notified to the user asking to take the necessary actions.

P.VINUSHA (20RH1A6245) S.SATHVIKA (20RH1A6250) CH.VANDANA (20RH1A621

AUDIO TO SIGN LANGUAGE TRANSLATOR

This project is based on converting the audio signals received to text using speech to text API. Speech to text conversion comprises of small, medium and large vocabulary conversions. Such systems process or accept the voice which then gets converted to their respective text. This paper gives a comparative analysis of the technologies used in small, medium, and large vocabulary. Speech Recognition System. The comparative study determines the benefits and liabilities of all the approaches so far. The experiment shows the role of language model in improving the accuracy of speech to text conversion system. We experiment the speech data with noisy sentences and incomplete words. The results show a prominent result for randomly chosen sentences compared to sequential set of sentences.

G.KEERTHIKA 20RH1A6220 P.SRUTHI 20RH1A6240 CH.HAMSINI (20RH1A6214)

TRAFFIC CONTROL SYSTEM

The current methods used such as timers or human control are proved to be inferior to all eviate this crisis. In this paper, a system to control the traffic by measuring the real-time vehicle density using Canny Edge Detection with digital image processing is proposed. This imposing traffic control system offers significant improvement in response time, vehicle management, automation, reliability and overall efficiency over the existing systems.

G. LAHARI 20RH1A6224 V. NAGA AKHILA 20RH1A6259 Y. SHRAVYA 20RH1A6260

ROAD LANE DETECTION SYSTEM

Many technical improvements have recently been made in this field of road safety, as accidents have been increasing day to day, and one of the major causes of such accidents is a driver's lack of attention. To reduce this incidence of accidents and keep safe, so many technologies are introduced. One method is to use Lane Detection System, which function by recognizing lane borders on the road and alerting the driver if he switches to an incorrect lane marking. A lane detection system is an important part of many technologically advanced transportation system. Although it is a difficult goal to fulfill because to the varying road conditions that a person encounters, particularly while driving at night or in daytime . A camera positioned on the front of the car catches the view of the road and detects lane boundaries. The method utilized in this research divides the video image into series of sub-images and generates image-features for each of them, which are then used to recognize the lanes on the road. Several methods for detecting lane marking on the road have been presented.

G.SHIVANI 20RH1A6225 G.SAI NIKITHA 20RH1A6226 K.KAVERI 20RH1A6227

E-MAIL SPAM DECTECTION TECHNIQUE USING ML

This spamming is done manually also which are mostly seen in most competitive pages. There are few method which can remove spamming which use data mining techniques. In this project we are automating process of spam comment detection using machine learning by taking dataset of E-mail spam messages and applying random forest algorithm for clustering on given dataset using python programming.

K.PALLAVI 20RH1A6228 N.SRI HARIKA 20RH1A6238 G.SRIVALLI 20RH1A6221

HEART DISEASE IDENTIFICATION IN E-HEALTH CARE

Over the past several decades, heart conditions have been the leading cause of death in both developed and developing nations, as well as in underdeveloped nations. The mortality rate can be decreased by early detection of cardiac conditions and continued clinical supervision of clinicians. still, accurate diagnosis of heart conditions in every case, and a croaker discussing a case for 24 hours, because it would require more insight, time, and guts, it is not available. In this study, a heart complaint cast has been proposed to predict impending heart complaints using machine learning techniques. An efficient machine learning approach should be used for the precise discovery of the heart complaint. This decision was made after carefully comparing various machine learning algorithms in Python.

P.SANJANA 20RH1A6243 P.VARSHINI 20RH1A6247 V.AKSHITHA 20RH1A6258

SUPERMARKET BILLING SYSTEM USING WEBCAM

Nowadays, if a consumer would like to buy something at a shopping mall, consumers need to take the particular items from the display shelf and then queue up and wait for their turn to make payment. Problem will surely arise when the size of a shopping mall is relatively huge and sometimes consumers don't even know where certain items are placed. Besides, consumers also need to queue for a long time at the cashier to wait for turn to make payment, The time taken for consumers to wait for the consumers in front of the queue to scan every single item and then followed by making payment will definitely take plenty of time. This condition will surely become worst during the season of big sales or if the shopping mall still uses the conventional way to key in the price of every item by hand to cash register. On the other hand, consumers often have to worry about plenty of things when going to the shopping mall. While doing survey we found the most of the people prefer to leave the shopping mall instead of waiting in long queues to buy a few products. People find it difficult to locate the product they need to stand in a long queue for billing and payment. To try to solve the problems previously identified, recent years have seen the appearance of several technological solutions for hypermarket assistance. All such solutions share the same objectives to save consumers.

P.AKHILA 20RH1A6246 T.SRINANINA 20RH1A6256 K.SRUJANA 20RH1A6231

SMART WHEEL CHAIR FALL DETECTION

Nowadays, if a consumer would like to buy something at a shopping mall, consumers need to take the particular items from the display shelf and then queue up and wait for their turn to make payment. Problem will surely arise when the size of a shopping mall is relatively huge and sometimes consumers don't even know where certain items are placed. Besides, consumers also need to queue for a long time at the cashier to wait for turn to make payment, The time taken for consumers to wait for the consumers in front of the queue to scan every single item and then followed by making payment will definitely take plenty of time. This condition will surely become worst during the season of big sales or if the shopping mall still uses the conventional way to key in the price of every item by hand to cash register. On the other hand, consumers often have to worry about plenty of things when going to the shopping mall. While doing survey we found the most of the people prefer to leave the shopping mall instead of waiting in long queues to buy a few products. People find it difficult to locate the product they need to stand in a long queue for billing and payment. To try to solve the problems previously identified, recent years have seen the appearance of several technological solutions for hypermarket assistance. All such solutions share the same objectives to save consumers.

V.CHITHRIKA(20RH1A04P4), S.NITHYA SREE(20RH1A04M4), V.RAMYA(21RH5A0422)

WEB-BASED GRAPHICAL PASSWORD AUTHENTICATION

Security plays a vital role in today's digital world. To secure our devices we use textual passwords. Textual passwords are strings of characters these include numbers and special characters. We generally use textual passwords. These textual passwords are not fully secured. Therefore, we face security issues while using textual passwords .In our paper, a security analysis of graphical passwords over textual passwords.

G. TEJASWINI 20RH1A6223 T. SHREYAA MADHURY 20RH1A6254 P. LAHARI21RH5A6206

STUDENT ARTICLES(DS)

AUTOMATIC PLANT WATERING SYSTEM WITH SOIL MOISTURE

This project is taken up as India is an agriculture oriented country and the rate at which water resources are depleting is a dangerous threat hence there is a need of smart and efficient way of irrigation. In this project we have implemented sensors which detect the humidity in the soil (agricultural field) and supply water to the field which has water requirement. The project is PIC16F877A microcontroller based design which controls the water supply and the field to be irrigated. There are sensors present in each field which are not activated till water is present on the field. Once the field gets dry sensors sense the requirement of water in the field and send a signal to the microcontroller. Microcontroller then supply water to that particular field which has water requirement till the sensors is deactivated again. In case, when there are more than one signal for water requirement then the microcontroller will prioritize the first received signal and irrigate the fields accordingly.

(20RH1A6726)

LOAN ELIGIBILITY PREDICTION

Recently, Internet finance is increasingly popular. However, bad debt has become a serious threat to Internet financial companies. The fraud detection models commonly used in conventional financial companies is logistic regression. Although it is interpretable, the accuracy of the logistic regression still remains to be improved. This project takes a large public loan dataset, e.g. Lending club, for example, to explore the potential of applying deep neural network for fraud detection. We first find the missing values by a random forest. Then, an XGBoost algorithm is employed to select the most discriminate features. After that, we propose to use a synthetic minority oversampling technique to deal with the sample imbalance. With the pre-processed data, we design a deep neural network for Internet loan fraud detection. Extensive experiments have been conducted to demonstrate the outperformance of the deep neural network compared with the commonly-used models.

K.SnehaLatha Reddy (20RH1A6729)

MAGIC WAND USING DEEP LEARNING

Magic Wand Using Deep Learning is the new emergence of sensing technologies as a touch- free interaction of air writing. The main objective of this project is to use the pen with motion mode of interaction for the efficient online gesture. The virtual pen is detected in a webcam with different contour detection is made along with eraser functionalities. But it is made much easier with OpenCV and computer vision technologies. Draw on Canvas just by using your Web-Camera and moving a Sketch Pen in the air in front of the camera. It automatically detects the colour of the Sketch Pen you are using and starts drawing as you move your hand. Keep the pen's cap on and cap's tip facing straight towards the Camera. Adjust the Threshold values of the colours for better results as the sketch pen colour you are using maybe a little different from the ones I used while making this Project. Only designed for light colour pens..

(20RH1A6756)

ANALYSIS AND PREDICTION OF HOUSE PRICE

The phenomenon of the falling or rising of the house prices has attracted interest from the researcher as well as many other real-estate parties. Usually, House price index (HPI) represents the summarized price changes of residential housing. Since housing price is strongly correlated to other factors, prediction needs more accurate methods based on location, house type, size, built year, local amenities, and some other factors which could affect house demand and supply. With dataset named Boston taken from Kaggle, which consists of 81 features and 1460 rows. Exploratory Data Analysis, data pre-processing, data cleaning, One Hot Encoding is applied in this project. The project is developed using two machine learning models, Random forest regression Model and Gradient boosting regression model to predict individual house. The performance metrics used is RMSE (Root Mean Square Error) and R-Squared value. We fit the algorithms to the data and tried three different ratios and observed which split gave better accuracy. It was observed that 80-20 split gave better accuracy when compared to 65-30 split and 70-30 split. It was also observed that Random forest is most accurate model than the Extreme Gradient Boosting model.

D. Keerthi (20RH1A6713)

POSHAN ABHIYAAN

India is at the cusp of major transformation. Yet it faces a development paradox. On the one hand, it is hailed as the fastest growing large economy in the world. On the other, it is still home to an unacceptably large number of malnourished children. While tremendous progress has been made, significant challenges remain – every third child is stunted, every fifth child is wasted, every third child is underweight, and more than 50% of children under 5 years of age are anaemic.It is in this context that the honorable PM launched the POSHAN ABHIYAAN on April 8, 2018 to tackle the issue of malnutrition in a mission mode. Subsequent to the launch, a National nutrition machine has been established to ensure necessary convergence across central ministries and state governments. It is a critical step by the Government of india aligned with the prime minister's moto of "sabka saath sabka vikas". "Poshan Abhiyaan" is a website which provides a 360 degree view of the activities of Anganwadi Centre (AWC), service deliveries of Anganwadi Workers(AWWs) and complete beneficiary management for pregnant women ,lactating mothers, children, adolescent girls and adolescent boys.The developed system enables real-time monitoring and tracking of all AWCs,AWWs and beneficiaries.

(20RH1A6752)

TRAFFIC LIGHT NEGOTIATION AND PERCEPTION BASED DETECTION

Traffic congestion is becoming one of the critical issues with increasing population and automobiles in cities. The present conventional systems in traffic system cause many problems where people are facing most of the problems with traffic rules. Traffic jams not only cause extra delays and stress for the drivers, but also increase fuel consumption and air pollution. Although it seems to pervade everywhere, megacities are the ones most affected by it. And its ever-increasing nature makes it necessary to calculate the road traffic density in real-time for better signal control and effective traffic management. The traffic controller is one of the critical factors affecting traffic flow. Therefore, the need for optimizing traffic control to better accommodate this increasing demand arises. Our proposed system aims to utilize live images from the cameras at traffic junctions for traffic density calculation using AI and computer vision.

P. Akhila (20RH1A6741)

TRAVEL WEB

Tourism plays an important role in any nation's economy. It also plays a major role in development of any region. There are many government policies which help in promoting tourism in our country. There is an India beyond the Taj Mahal, pottery which is rewarding. India is known for its culture and heritage. Every state in India has very unique flavors to offer to each tourist depending on the traveler's interests, be it leisure, spiritual, adventurous. The objective of the project is to develop a system that automates the processes and activities of a travel and. The purpose is to design a system using which one can perform all operations related to traveling. In the present system a customer has to approach various agencies to find details of places and to book tickets. This often requires a lot of time and effort. A customer may not get the desired information from these offices and often the customer may be misguided. It is tedious for a customer to plan a particular journey and have it executed properly.

B.Krithika (20RH1A6711)

SMART TRAFFIC MANAGEMENT FOR AMBULANCE SERVICES

Traffic congestion is major problem in cities of developing countries like India. In India as the population is being increasing day by day the traffic is also increasing with proportionality. On the other hand in INDIA, whenever an ambulance comes it is controlled manually at the traffic junction by a traffic officer. Nowadays all systems are working automatically. So, we proposed system called "Smart Traffic Management System for Ambulance Services using blue mode". Main objective behind our idea is to provide a smart way of controlling traffic light timing during peak hours and also to provide smooth flow for the ambulance to reach the hospital in time using Bluetooth operation. For this we are going to implement a new mode called "ambulance mode" which would control the traffic lights in the path of the Ambulance. This scheme is fully automated thus it controls the traffic lights, helping to reach the hospital in time. This is not preferred only for ambulance. The future scope is It is preferable for other emergency vehicles such as fire engines, VIP Vehicles etc.

D. Sowmya (20RH1A6714)

SIGN LANGUAGE DETECTION FOR DISABILITIES

Deaf, blind and dumb individuals lack in proper communication with normal people and find it difficult to properly express themselves. Thus, they are subjected to face many issues in this regard. The deaf and dumb make use of sign language to communicate which is difficult to interpret by the individuals who are not well-aware of it. There is a need of building up a device that can interpret the gestures into text and speech. This will be a great step to make the communication possible between the deaf and dumb individuals and the general public. We are providing an interface for deaf and dumb people who cannot speak to interact with other people in their surroundings. So, we are developing this program to make it easier for the deaf and dumb to communicate with the people who do not understand their sign language. And develop a program for blind people that convert the information in hand written notes, books or newspaper in to audio signal that these people can hear. Our program will detect and translate the hand signs made by the user into text and display it on the screen for the normal people to read. In this project, we propose the conversion of hand gesture into text for deaf and dumb people. The main theme of our project is to recognize the hand gesture, detect the gesture, and show the output in the form of text. The end user has to perform hand gestures in front of the camera. As user perform the gestures, our program will detect the gesture and it will translate the gesture into text in parallel.

(20RH1A6743)

LIFE CAPSULE

The primary source of the nation's prosperity is agriculture. But the world of agriculture is full of traps. As a result, farmers are moving to the city to work as laborers. Therefore, we want to draw people to farming and make it a major industry in society. One of India's most significant cash crops, cotton is crucial to the country's industrial and agricultural economies. The ability to identify and classify any illnesses that a cotton plant may have is crucial for preventing considerable loss in cotton production. The proposed and implemented method uses image classification to forecast crop diseases. By using machine learning methods like logistic regression. This can identify disease in cotton plant from images, based on feature extraction to provide brisk and reliable results to the farmer.

G.V.Jyothirmai (20RH1A6721)

DETECTING IMPERSONATORS IN EXAMINATION CENTERS

Detecting impersonators in examination halls is important to provide a better way of examination handling system which can help in reducing malpractices happening in examination centers. According to the latest news reports, 56 JEE candidates who are potential impersonators were detected by a national testing agency. In order to solve this problem, an effective method is required with less manpower. With the advancement of machine learning and AI technology, it is easy to solve this problem. In this project we are developing an AI system where images of students are collected with names and hall ticket numbers are pre-trained using the KD Tree algorithm and the model is saved. Whenever a student enters into classroom, the student should look at the camera and enter class, after the given time or class is filled with student's information will store in a video file with student name and hall ticket no.

(20RH1A6730)

WEARABLE SENSOR DEVICE FOR COAL MINE WORKERS

Our product provides gas analysers and temperature for environmental ambient air monitoring and detecting of toxic chemicals in and around your environment. Furthermore, it provides real-time monitoring and reporting of a chemical exposure. Therefore, enables coal mine workers to respond to the situation quickly and accordingly. In addition, we designed to help maintain a safe place environment within your facility and provide a real-time cost-effective solution for monitoring trace toxic chemicals in coal mine. We can apply our idea in Industrial as well as Home and highly populated cities in order to prevent ourselves from hazardous gases, present in the environment. This can be used in most populated and air-filled cities too. Our idea helps to prevent danger in coal mines and underground workers. The term IoT stands for Internet of Things and it is the most significant as well as promising technology nowadays. Some of the researchers in the market estimated that there are a billion devices are connected with sensors like wearables, smartphones, etc. Currently, every sensor plays an essential role in the Internet of Things. These sensors are mainly used for detecting or monitoring the quality of air, health status, home security, etc. Similarly, these sensors are used in IoT for monitoring the process of production, so named as IoT sensor.

G.Satwika Reddy (20RH1A6718)

AI BASED CHATBOT

Natural language processing (NLP) technology is the driving force behind the chatbot revolution. Chatbots are now a feasible choice for many enterprises thanks to recent developments in machine learning that significantly increased the precision and efficacy of natural language processing. This advancement in NLP is stimulating a tone of new research, which ought to result in ongoing advancements in chatbot effectiveness in the years to come. Chatbots are AI programs that can interpret and speak in human language over a variety of platforms, including online and mobile applications. Software that uses artificial intelligence to converse with people is known as a chatbot. These programs are used to carry out duties including promptly replying to users' inquiries, informing them, assisting with product purchases, and improving customer service. In this article, we outline the general operating theory, fundamental ideas, and uses of chatbots powered by artificial intelligence in a variety of fields, including telecommunications, finance, health, customer call centers, and e-commerce. Additionally, utilizing the suggested design, the outcomes of an example donation service established for a telecommunication service provider are provided.

(21RH5A6702)

INTRUSION ALERT SYSTEM

Intrusion alert system is regarding the sensors to alert Indian army and prevent the intrusion at borders. Nowadays national security is the major concern for any nation. There are many cross borders tunnels existing used by the terrorists and militants for smuggling of weapons, drugs and human trafficking. Therefore, a solution is required to overcome this problem. The main aim of INTRUSION ALERT SYSTEM is to restrict the illegal activities and intrusion into the country through borders. Basically, our alert works using a vibration sensor and an Arduino uno board. Our system completely works on the inputs of the sensor and alerts the army troops. This indication helps our Indian security to monitor areas at borders which cannot be patrolled by infiltrations underground, a system is to be designed to detect the intrusion by using real time directional measures and establishment of a sensor system in the need of hour. The software used in development of this system is Arduino IDE. Arduino is open-source software used for programming of Arduino to sense underground tunnels and intrusions into the country illegally by intimating authority for proper action. There are many technologies already available. But unfortunately, they are to detect the existing tunnel but our system helps in any type of intrusion or tunnel digging right there.

G.Meghana Reddy (20RH1A6723)

MEMORABLE EVENTS

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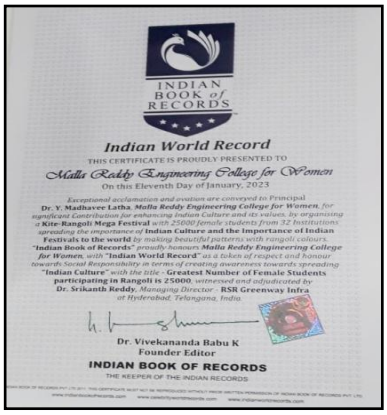
by **Dr.L. Pratap Reddy**, Professor(ECE), JNTUH


INDIAN WORLD RECORD

Exceptional acclamation and ovation are conveyed to Principal Dr. Y. Madhavee Latha, Malla Reddy Engineering College for Women for significant contribution for enhancing Indian Culture and its values, by organising a Kite-Rangoli Mega Festival with 25000 female students from 32 Institutions spreading the Importance of Indian Culture and Indian Festivals to the World.



INDIAN BOOK of RECORDS

Indian World Record

THIS CERTIFICATE IS PROUDLY PRESENTED TO

Malla Reddy Engineering College for Women

On this Eleventh Day of January, 2023

Exceptional acclamation and ovation are conveyed to Principal Dr. Y. Madhavee Latha, Malla Reddy Engineering College for Women, for significant Contribution for enhancing Indian Culture and its values, by organising a Kite-Rangoli Mega Festival with 25000 female students from 32 Institutions spreading the importance of Indian Culture and the Importance of Indian Festivals to the world by making beautiful patterns with rangoli colours. "Indian Book of Records" proudly honours Malla Reddy Engineering College for Women, with "Indian World Record" as a token of respect and honour towards Social Responsibility in terms of creating awareness towards spreading "Indian Culture" with the title - Greatest Number of Female Students participating in Rangoli is 25000, witnessed and adjudicated by Dr. Srikanth Reddy, Managing Director - RSR Greenway Infra of Hyderabad, Telangana, India.

Dr. Vivekananda Babu K
Founder Editor
INDIAN BOOK OF RECORDS
THE KEEPER OF THE INDIAN RECORDS

THE ANNUAL RECOGNITION OF 'TOP WOMEN'S COLLEGE IN INDIA - 2022 BY WOMEN ENTREPRENEUR INDIA MAGAZINE

DR. Y. MADHAVEE LATHA

Principal, Malla Reddy Engineering College for Women

A GUIDING LIGHT FOR AMBITIOUS YOUNG GIRLS OF THE NATION

"Apart from the technical skill development, we also focus on the students' life skills. here, we are into developing their all-round personality that includes their softskills, leadership abilities, attitude and communication abilities because we have several students coming in from rural areas as our college is known for the security and safety and at the same time great skill development and settlement for students

There are people who say, and then there are people who do. The harsh reality being, when it comes to women empowerment, the former outnumbers the later. Yet there are visionaries, who know what to do and how to do it. Education indeed has the power to change it all, to make the society realize that a woman is equal to a man in each and every aspect of life, be it education, be it professional life or be it family. This creates a dire need for educational institutions that support the 'Beti Padhao Beti Bachao' (Educate a girl child Save a girl child) movement launched by the central government and is determined to change the point of view of the patriarchal Indian society. Founded in 2008, Malla Reddy Engineering College for Women (MRECW) does not only stand testimony to the rising status of women in the country, but also helps them realize their true worth and the successful future they can have with the right opportunity. Women Entrepreneur India engages in a conversation with Dr. Y. Madhavee Latha, Principal, MRECW in order to know more about the institute and the core philosophies it is governed by.

how the institution has grown over the years.

Institution was established in 2008 with intake strength of 300 and right now we have an intake of 1068. we have established the institution with a great vision visualizing a great future for the intelligentsia by imparting state of the art technologies in the field of engineering and technology for the bright future and prosperity of the students and specially to offer world class training to the promising engineers and in this regard basically, we are emphasizing in offering technical expertise to students through various certification courses apart from their regular academic course. we also have established several technical clubs in our college related to all the trending technology areas wherein the students have hands on experience from experts in that particular technology, they can develop their own products as well and able to participate and perform good in Hackathons not just in India but worldwide.

COVER FEATURE

Women Entrepreneur
WOMEN COLLEGES IN INDIA

Malla Reddy Engineering College for Women (MRECW Autonomous Institution) The Women Empowerment world) does not only stand testimony to the rising status of women in the country, but also helps them realize their true worth and the successful future they can have with the right opportunity.

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