



Vision of the Department

To inspire and educate female students in Computer Science and Engineering to become skilled, ethical, and innovative professionals prepared for future technologies and challenges.

Mission of the Department

- M1: To provide strong foundational and advanced knowledge in core areas of Computer Science and Engineering, enabling students to design, analyse, and solve engineering problems using modern Computing tools.
- M2: To promote research skills, innovation, entrepreneurship and lifelong learning by encouraging students to participate in research, development, and interdisciplinary activities in emerging technologies.
- M3: To inculcate professional ethics, social responsibility, and sustainable practices, enabling graduates to contribute positively to society.

Program Educational Objectives

- PEO1: To acquire logical and analytical skills in core areas of Computer Science & Information Technology.
- PEO2: To adapt new technologies for the changing needs of IT industry through self-study, graduate work and professional development.
- PEO3: To demonstrate professional and ethical attitude, soft skills, team spirit, leadership skills and execute assignments to the perfection.

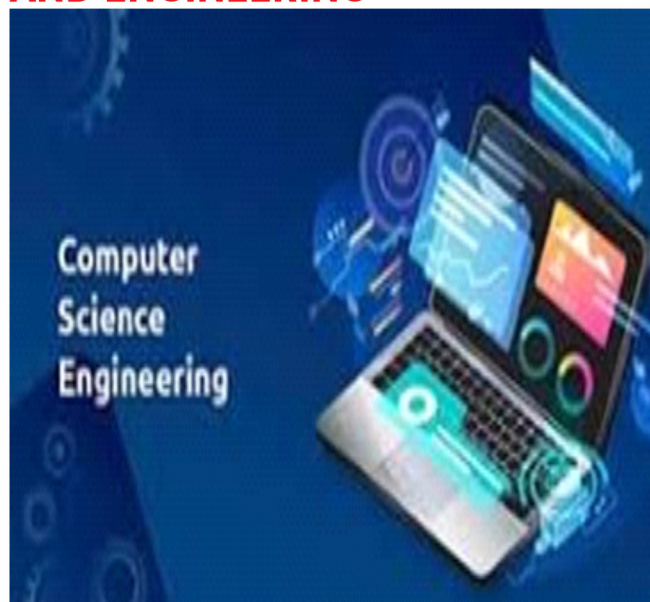
Program Specific Outcomes

- PSO1: **Software Development:** Ability to grasp the software development life cycle of software systems and possess competent skill and knowledge of software design process.
- PSO2: **Industrial Skills Ability:** Ability to interpret fundamental concepts and methodology of computer systems so that students can understand the functionality of hardware and software aspects of computer systems.
- PSO3: **Ethical and Social Responsibility:** Communicate effectively in both verbal and written form, will have knowledge of professional and ethical responsibilities and will show the understanding of impact of engineering solutions on the society and also will be aware of contemporary issues.

EDITORIAL BOARD

- Dr. B Phijik**, HOD (CSE)
- Mrs. V. Suzan Shalini**, Assistant Professor, BS&H.
- Mrs. B. Mamatha**, Assistant Professor, CSE.
- Ms. G S Yamini Devi** CSE (Student)
- Ms. Ojasvi Pattanaik** CSE(Student)
- Ms. K S Preethi**, CSE(Student)
- Ms. Rachel Vinitha**, CSE(Student)

COMPUTER SCIENCE AND ENGINEERING



Established in 2008, the CSE Department at VMTW has grown from an intake of 90 to 240 students, reflecting its commitment to excellence. The department earned NBA accreditation in 2019 and reaccreditation in 2022, ensuring high academic standards.

With experienced and research-driven faculty, the department promotes innovation through Centres of Excellence in IoT and AI & ML and collaborations with MSME, ALEAP, and TASK. Active associations with ISTE, CSI, and IETE enrich student learning through workshops and seminars.

Boasting 90% placements in leading companies like Amazon, Flipkart, Accenture, and Cognizant, and a highest package of ₹ 20 LPA, the department stands as a hub of innovation, research, and success.

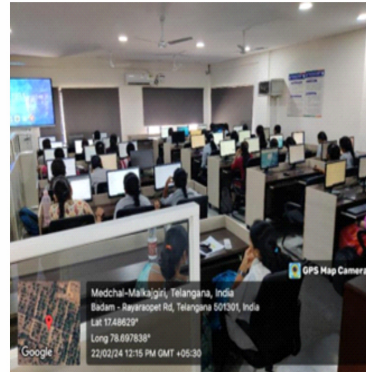


HOD'S MESSAGE

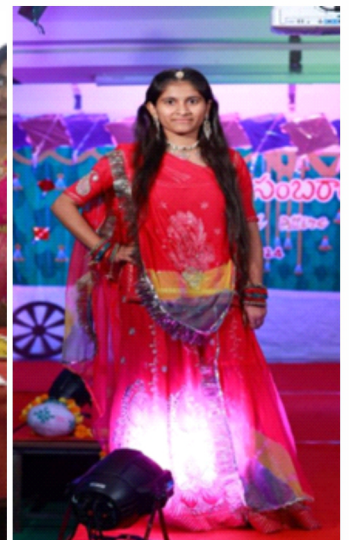
Dr. Phijik Battula,
Associate Professor &
HoD, DEPARTMENT OF
COMPUTER SCIENCE AND
ENGINEERING

Dr. Phijik Battula brings over 20 years of academic and research experience to his role as Associate Professor and Head of the Department of Computer Science & Engineering at Vignan's Institute of Management and Technology for Women (VMTW), Hyderabad. He earned his Ph.D. in Computer Science from Osmania University, Hyderabad in 2023. He holds an M.Tech. in Computer Science and Engineering from Jawaharlal Nehru Technological University Hyderabad (JNTUH). Dr. Battula's expertise spans Computer Networks, Software Engineering, Operating Systems, Machine Learning, and Blockchain Technologies. He has made significant scholarly contributions, including: 3 national patents, 1 authored book, 10 journal publications, including (1 in SCIE-indexed journal, 4 in SCOPUS-indexed journals, 5 in UGC- approved journals, 2 international conference papers). He also served as an Academic Counsellor with the Indra Gandhi National Open University (IGNOU), Regional Services Division, Maidan Garhi, New Delhi, through Aurora Degree College Study Center 0111, Hyderabad. A dedicated mentor and educator, Dr. Battula has guided over 100 B.Tech graduates from VIGNAN's Group Institutions, Hyderabad. He is an active member of several professional organizations, Life Member, Indian Society for Technical Education (ISTE) – LM-137313, Life Member, International Association of Engineers (IAENG) – Member No: 277087, Life Member, Society of Digital Information and Wireless Communication (SDIWC) – ID: 30616.

WORK SHOP AT DEPARTMENT



Sankranthi Celebrations:



FACULTY ARTICLE ON THE GREEN SIDE OF TECHNOLOGY – TOWARDS A SUSTAINABLE FUTURE

By B. Mamatha, Assistant Professor (CSE)

The Green Side of Technology – Towards a Sustainable Future



In the modern era of rapid digitalization, the role of technology in promoting sustainability has become increasingly significant. The concept of the “Green Side” of technology emphasizes using computing and digital innovations responsibly to reduce environmental impact.

Green computing involves designing energy-efficient hardware, optimizing software to consume fewer resources, and adopting eco-friendly data centers powered by renewable energy. Cloud computing, virtualization, and IoT-based smart systems also contribute to minimizing carbon footprints and resource wastage.



As educators and technologists, it is our responsibility to guide students toward developing sustainable solutions—whether through efficient algorithms, green data management, or awareness of e-waste management. The integration of sustainability into computing not only protects our planet but also inspires innovation that benefits society as a whole.



Embracing the green side of technology ensures that the advancements we make today do not compromise the needs of tomorrow.

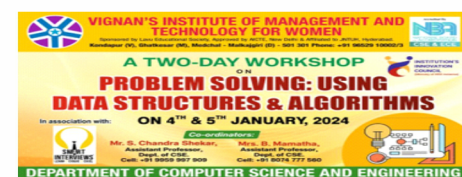
ACHIEVEMENTS

ITwo-Day Workshop on Problem Solving Using Data Structures and Algorithms

The Department of Computer Science and Engineering, Vignan's Institute of Management and Technology for Women (VMTW), organized a two-day workshop on “Problem Solving: Using Data Structures and Algorithms” on 4th and 5th January 2024, in association with Smart Interviews.

The workshop aimed to strengthen students' problem-solving and programming skills, focusing on efficient algorithm design and data structure implementation. Students gained hands-on experience in tackling coding challenges and preparing for technical interviews.

The event was coordinated by Mr. S. Chandra Shekar and Mrs. B. Mamatha, Assistant Professors, Department of CSE. The workshop provided an excellent platform for students to enhance their computational thinking and technical expertise.



Students were selected in the assessment test conducted and won prizes:



2nd- Prize M.Vineetha



1st –Prize –M.Vaishnavi



3rd-Prize- T.Harshini

FACULTY PUBLICATIONS

SI No	Author	Title	ISSN No
1	Mrs B Mamatha	Content based File Sharing System with Dynamic Peer-to-Peer Networks	ISSN NO : 2277-2723

BOOKS & CHAPTERS PUBLISHED:

S.NO.	AUTHOR	TITLE OF THE BOOK	ISSN NUMBER
1.	Mrs B Geetha	Fundamentals of data science	978-93-93769-62-6
2.	Mr P Masoom Basha	Fundamentals of data science	978-93-93769-62-6
3.	Mrs. B Mamatha	Fundamentals of data science	978-93-93769-62-6
4.	Ms. Samreen Begum	Fundamentals of data science	978-93-93769-62-6
5.	Mr. Ramesh Sahoo	Fundamentals of data science	978-93-93769-62-6

FACULTY ACHIEVEMENTS

S.NO.	NAME OF THE FACULTY	EVENT TYPE	DATE OF EVENT	MODE OF ATTENDING
1.	Mrs. Bhanusri	FDP- Data Analytics using Power BI and Tableau	11th to 15th March 2024	Online
2.	Mrs. Amulya Rachna	Workshop- Certification course on cloud	22nd Feb to 23rd March 2024	Offline

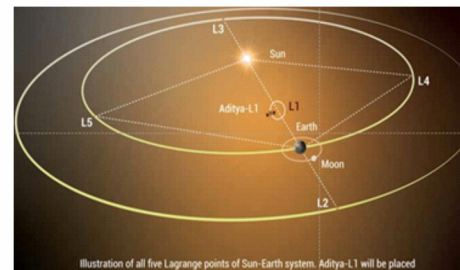
STUDENT ARTICLE ON ADITYA-L1 – INDIA'S FIRST SOLAR MISSION

By, K S Preethi III year (CSE)

Aditya-L1 – India's First Solar Mission

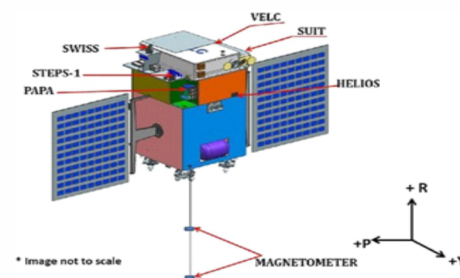


India has taken a giant leap in space research with Aditya-L1, the first Indian mission dedicated to studying the Sun. Launched by ISRO on September 2, 2023, from the Satish Dhawan Space Centre, the spacecraft travels about 1.5 million kilometers from Earth to the Lagrange Point (L1) — a unique spot that allows continuous observation of the Sun.



Aditya-L1 carries seven scientific instruments designed to study different aspects of the Sun, including solar flares, coronal mass ejections, and magnetic fields. These observations help scientists understand the Sun's influence on space weather and its effects on satellites and communication systems on Earth.

By January 2024, the spacecraft successfully entered its halo orbit around L1, marking another proud milestone for India. Since then, it has been sending valuable data, including images of the Sun and readings of solar radiation.



Aditya-L1 is a symbol of India's growing space capabilities and scientific excellence. It not only strengthens our understanding of the Sun but also inspires young minds to reach for the stars.

STUDENT PROJECTS

Real-Time People Counting for Surveillance Videos

Ojasvi Pattanaik (21UP1A05A5)

Introduction

Real-time people counting using surveillance videos is a computer vision-based application that automatically detects and counts individuals in a monitored area. It is widely used in public safety, crowd management, smart cities, retail analytics, and transportation systems. Manual counting is inefficient and unreliable, especially in crowded environments. By leveraging video feeds from CCTV cameras and applying machine learning and deep learning techniques, the system can continuously analyze frames and provide accurate counts in real time. This helps

authorities monitor crowd density, prevent overcrowding, improve resource allocation, and enhance overall security and operational efficiency.



Existing System

In existing systems, people counting is often done manually or through basic motion-detection techniques. Security personnel monitor surveillance screens and estimate crowd size visually, which is prone to human error and fatigue. Some automated systems use simple sensors or infrared beams that fail in complex scenarios such as overlapping people or varying lighting conditions. These systems lack accuracy, scalability, and real-time analytics. Additionally, traditional approaches do not store or analyze historical data for trend analysis. As a result, existing systems are inefficient in handling large crowds and dynamic environments.



Proposed System

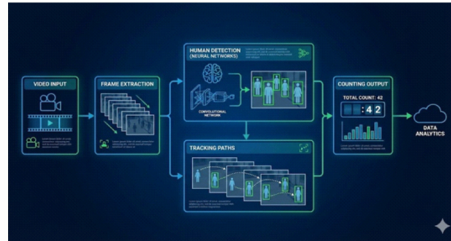
The proposed system utilizes deep learning-based computer vision models to detect and count people in real time from surveillance video streams. Video frames are processed using trained object detection models to identify human figures accurately, even in crowded scenes. The system continuously updates the count and displays it on a dashboard for monitoring purposes. It can generate alerts when crowd density exceeds predefined limits. The solution is scalable, works under varying lighting conditions, and supports real-time decision-making. This automated approach improves accuracy, reduces human effort, and enhances safety in public spaces.



Methodologies Used

The methodology begins with video data acquisition from surveillance cameras.

Frames are extracted and preprocessed to enhance quality and reduce noise. Deep learning models such as convolutional neural networks are used for human detection. Techniques like background subtraction and object tracking help avoid duplicate counting. The system counts detected individuals per frame and updates results in real time. Model performance is evaluated using accuracy and precision metrics. Optimization techniques ensure low latency for real-time processing. This structured approach ensures reliable people counting and efficient surveillance monitoring.



Secure and Transparent Voting Using Blockchain

Rapireddy Usha (21UP1A05B3)

Introduction

Secure and transparent voting using blockchain focuses on improving the reliability and trustworthiness of electoral systems. Traditional voting methods often face challenges such as vote tampering, lack of transparency, low voter trust, and delayed result processing. Blockchain technology offers a decentralized and tamper-proof platform where votes are recorded as immutable transactions. Each vote is securely encrypted and stored across multiple nodes, ensuring transparency and data integrity. By eliminating centralized control and enabling verifiable voting records, blockchain-based voting systems aim to enhance democratic processes, increase voter confidence, and reduce election-related fraud while maintaining voter privacy and system security.



Existing System

Existing voting systems rely on paper ballots or electronic voting machines managed by centralized authorities. Paper-based systems are prone to issues such as ballot stuffing, miscounting, and delayed result declaration. Electronic voting machines reduce manual effort but still face concerns related to hacking, lack of transparency, and limited auditability. Voters have no direct way to verify whether their vote was counted correctly. Additionally, centralized databases

represent single points of failure, making them vulnerable to manipulation or cyberattacks. These limitations highlight the need for a more secure, transparent, and verifiable voting mechanism.



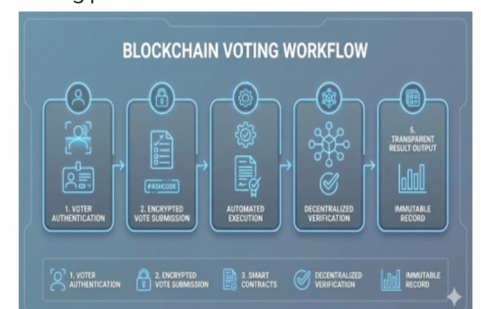
Proposed System

The proposed system implements a blockchain-based voting platform where each vote is recorded as a secure transaction on a distributed ledger. Voters authenticate themselves digitally and cast votes that are encrypted and linked to a blockchain block. Once recorded, votes cannot be altered or deleted, ensuring immutability. Smart contracts automate vote validation and counting, enabling faster and more transparent results. The system allows authorized parties to audit the election process without compromising voter anonymity. This approach enhances security, transparency, trust, and efficiency while reducing dependency on centralized election authorities.



Methodologies Used

The methodology begins with voter registration and identity verification using secure authentication techniques. Votes are encrypted using cryptographic algorithms before being submitted to the blockchain network. Smart contracts are deployed to manage voting rules, eligibility checks, and automatic counting. Consensus mechanisms ensure that only valid transactions are added to the blockchain. After voting ends, results are retrieved directly from the immutable ledger, ensuring accuracy and transparency. Security testing and audits are conducted to prevent vulnerabilities. This structured methodology ensures a reliable, tamper-resistant, and transparent voting process.



CAMPUS RECRUITMENT

S.NO.	COMPANY'S NAME	OFFERS	PACKAGE	
1.	Salesforce	1	9.1 LPA	Associate Technical Support Engineer
2.	Societe General	1	5.44 LPA	Software engineer
3.	Unisys	1	7 LPA	Software engineer
4.	Accenture	29	4.6 LPA	Associate software engineer



Program Outcomes (Adapted from NBA)

Engineering Graduates will be able to:

Engineering knowledge: Apply the knowledge of mathematics, science, engineering fundamentals and an engineering specialization to the solution of complex engineering problems

Problem Analysis: Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences and Engineering sciences.

Design/Development of Solutions: Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health safety, and the cultural, societal, and environmental considerations.

Conduct Investigations of Complex Problems: Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions

Modern Tool Usage: Create, select and apply appropriate techniques, resources and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.

The Engineer and Society: Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

Environment and Sustainability: Understand the impact of the professional engineering solutions in societal and environmental contexts and demonstrate the knowledge of, and need for sustainable development.

Ethics: Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.

Communication: Communicate effectively on complex engineering activities with the engineering community and with society at large, such as being able to comprehend and write effective reports and design documentation, make effective presentations and give and receive clear instructions.

Project Management and Finance: Demonstrate knowledge and understanding of the engineering management principles and apply these to one's own work, as a member and leader in a team to manage projects and in multidisciplinary environments.

Life-Long Learning: Recognize the need for and have the preparation and ability to engage in independent and lifelong learning in the broadest context of technological change.