Bhoj Reddy Engineering College for Women

(Sponsored by Sangam Laxmibai Vidyapeet)

Approved by AICTE & Affiliated to JNTU Hyderabad

Department of information technology

TechRadar

01

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VISION AND MISSION OF DEPTVISION AND MISSION OF DEPT

Department Vision

- To emerge as a department of excellence in using cutting–edge technology by empowering women with sound technical knowledge to meet the future needs and challenges of the society.

Department Mission

- Department is committed to provide an enriching & conducive environment to build tools through the values of compassion and respect.
- To provide a holistic learning environment which will help students improve their personal and professional skills.
- To create an ambience that will contribute in creating self-reliant, innovative and entrepreneurial professionals, who shall contribute to the growth of technology.
- To develop a passion for learning through practical approach.

ABOUT BRECW

Bhoj Reddy Engineering College for Women is run by Sangam Laxmibai Vidyapeet, a registered voluntary social action group working since 1952 for empowerment of women and girls through education. The Vidyapeet has more than 60 years of experience in the field of education.

The College was established in 1997. It is managed by an executive committee consisting of persons with along experience in the field of education. Within a short period, it has emerged as one of the premier engineering colleges in the state.

The College campus has the unique advantage of being located in the heart of the city and yet free from noise and dust pollution. With considerable open space and greenery spread over 6.5 acers of land, the campus provides an ideal ambience for the engineering education of girls.

The academic performance of our students has been consistently outstanding with a pass percentage of 85 to 90.

K. Himaja (EIE), AVSLG Swetha(IT) and K Hima Bindu (CHE) of this college are the top rankers among the 2006-09 batch of students of Jawaharlal Nehru Technological University Hyderabad (JNTUH).

The College Timings are 9:30am to 4:30pm. There will be 6 periods of 60 minutes duration in a day, with a lunch break of 60 minutes. The College attaches great importance to attendance and rewards students having good attendance. The college is firmly convinced that good attendance helps the students to perform well in their curricular, co-curricular and extra-curricular activities.

Faculty

The College has able and committed faculty. The development of faculty is pursued vigorously on a continuous basis. The selection of faculty members is made every year by the JNTU selection committee through an open advertisement in the leading newspapers. The College encourages the faculty members to pursue higher studies and research by extending special facilities.

Infrastructure

All Class rooms are provided with LCD facilities for conducting lectures and presentations effectively. Tutorials are conducted regularly and, for this purpose, separate tutorial rooms are provided in each department. An open air theatre to accommodate more than 1200 is also available in the college campus. A full fledged 'Ramdev Convention Center' with a capacity of 300 will be ready for the academic year 2012-13 for conducting curricular, co-curricular and extra-curricular activities.

Student Chapters

Presenlty, the College has Students Chapters, namely (i) Institution of Electrical & Electronics Engineers (IEEE), (ii) Indian Society for Technical Education (ISTE), (iii) Institution of Electronics & Telecommunication Engineers (IETE) and (iv) Instrument Society of India (ISOI).

PRINCIPAL'S MESSAGE

Dr E Madhusudhana Reddy,
Principal
BRECW

Heartiest greetings!

"Excellence is a continuous process and in pursuit of which the Bhoj Reddy Engineering College for Women has completed 25 years of excellence on 17th December 2022 (Silver Jubilee)and made deep forays into contributing renowned technocrats, successful entrepreneurs, competent leaders and researchers.

Excellence not only has to do with cognition and learning outcomes, but also with soft skills such as cooperation, responsibility, communicative skills and dialogue, creativity and meta cognition. Therefore, BRECW focus on academic competence combined with social responsibility so that our women can contribute to the nation building exercise.

It is the talent and outcome of our students which is reflected through this magazine. This is one of the best platforms for our students to present multifaceted personalities and innovative ideas. Our magazine is balanced collection of technical activities, placement progress, departmental activities, poems,stories, academic achievement, NSS activities etc.

The grace of an institution hails from the rich values and virtues imbibed by its students. Our college takes pride in its triumph bestowed on it by the achievements of our students and we wish them a bright and prosperous future.

"Empowering today's learners to become tomorrow's leaders, shaping a brighter future for all."

HOD'S MESSAGE

Dear Readers,

It is with great pleasure and enthusiasm that I extend my warm greetings as the Head of the Information Technology at Bhoj Reddy Engineering College for Women. I take this opportunity to share our department's achievements, vision, and unwavering commitment to fostering excellence in computer science education.

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At Bhoj Reddy Engineering College for Women, we firmly believe that computer science is the driving force behind innovation and technological advancements in the modern world. As technology evolves at an unprecedented pace, our department remains dedicated to equipping our students with the knowledge, skills, and mindset necessary to navigate this dynamic landscape successfully.

Additionally, our department organizes technical workshops, seminars, and conferences, inviting renowned experts from academia and industry to share their insights and inspire our students. These events serve as valuable networking opportunities and facilitate knowledge exchange beyond the classroom.
I extend my best wishes to our students, faculty, staff, and readers of this magazine. Together, let us continue to strive for excellence, push the boundaries of knowledge, and make a positive impact on society through the realm of computer science.

Best regards,

Dr C Murugamani
Head of Information Technology Department
Bhoj Reddy Engineering College for Women

FACULTY ACHEIVEMENTS

PATENTS FILED BY IT FACULTY

S.NO	NAME OF THE FACULTY	TOPIC	Application No & Date of filing
1	Dr.C.Murugamani	IOT,AI And ML Algorithms Based Smart Education Method To Monitor System For Students Attendance And Teachers Feedback For Educational Institution	202241066492 19/11/2022
2	Dr.C.Murugamani	An Artificial Intelligence Based Agriculture Robot For Real Time Monitoring Of The Crops	202241067161 22/11/2022
3	Dr.C.Murugamani	ML,AI and BIG Data Analytics based techniques for Digital Document Fraud Detection System for Industry	202241066494 19/11/2022
4	Maya B Dhone	IOT,AI And ML Algorithms Based Smart Education Method To Monitor System For Students Attendance And Teachers Feedback For Educational Institution	202241066492 19/11/2022
5	Mohammad Shakeel	IOT,AI And ML Algorithms Based Smart Education Method To Monitor System For Students Attendance And Teachers Feedback For Educational Institution	202241066492 19/11/2022
6	Tasneem Rahath	IOT,AI And ML Algorithms Based Smart Education Method To Monitor System For Students Attendance And Teachers Feedback For Educational Institution	202241066492 19/11/2022
7	Taneery Sudha Rani	IOT,AI And ML Algorithms Based Smart Education Method To Monitor System For Students Attendance And Teachers Feedback For Educational Institution	202241066492 19/11/2022

S.NO	NAME OF THE FACULTY	TOPIC	Application No & Date of filing	
8	Alapati V Vasavi Sujatha	IOT,AI And ML Algorithms Based Smart Education Method To Monitor System For Students Attendance And Teachers Feedback For Educational Institution	202241066492 19/11/2022	COMPUTER SCIENCE
9	T.Santosh	IOT,AI And ML Algorithms Based Smart Education Method To Monitor System For Students Attendance And Teachers Feedback For Educational Institution	202241066492 19/11/2022	COMPUTER SCIENCE
10	T.Santosh	ML,AI And BIG Data Analytics Based Techniques For Digital Document Fraud Detection System For Industry	202241066494 19/11/2022	COMPUTER SCIENCE
11	Mrs.G.Jyothi	An Artificial Intelligence Based Agriculture Robot For Real Time Monitoring Of The Crops	202241067161 22/11/2022	MECHANICAL ENGINEERING
12	Mrs.Ruhiat Sultana	An Artificial Intelligence Based Agriculture Robot For Real Time Monitoring Of The Crops	202241067161 22/11/2022	MECHANICAL ENGINEERING
13	Ms.Minhaj Begum	An Artificial Intelligence Based Agriculture Robot For Real Time Monitoring Of The Crops	202241067161 22/11/2022	MECHANICAL ENGINEERING

S.NO	NAME OF THE FACULTY	TOPIC	Application No & Date of filing
14	Ms.Shaista Sayeed	An Artificial Intelligence Based Agriculture Robot For Real Time Monitoring Of The Crops	202241067161 22/11/2022
15	Ms.S.Revathi	An Artificial Intelligence Based Agriculture Robot For Real Time Monitoring Of The Crops	202241067161 22/11/2022
16	Ms.D.Navaneetha	An Artificial Intelligence Based Agriculture Robot For Real Time Monitoring Of The Crops	202241067161 22/11/2022
17	Ms.D.Navaneetha	A Data Science and AI enabled Framework for Network Security	202241074805 23/12/2022
18	V.SwarnaKamalam	ML,AI and BIG Data Analytics based techniques for Digital Document Fraud Detection System for Industry	202241066494 19/11/2022
19	Mehveen Mehdi Khatoon	ML,AI and BIG Data Analytics based techniques for Digital Document Fraud Detection System for Industry	202241066494 19/11/2022
20	Muneeba Zuha	ML,AI and BIG Data Analytics based techniques for Digital Document Fraud Detection System for Industry	202241066494 19/11/2022
21	Dr.M.Sandhya Rani	ML,AI and BIG Data Analytics based techniques for Digital Document Fraud Detection System for Industry	202241066494 19/11/2022
22	M.Sravanthi	ML,AI and BIG Data Analytics based techniques for Digital Document Fraud Detection System for Industry	202241066494 19/11/2022

FACULTY CONTRIBUTION

FACULTY PUBLICATIONS

Dr C Murugamani
Associate Professor
and Head of IT
Department
BRECW

1. C Murugamani published paper on “Machine Learning Technique for Precision Agriculture Applications in 5G-Based Internet of Things” Wireless Communication & Mobile Computing (Hindawi Ltd -England) WILEY. ISSN: 1530-8669, Volume 2022, Article ID 6534238, 7 June 2022.
2. C Murugamani published paper on “Wireless Communication for Robotic Process Automation using Machine Learning Technique” Wireless Communication & Mobile Computing (Hindawi Ltd - England) WILEY. ISSN: 1530-8669, Volume 2022, Article ID 4723138, 16 April 2022.
3. C Murugamani published paper on “IOT-based Smart Wastewater Treatment Model for Industry 4.0 using Artificial Intelligence” Scientific Programming (HindawiLtd – United States) WILEY. ISSN: 1058-9244, Volume 2022, Article ID 5134013, 25 February 2022.
4. C Murugamani Published the book on “Data Communication and Computer Communication” in the year 2022 with ISBN number ISBN 9798888059555.
5. C Murugamani Published the book on “Python Programming” in the year 2022 with ISBN number ISBN 9789356252523.
6. C Murugamani Published the novel on “Communication, Software and Networks” in the year Oct 2022 with ISBN number ISBN 978981194990636.
7. C Murugamani Published the book on “A Complete Guide to Wireless Sensor Networks” in the year 2022 with ISBN number ISBN 9789356253735.

Sandhya Rani M., Rekha R., Sunitha K.V.N. published paper in conference on “A Novel Asymmetric Group Key Encryption Mechanism in MANETs” In: 7th International Conference-Information System Design and Intelligent System Applications INDIA 2022(Springer-Scopus Indexed), 25-26 February 2022 organized by BVRIT Hyderabad college of Engineering for Women, Hyderabad

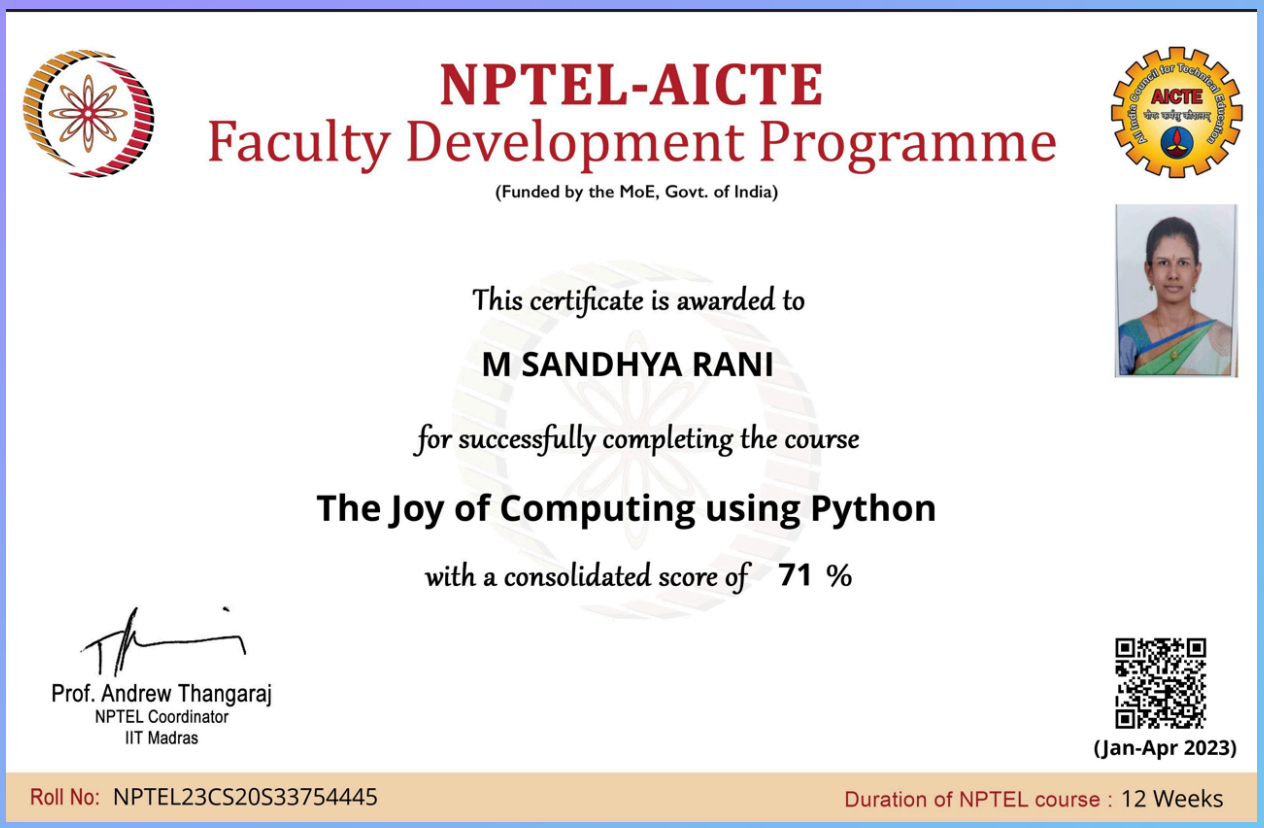
Sandhya Rani
Associate Professor
Department of IT
BRECW

M.Sravanthi published paper on “PREDICTION OF CARDIAC DISEASE USING SUPERVISED MACHINE LEARNING ALGORITHMS “ on The International journal of analytical and experimental modal analysis Volume XIV, Issue VII, July/2022 ISSN NO: 0886-9367Page No :1192 -1201

M SRAVANTHI
Assistant Professor
Department of IT BRECW

NPTEL

NPTEL certification course with 70% on “Python for Data Science” (4 week course) in 2022.



NPTEL-AICTE
Faculty Development Programme
(Funded by the MoE, Govt. of India)

This certificate is awarded to

M SANDHYA RANI

for successfully completing the course

The Joy of Computing using Python

with a consolidated score of 71 %

Prof. Andrew Thangaraj
NPTEL Coordinator
IIT Madras

(Jan-Apr 2023)

Roll No: NPTEL23CS20S33754445

Duration of NPTEL course : 12 Weeks

The course brings programming to your desk with anecdotes, analogies and illustrious examples. Turning abstractions to insights and engineering to art, the course focuses primarily to inspire the learner's mind to think logically and arrive at a solution programmatically. As part of the course, you will be learning how to practice and culture the art of programming with Python as a language. At the end of the course, we introduce some of the current advances in computing to motivate the enthusiastic learner to pursue further directions.

STUDENTS ACHEIVEMENTS

1K Lakshmi Prasanna, R. Mamatha, Student, Department of Information Technology, Bhoj Reddy Engineering College for Women, Hyderabad published paper on “Flood forecasting by using Machine Learning” International Journal of Scientific Research in Computer Science, Engineering and Information Technology ISSN No: 2456-3307 UGC Journal, September-October-2022,Page No: 329-333.

2S. Indu, Poloju Kavya, Student, Department of Information Technology, Bhoj Reddy Engineering College for Women, Hyderabad published paper on “Fake Product Identification using Block Chain” International Journal of Scientific Research in Computer Science, Engineering and Information Technology ISSN No: 2395-6011 UGC Journal, September-October-2022,Page No: 948-955.

3S Meghana ,Vennapusa Bhavitha Reddy, Student, Department of Information Technology, Bhoj Reddy Engineering College for Women, Hyderabad published paper on “E Voting System using Blockchain” International Journal of Scientific Research in Computer Science, Engineering and Information Technology UGC Journal, September-October-2022,Page No: 324- 328.

4K Gangamani, A Hymavarshini, Student, Department of Information Technology, Bhoj Reddy Engineering College for Women, Hyderabad published paper on “A Deep Learning-Based Approach for Inappropriate Content Detection and Classification of YouTube Videos” International Journal of Scientific Research in Computer Science, Engineering and Information Technology UGC Journal, September-October-2022,Page No: 666-671.

5J Kalomika , T Manasa, Student, Department of Information Technology, Bhoj Reddy Engineering College for Women, Hyderabad published paper on “Detection and Recognition of Human Emotion using Machine Learning” International Journal of Scientific Research in Computer Science, Engineering and Information Technology ISSN No: 2456-3307 UGC Journal, September-October-2022,Page No: 962-965.

6P Meghana, P Malathi, Student, Department of Information Technology, Bhoj Reddy Engineering College for Women, Hyderabad published paper on “AI Powered Garbage Detection System” International Journal of Scientific Research in Computer Science, Engineering and Information Technology ISSN No: 2456-3307 UGC Journal, September-October-2022,Page No: 317-320.

7V Nithya, P Pallavi, Student, Department of Information Technology, Bhoj Reddy Engineering College for Women, Hyderabad published paper on “Color Detection and Image Caption Generator using Machine Learning” International Journal of Scientific Research in Computer Science, Engineering and Information Technology ISSN No: 2456-3307 UGC Journal, September-October-2022,Page No: 9-12.

8Nida Sahrish, K Padma Priya, Student, Department of Information Technology, Bhoj Reddy Engineering College for Women, Hyderabad published paper on “Low Light Image Enhancement using Machine Learning” International Journal of Scientific Research in Computer Science, Engineering and Information Technology ISSN No: 2456-3307 UGC Journal, September-October-2022,Page No: 641-644.

STUDENT PUBLICATIONS

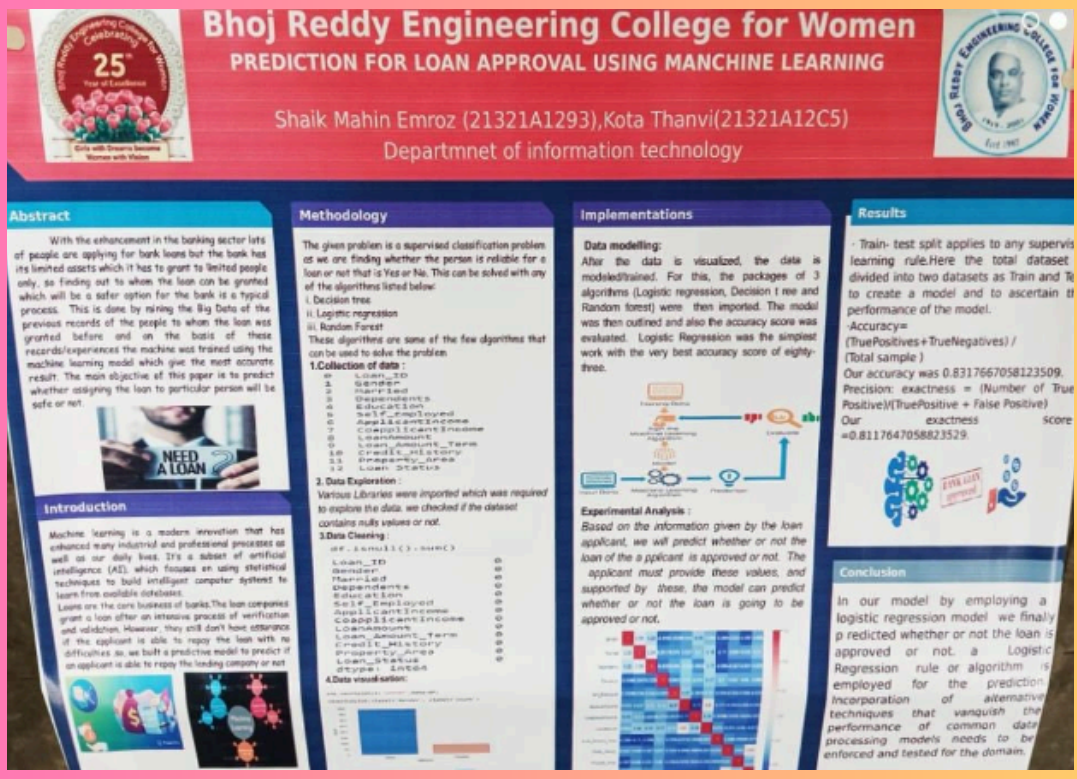
S.No	Roll No	Name	Title	Journal Name
1	19321A1233	K Lakshmi Prasanna	Flood forecasting by using Machine Learning	International Journal of Scientific Research in Computer Science, Engineering and Information Technology (IJSRCSEIT)
2	19321A1240	R Mamatha		
3	19321A1226	S.Indu	Fake product identification using block chain	International Journal of Scientific Research in Science and Technology
4	19321A1229	P.Kavya		
5	19321A1245	S Meghana	E Voting System using Blockchain	International Journal of Scientific Research in Computer Science, Engineering and Information Technology (IJSRCSEIT)
6	19321A1212	Bhavitha		
7	19321A1202	Adina Maheen	Clustering Consumer Photos Based on Face Recognition	International Journal of Scientific Research in Science and Technology
8	19321A1236	T Madhavi		
9	19321A1204	M.Akhila	Visual cryptography using QR code	International Journal of Scientific Research in Science, Engineering and Technology
10	19321A1217	H.Eshika		
11	19321A1218	K Gangamani	A Deep Learning-Based Approach for Inappropriate Content Detection and Classification of YouTube Videos	International Journal of Scientific Research in Computer Science, Engineering and Information Technology (IJSRCSEIT)
12	19321A1224	A Hymavarshini		

S.No	Roll No	Name	Title	Journal Name
13	18321A1257	JV Nikitha	Detection of fake currency using deep learning	International Journal of Scientific Research in Computer Science, Engineering and Information Technology (IJSRCSEIT)
14	19321A1231	Ch Keerthana		
15	19321A1227	J Kalomika	Detection and Recognition of Human Emotion using Machine Learning	International Journal of Scientific Research in Science and Technology
16	19321A1241	T Manasa		
17	19321A1244	P Meghana	AI Powered Garbage Detection System	International Journal of Scientific Research in Computer Science, Engineering and Information Technology (IJSRCSEIT)
18	19321A1238	P Malathi		
19	19321A1242	B Manaswi varma	Artificial Intelligence Crime: An Overview of Malicious Use and Abuse of AI	International Journal of Scientific Research in Computer Science, Engineering and Information Technology (IJSRCSEIT)
20	19321A1223	P Hima Bindu		
21	19321A1220	B Greeshma Reddy	Predicting Employees under Stress for Pre-emptive Remediation using Machine learning Algorithm	International Journal of Scientific Research in Computer Science, Engineering and Information Technology (IJSRCSEIT)
22	19321A1250	Nabiha Shariff		
23	19321A1257	V Nithya	color detection and image caption generator using machine learning	International Journal of Scientific Research in Science and Technology
24	19321A1260	P Pallavi		

S.No	Roll No	Name	Title	Journal Name
25	19321A1208	Ch Anusha	Adaptive Hierarchical Cyber Attack Detection and Localization in Active Distribution Systems	International Journal of Scientific Research in Science, Engineering and Technology
26	19321A1216	B Divya sri		
27	19321A1213	P Cefhora	Untraceable Group Data Sharing for Secure Cloud	International Journal of Scientific Research in Science, Engineering and Technology
28	19321A1214	T Chandana		
29	19321A1211	P.Ashwini	Controlling media player using hand gestures	International Journal of Scientific Research in Computer Science, Engineering and Information Technology (IJSRCSEIT)
30	19321A1251	K.Nandini		
31	19321A1228	Vemula Kalpana	Credit Card Fraud Detection using Machine Learning	International Journal of Scientific Research in Science, Engineering and Technology
32	19321A1258	Om seetha		
33	19321A1253	Nida sahrish	Low Light Image Enhancement using machine learning	International Journal of Scientific Research in Computer Science, Engineering and Information Technology (IJSRCSEIT)
34	19321A1259	K Padma Priya		
35	19321A1249	M Munny	Air Quality Monitoring System Within CAMPUS BY USING WIRELESS SENSOR NETWORKS	International Journal of Scientific Research in Science, Engineering and Technology
36	20325A1205	k Prathyusha		

ARTICLES

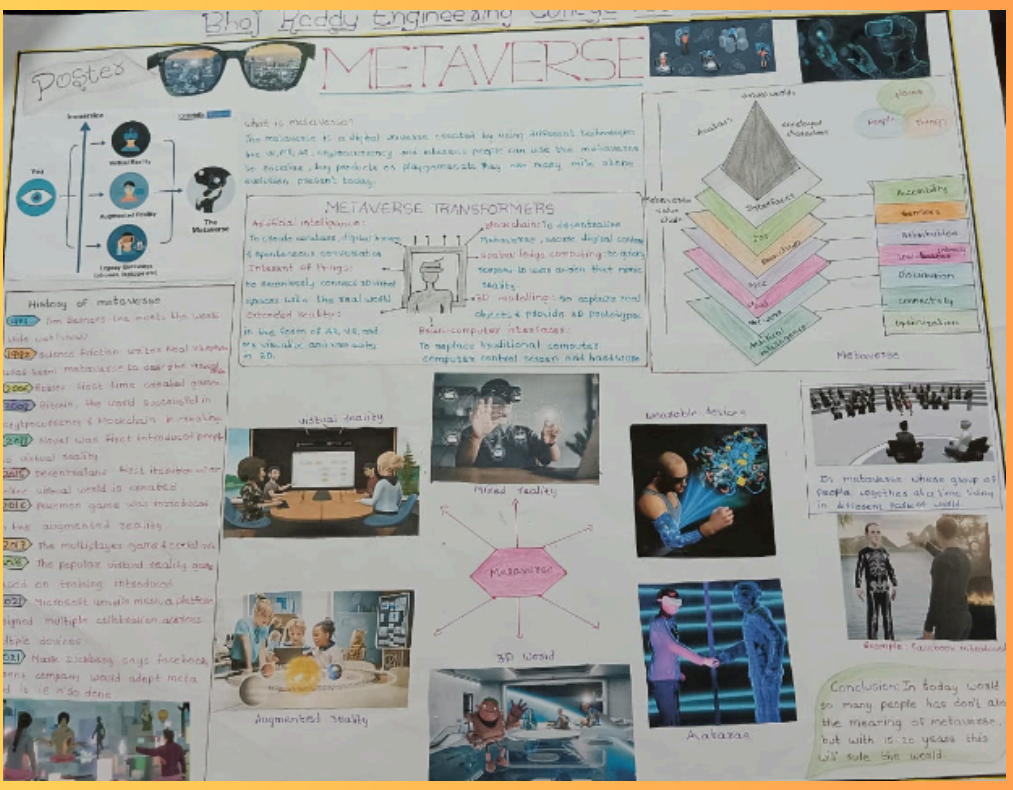
1.PREDICTION FOR LOAN APPROVAL USING MACHINE LEARNING



-BY
SHAIK MAHIN (21321Al293)
KOTA THANVI(21321Al2C5)

With the enhancement in the banking sector lots of people are applying for bank loans but the bank has its limited assets which it has to grant to limited people only, so finding out to whom the loan can be granted which will be a safer option for
bank is a typical process. So in this paper we try to reduce this risk factor behind selecting the safe person so as to save lots of bank efforts and assets. This is clone by mining the Big Data of the previous records of the people to whom the loan was grunted before and on the basis of these records/experiences the machine was trained using the machine learning model which give the most accurate result. The main objective of this paper is to predict whether assigning the loan to particular person will be safe or not. This paper is divided into four sections (i)Data Collection (ii) Comparison of machine learning models on collected data (iii) Training of system on most promising model (iv) Testing.

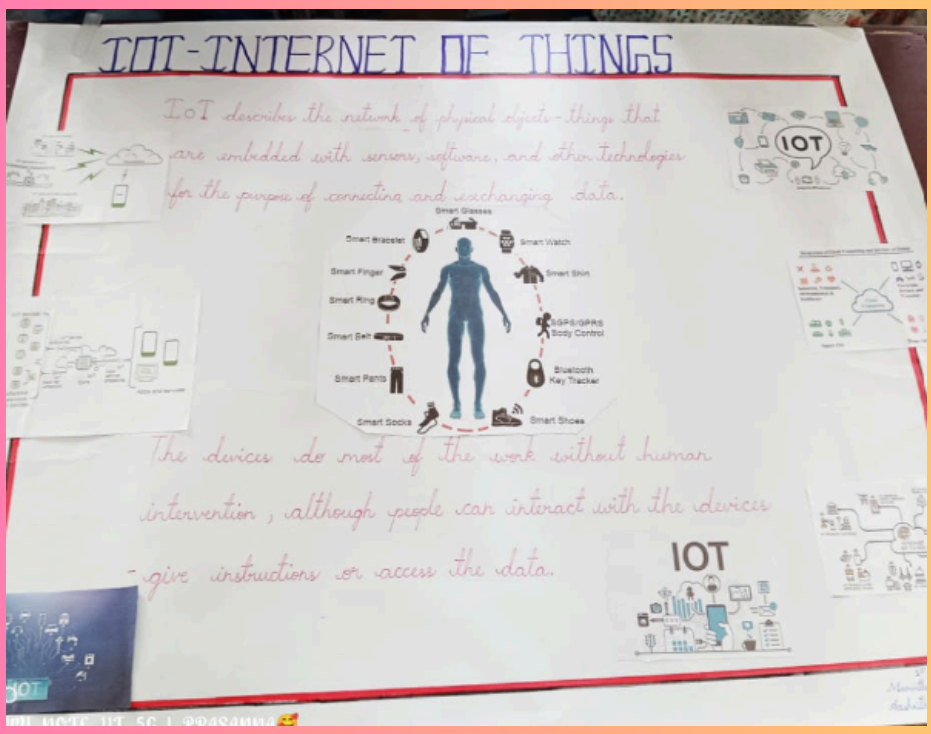
2.METAVERSE



-BY
R Pranitha (21321Al267)
S.RuchithaReddy(21321Al276)

The metaverse was first introduced in 1992. Zukeberge's press drew all attention world wide where many people saw it as a new world. This study presents biometric evaluation which has been discussed in the literature since nineties. The Metaverse is the post-reality ,perpetual and persistent multiuser environment merging physical reality an virtual reality based on the convergence of technologies that enable multisensory interactions with virtual environments, digital objects and people such as virtual reality(VR) and augmented reality(AR). Metaverse enables seamless embodied user communication in real time dynamic interactions with digital artefacts first iteration was web of virtual worlds where avatars were able to teleport among them.The contemporary iteration of metaverse features social ,immersive VR platforms compatible with massive multiplayer online video games ,open game worlds and AR collaborative spaces. many researchers working on the extra evaluation on the prominent topics in this field. In addition the education sector and digital marketing fields. Metaverse will probably have entered many areas of our lives in next 15-20 years ,shape our lives by taking advantage of the opportunities osf developing technology.

3.IOT (INTERNET OF THINGS)



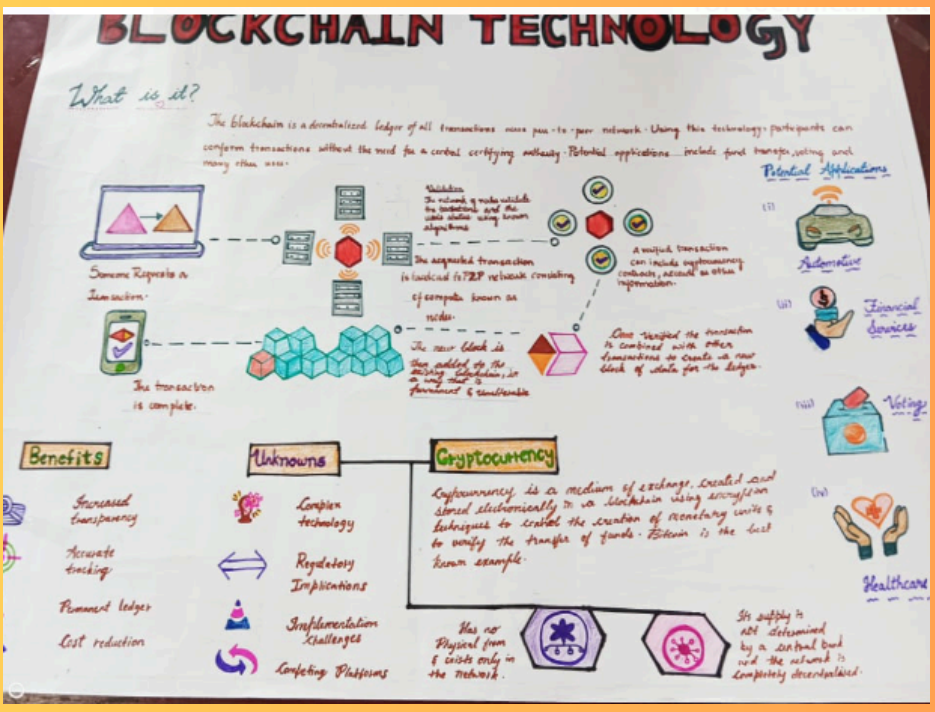
-BY
Manvitha Reddy Katika (22321Al247)
Aashritha Konjarla (22321Al201)

The internet of things, or loT, is a system of interrelated computing devices, mechanical and digital machines, objects, animals or people that are provided with unique identifiers (UIDs) and the ability to transfer data over a network without requiring human-to-human or humanto-computer interaction. An loT ecosystem consists of web-enabled smart devices that use embedded systems, such as processors, sensors and communication hardware, to collect, send and act on data they acquire from their environments.

An loT ecosystem consists of web-enabled smart devices that use embedded systems, such as processors, sensors and communication hardware, to collect, send and act on data they acquire from their environments. loT devices share the sensor data they collect by connecting to an loT gateway or other edge device where data is either sent to the cloud to be analyzed or analyzed locally.

KEYWORDS: identifiers, processors, sensors, communication hardware, embedded systems.

4.BLOCKCHAIN



-BY
M.Sanjana (22321Al286)
B.Sanjitha (22321Al287)

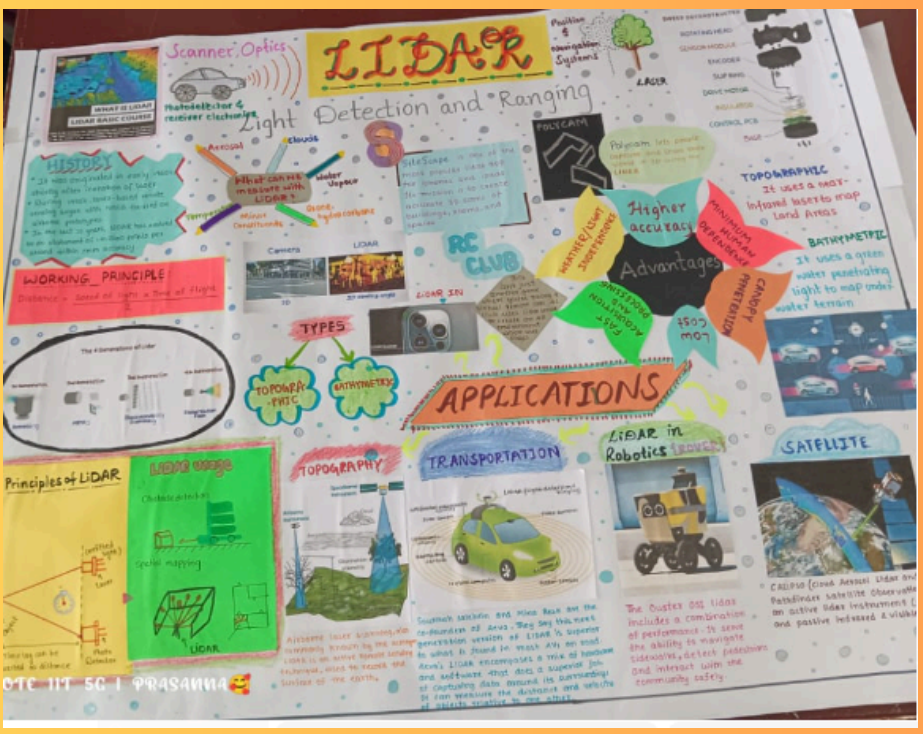
Blockchain technology has emerged as a transformative force across various sectors globally. It operates on a decentralized ledger system where data is stored in blocks linked together using cryptographic techniques, ensuring transparency, security, and immutability. Originally known for enabling cryptocurrencies like Bitcoin and Ethereum, blockchain has expanded its utility to include supply chain management, smart contracts, identity verification, healthcare records management, and more. Its branches include public, private, and consortium blockchains, each catering to different needs of accessibility and control. The benefits of blockchain technology are profound, offering enhanced security through cryptographic hashing, transparency by eliminating intermediaries, efficiency gains via automated processes, and decentralized governance. Despite its advantages, challenges such as scalability, regulatory uncertainties, and energy consumption remain significant unknowns. However, blockchain's potential applications are vast, ranging from improving voting systems' integrity and efficiency to revolutionizing industries like trade finance with faster, more secure transactions and streamlined processes. As blockchain continues to evolve, its impact on reshaping digital trust and transactional systems worldwide continues to grow.

5.CYBER SECURITY

-BY
B.Poojitha 22321Al261
S. Manasa 22321Al246

Cybersecurity encompasses strategies and technologies designed to safeguard computer systems, networks, and data from unauthorized access, disruptions, or damage. It is crucial in protecting against various threats such as phishing schemes, ransomware attacks, identity theft, data breaches, and financial losses. Key types of cybersecurity include critical infrastructure security, application security, network security, cloud security, and Internet of Things (IoT) security. These sectors focus on securing different facets of digital infrastructure, ensuring confidentiality, integrity, and availability of information. Confidentiality ensures that sensitive data remains private, integrity guarantees that data is accurate and trustworthy, and availability ensures that systems and data are accessible when needed. Cybersecurity measures are essential for businesses, governments, and individuals alike, as they defend against cyber threats that can have severe repercussions on business operations, national security, and personal privacy. As cyber threats continue to evolve, cybersecurity practices evolve as well, employing advanced technologies and proactive strategies to mitigate risks and enhance digital resilience.

6.LIDAR TECHNOLOGY



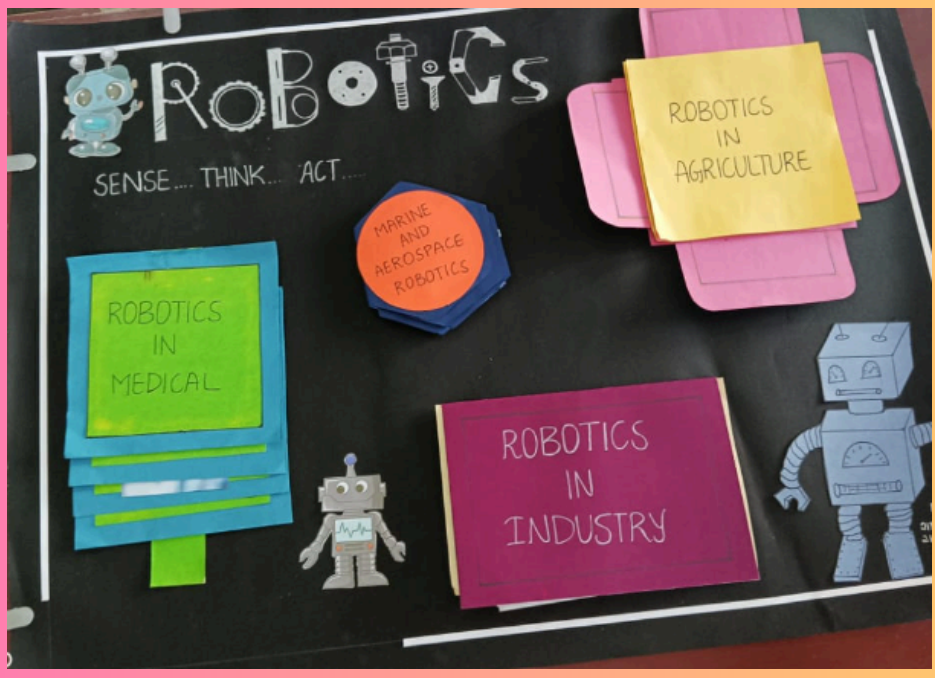
-BY
R.Charitha Reddy (22321Al226)
Sardarni Nainjeeth Kour (22321Al254)

LIDAR technology has revolutionized fields ranging from urban planning and archaeology to forestry and disaster management. Its ability to capture highly accurate and detailed spatial data has made it indispensable for various applications. Airborne LIDAR, mounted on aircraft, allows for rapid and extensive coverage of large areas, making it ideal for mapping terrain, monitoring vegetation, and assessing disaster impacts like floods or landslides. On the other hand, Terrestrial LIDAR systems, deployed on the ground, excel in capturing fine details of smaller areas, such as building facades, archaeological sites, and infrastructure for engineering projects.

The components of a LIDAR system work in tandem to ensure precise data collection: lasers emit pulses that bounce off objects and return to photodetectors, where the timing and intensity of these pulses are recorded. This information, combined with GPS and inertial navigation systems, enables the creation of accurate 3D models and maps. The technology's advancements have led to improved resolution, faster data processing, and reduced costs, making it accessible for a broader range of scientific and commercial uses.

In cultural heritage preservation, LIDAR aids in documenting and studying historical sites with intricate detail, helping to digitally preserve cultural artifacts and monuments. In environmental science, it supports monitoring of ecosystem health and biodiversity, while in transportation planning, it assists in designing safer roads and efficient transportation networks.

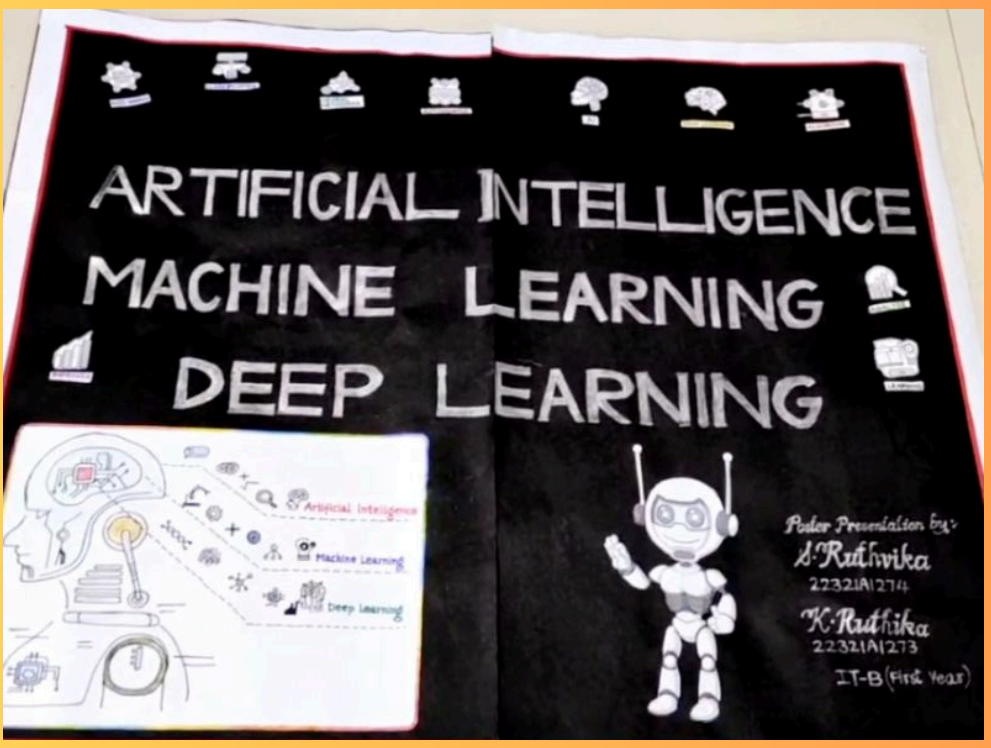
7.ROBOTICS



-By
C.seema reddy (21321Al292)
M.vennela (21321Al2C8)

Robotics, at its core, represents a dynamic intersection of technology and engineering aimed at creating autonomous systems capable of performing tasks traditionally carried out by humans. This interdisciplinary field integrates expertise from mechanical, electrical, and computer engineering, along with advancements in materials science. Central to the development of intelligent robots is the incorporation of sophisticated computing systems powered by artificial intelligence (AI), including artificial neural networks and genetic algorithms. This work introduces the foundational aspects of robotics, focusing on the diverse categories of modern robots such as mobile robots for navigation and logistics, industrial robots enhancing manufacturing efficiency, service robots aiding in healthcare and service industries, and specialized robots like military, space, medical, BEAM, humanoid, and micro robots. Each category serves distinct purposes, leveraging robotic capabilities to enhance productivity, safety, and exploration across various domains. As robotics continues to advance, its applications expand, offering innovative solutions to complex challenges and driving progress in automation and human-machine interaction.

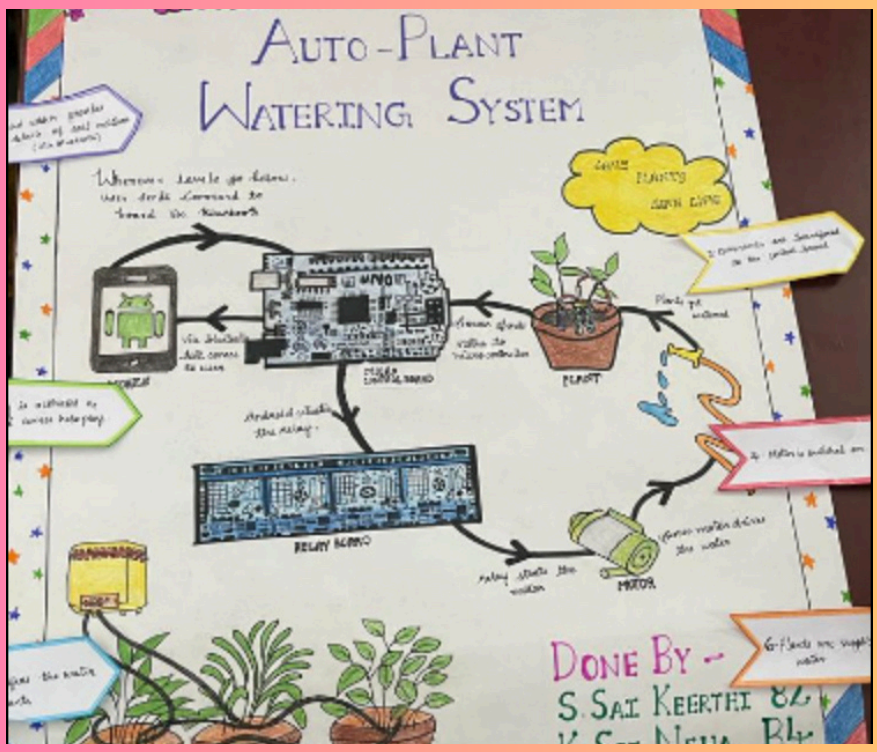
8.ARTIFICIAL INTELLIGENCE , MACHINE LEARNING AND DEEP LEARNING



-BY
S.Ruthvika (22321Al274)
K.Ruthika (22321Al273)

Artificial Intelligence is the science and engineering of making intelligent machines, especially intelligent computer programs. It is related to the similar task of using computers to understand human intelligence, but AI does not have to confine itself to methods that are biologically observable. While no consensual definition of artificial intelligence exists, AI is broadly characterized as the study of computations that allow for perception, reason and action. Machine Learning is an application of artificial intelligence that involves algorithms and data that automatically analyse and make decision by itself without human intervention. It describes how computer perform tasks on their own by previous experiences. Therefore we can say in machine language artificial intelligence is generated on the basis of experience. The rapid growth of artificial intelligence and machine learning technology in today's generation has taken the world to the next level. Furthermore, many impossible circumstances that are challenged by human beings can be solved with the aid of latest technologies such as AI,ML & DL. It have wide applications in different fields. For example, computer vision, robotics, medical treatment, gaming and industries. To understand AI simply, it helps to unlock any devices like smart phones that recognise the face etc. This paper examines features of artificial intelligence, Introduction, Definitions of AI, History, Applications, Growth, Achievements and Future of AI and ML.
KEYWORDS: Artificial Intelligence, Machine Learning.

9.AUTOMATIC PLANT WATERING SYSTEM

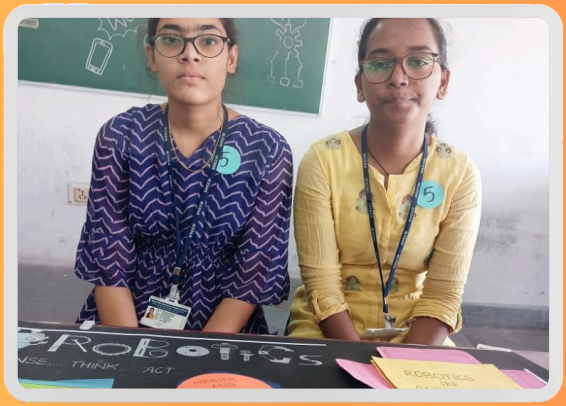


-BY
K.SRI NEHA (22321A1284)
SAI KEERTHI (22321A1282)

Technology is everywhere nowadays. This automatic plant watering system based on the same concept. The system uses Android application to control and monitors appliance and Bluetooth technology as a communication protocol to connect system components. Depending upon the moisture level of the garden soil the system can detect the appropriate time of water supply to plants. The analogue data received from the sensor are transmitted as digital signal via Bluetooth module to the controller board.

The system will automatically identify the shortage of water in the soil and the same is notified to the User. • By voice message user can switch on the water supply to plants. It also notifies the User regarding drop in water level in main tank automatically after reaching certain lower level in the tank. User can also communicate with the system by sending command to supply water to the plants and also to main tank.


BLOCKCHAIN TECHNOLOGY


ROBOTICS


AUTO PLANT
WATERING SYSTEM


ROBOTICS
IN
INDUSTRY
LIDAR
APPLICATIO

Innovative Start-up Ideas

1.SMART HELMET

Presented By,
Asma Karim 20
P Harshitha 20

The Smart Helmet Is a helmet which will take the experience of two-wheelers a step further in the coming times.
This Smart Helmet will enhance the experience of two-wheeler driving and will work to prevent bike accidents through technology. In India, many people die every clay due to two-wheeler accidents. So with this Smart Helmet maybe some improvement can be brought in these things. This Smart Helmet is designed with smart headgears that help in the detection of accidents and immediate prevention. idea started it as one of the best friends of the founders expired unfortunately in a bike accident due to no and late solution in the market at that particular situation of time and thus, then we thought of this SMART HELMET brilliant idea should definitely come into our life!
CONNECTIVITY TOUCH GESTURES AUDIO NAVIGATION GOOGLE ASSISTANT ACCIDENT DETECTION RIDE ANALYSIS
This HELMET is a special and smart device that connects to the mobile and any accidents can be detected within a fraction of a second. The inbuild accident detection technology.

2.INSIGHTFUL INNOVATION

Presented by,
Yarrabothu Jagadeeshwari 20321AI228
Salshi Rajanlawar 20321AI268

Insightful Innovation is having an accurate and deep understanding towards the innovation.
Now-a-days people are having many ideas regarding home decor but they are unable explore.Manyof them are unable to sell home-made items like painting, art, craft etc. effectively.Even cost of interior designing is high, people are unable to afford.
In insightful innovation we solved all the above problems. This includes selling home-made items and buying them according to requirement of customer. This also include opportunity for the people who do not have any degree of designing but having an interest in home decoration, this people act as innovators in Insightful Innovation . In insightful innovation we also provide virtual trail (here we can click a picture of the room, wall or corner where we need innovation) for home decor with the help of this people can themselves decor by their own. In this customer can also give their budget estimation for the best decor for innovators.

3.Effective Waste Management Sustainability

Presented by,
K.Likitha 22321AI242
A.Nidishaa 22321AI258

The increased population increases the waste generation. This puts pressure on waste management facilities, which are already in short supply.
Automate most parts of a waste management cycle. From source to recycling unit with proper trackage of waste. We are an organisation for better waste management in society. We develop an ML algorithm to segregate the waste according to organic, non-biodegradable and recycling products. We can also website &app prototype to track the waste from source to recycling unit and designed in a way to improve the situation of waste management units to control the waste and recycle more products.
Tracking of filling of busy dustbins using Arduino sensors and passing the information about the complete filling of the dustbin and replacing it with spare dustbin, which leads to with the waste collectors to transfer the waste to bigger dustbins.. An alert notification will be sent drivers if it is full to collect the waste and takes it to the Waste segregation plant. The wet waste is up usingthe bowler and heat. The dry waste is of on a conveyor belt. Model identifies the types of waste of each item moving over the belt. False alarms are when the ML model couldn't predict the item. Man power is required to act on decide which part it should be proceeded. The ML model decides which side should the waste item go.
Our ML model will keep a record of all the wastes which is collected from the institute and will provide a i stats of how much waste is recycled. Also it sends the stats to the institute login on our website where they get the stats: Also the awareness stating to use less plastic if the quantity is more than certain amount. Money will be awarded monthly to the authorities on the basic o the quantity and type of waste they generated which is kind of encouraging and motivating .

TECHNICAL SEMINAR

1.ARDUINO BASED SOLAR STREET LIGHTING

This work is about automation of street lighting systems and efficient application of street lights. A critical issue nowadays is the energy crisis taking place in India. Energy loss takes place due to street lights which consume enormous electric energy. In the present study, smart street lighting systems are developed to ensure efficient street lighting and reduce consumption of electric energy. Auto intensity light control helps in dimming the street lights when no movement is detected using infrared sensors. Design of such systems which have efficient applications do not only achieve energy saving but also extends the service life of street lighting. equipment. Energy savings in public systems are discussed from different viewpoints here.

In this study, the focus is on addressing the energy crisis in India through the automation and optimization of street lighting systems. The inefficiencies and high energy consumption associated with traditional street lighting systems are a significant concern. To tackle this issue, smart street lighting systems have been developed, leveraging technologies like auto intensity light control. This feature allows street lights to adjust their brightness based on real-time conditions, such as detecting movement using infrared sensors. By dimming lights during periods of low activity, these systems not only conserve electricity but also extend the operational lifespan of lighting equipment.

The design and implementation of efficient street lighting applications are crucial not only for achieving energy savings but also for enhancing the overall sustainability of urban infrastructure. The study delves into various perspectives on energy conservation in public systems, highlighting the benefits of adopting smart technologies in reducing operational costs and environmental impact. By integrating automation and intelligent controls, cities can effectively manage their energy resources while ensuring adequate and safe lighting for public spaces. This approach not only addresses immediate energy challenges but also sets a precedent for sustainable urban development practices in India and beyond.

Presented by: N Hari Priya
H.T. No : 19321Al221

2.TIME SERIES FORECASTING USING PYTORCH

Industries from energy and retail to transportation and finance today rely on TIME SERIES FORECASTING for projecting product demand, resource allocation, financial performance, predictive maintenance and countless other applications. Time Series Forecasting is a technique for predicting future events by analyzing past trends, based on the assumption that future trends will hold similar to historical trends. Forecasting involves using models fit on historical data to predict future values. Prediction problems that involve a time component require time series forecasting, which provides a data-driven approach to effective and efficient planning.

Pytorch is an open-source Python package, it makes time series forecasting with neural networks simple for data science. Pytorch Forecasting is a framework made on top of PyTorch Light used to ease time series forecasting with the help of neural networks for real-world use-cases. It is having state of the art time series forecasting architectures that can be easily trained with input data points.

One key feature of PyTorch Forecasting is its flexibility in handling different types of time series data, including univariate and multivariate series. This flexibility allows data scientists to incorporate additional features or variables that may influence the forecasted outcomes, such as economic indicators, weather data, or marketing campaigns. By leveraging these capabilities, organizations can build more robust forecasting models that account for multiple factors impacting their operations.

Moreover, PyTorch Forecasting provides tools for model evaluation and validation, essential for ensuring the reliability and performance of forecasts in real-world scenarios. It supports techniques such as cross-validation and hyperparameter tuning to optimize model performance and generalization capabilities across different time series datasets.

Overall, PyTorch Forecasting empowers data scientists and practitioners across industries—from energy and retail to finance and healthcare—to harness the power of neural networks and deep learning for accurate, scalable, and actionable time series forecasting. By leveraging these advanced tools and techniques, organizations can make data-driven decisions that drive operational efficiency, cost savings, and strategic growth initiatives.

Presented by: P Likhitha
H.T. No :19321Al234

3.PERFORM SECURITY TESTING BY AVS TOOL

Perform Security Testing by AVS tool is an important tool which is used for security testing in the website.Itperforms the security testing automatically. Acunetix is a tool which is very popular tool used by the major companies It can perform the scanning of the system like SQL injection , XSS, XXF, SSRF, Host Header Attacks & other it checks the vulnerabilities at a time.These days companies are spending thousand of dollars to get the security on the website because they cannot expect the company stake holders,company reputation to these issues because it affects the company's stake. They want to introduce the security testing as the part of HDLC.Security Testing is perform as manually with the tool like acunetix. Acunetix scan any website, any programming languages like PHP, HTML etc.It does not need any information regarding the website it attacks like real attacker.

Security testing tools like Acunetix are crucial for safeguarding websites against vulnerabilities that could compromise sensitive data and damage company reputation. Acunetix is widely recognized for its comprehensive scanning capabilities, detecting critical issues such as SQL injection, XSS (Cross-Site Scripting), XXE (XML External Entity), SSRF (Server-Side Request Forgery), and Host Header Attacks. These vulnerabilities can be exploited by malicious actors to gain unauthorized access or manipulate systems, posing significant risks to business stakeholders and corporate integrity.

As organizations increasingly prioritize web security, tools like Acunetix automate the detection and analysis of vulnerabilities across various web technologies and programming languages such as PHP and HTML. This automation streamlines the testing process and ensures thorough coverage without requiring extensive manual intervention. By integrating security testing into the Software Development Life Cycle (SDLC), companies mitigate risks early in the development process, reducing potential impacts on stakeholder trust and operational continuity.

The investment in robust security testing tools reflects a proactive approach to defending against evolving cyber threats and regulatory requirements. Companies allocate significant resources to ensure their websites and web applications are resilient against attacks, leveraging tools like Acunetix to simulate real-world threats and preemptively address vulnerabilities. Ultimately, embedding security testing into the SDLC reinforces a culture of security awareness and diligence, safeguarding both digital assets and organizational reputation in an increasingly interconnected and threat-prone digital landscape.

Presented by: Vengaladas Ramya
H.T. No : 20325Al269

4.IOT MINING TRACKING AND WORKER SAFETY HELMET

Mining is indispensable to the creation of goods, infrastructure and services which enhance the quality of their lives. As a society we're blessed to enjoy the many advantages that industry manufactured products provide us by processing these raw materials. Working in the earth presents many different security and health dangers. Frequently the underground environment is shaky or unpleasant. The mines that are deeper, the more dangerous it could be to be running jobs. There's oxygen leak that is restricted, and there are challenges related to leaving a mine if a crisis happen. So here we propose a mining tracking as well as safety system for the mining industry using microcontroller based circuit on the worker helmet. We use rf based circuitry to detect workers moving through the entire mining site. The helmet is integrated with an rf based tracking system which in coordination with the tracker rf systems help provide data over 10T. The system makes use of atmega microcontroller based rf tracker circuitry to receive the data transmitted by worker helmet nodes. This helps map the current location of workers through the entire mining site. Moreover each worker helmet circuit is integrated with a panic/emergency button. This button when pressed shows an emergency sign over the IOT web interface about the worker emergency. This can be used for any emergencies like — toxic gas inhalation, cave ins, physical injury etc. Thus the system ensures mining worker safety using 10T.

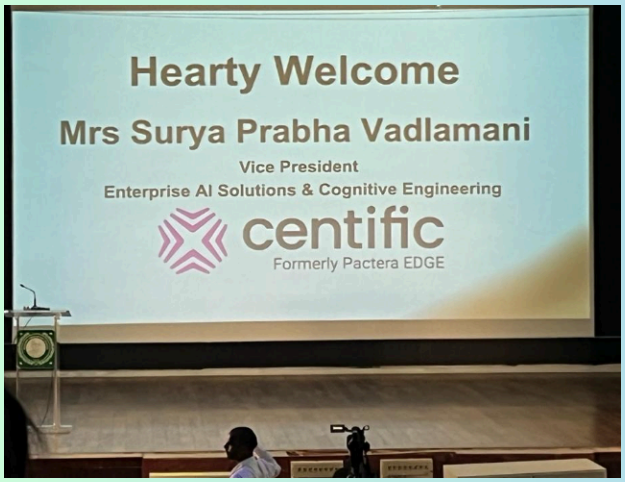
Each worker's helmet is equipped with an RF transmitter node that continuously sends signals to an RF tracker circuitry based on an ATmega microcontroller. This setup allows for accurate mapping of workers' positions within the mining site, enhancing overall safety management and response capabilities in emergencies.
Key features of the system include an emergency button integrated into each worker's helmet circuitry. In case of emergencies such as toxic gas inhalation, cave-ins, or physical injuries, pressing this button triggers an immediate alert. The emergency signal is transmitted via RF to an IoT (Internet of Things) web interface, notifying supervisors and rescue teams about the worker's distress. This rapid communication facilitates swift response and intervention, potentially saving lives and minimizing the impact of emergencies in hazardous mining environments.

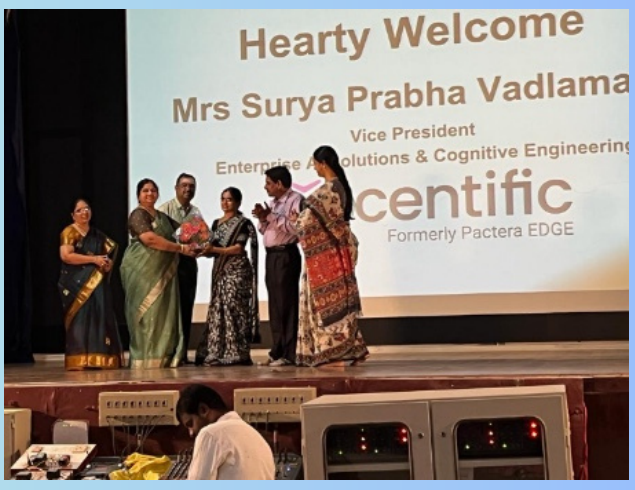
Presented by: Vemula Kalpana
H.T. No 19321Al2B5

GUEST LECTURE on "Artificial Intelligence and ChatGPT"

A session on "Artificial Intelligence and ChatGPT" is being organised for all the SLV associated college faculty members of BRECW on 13 May 2023 (Saturday).

The guest speaker for the session,
Mrs Surya Prabha Vadlamani
Vice President
Enterprise AI Solutions & Cognitive Engineering.
Hyderabad.





What is Generative AI?

Generative Artificial Intelligence is any type of AI that can be used to create new and original content based on patterns and examples it has learned. This content can be text, images, video, code, or synthetic data. Examples include DALL-E, Midjourney, and ChatGPT.

An example is an AI trained on trees might be able to create images of trees that don't exist in the real world, based on patterns it has learned. These AIs often take written prompts from humans as input, and turn it into the desired output. Generative AI models are often used in unsupervised machine learning problems.

What is ChatGPT, and how can you use it?

ChatGPT stands for "Chat Generative Pre-Trained Transformer", and it's a generative AI language model that acts in a conversational way. You can ask it questions and get human-like answers. It is developed by OpenAI.
A transformer is a type of neural network trained to analyze the context of input data and weight the significance of each part of the data accordingly. Since this type of model learns context, it's commonly used in natural language processing (NLP) to generate text similar to human writing. (In AI, a model is a set of mathematical equations and algorithms that a computer uses to analyze data and make decisions.

You can use it to do all sort of things, such as:

- Explain calculus in a simple, easy to understand way
- Write a paragraph explaining the history of computer science using a friendly tone
- Optimize sections of your code, or generate entirely new code
- Write a haiku about pudding
- Suggest baby names

Really, the sky's the limit! It is, in essence, a super-powered artificial intelligence chat bot.

Large Language Models

ChatGPT is a large language model (LLM). Large Language Models (LLMs) are trained with massive amounts of data to accurately predict what word comes next in a sentence.

It was discovered that increasing the amount of data increased the ability of the language models to do more.

LLMs predict the next word in a series of words in a sentence and the next sentences – kind of like autocomplete, but at a mind-bending scale.

This ability allows them to write paragraphs and entire pages of content.

But LLMs are limited in that they don't always understand exactly what a human wants.

And that's where ChatGPT improves on state of the art, with the aforementioned Reinforcement Learning with Human Feedback (RLHF) training.

Features of ChatGPT

Some of the features ChatGPT include the ability to:

• Generate human-like text that mimics the style and structure of the input data

• Generate a response to a given prompt or input text. This could include writing a story or answering a question.

• Generate text in multiple languages

• Modify the style of generated text (formal or informal, for example)

• Ask clarifying questions to better understand the intent of input data

• Respond with text that is consistent with the context of a conversation, such as offering follow-up instructions or understanding references made to previous questions

Other generative AI models can perform similar tasks with images, sounds, and video.

IT DEPARTMENT FACULTY

Dear Readers,

We may never know how much our words and deeds influence the lives around us. But we can choose daily to be a positive inspiration on others in a way that could change the rest of their lives. It is with this intention Department of Information Technology has planned the magazine IT AEONand it was indeed a great pleasure to be a part of this journey.

As you scan through, you will meet dedicated and talented students, in the pages of this issue. The budding talents in the department have expressed their ideas and talents in a creative way in the magazine. In fact, this is a platform where they can expand their psychological and intellectual horizons.

"**Focus on the journey, not the destination. Joy is found not in finishing an activity, but in doing it.**"

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