



Vision of the Department

The vision of the CSE (Artificial Intelligence and Machine Learning) branch is to: Create experts capable of designing tomorrow's smart technologies, such as virtual assistants and disease detection systems, as well as building intelligent systems that learn and think, resulting in technology that solves real-world problems in healthcare, transportation, education, finance, and other areas...

Mission of the Department

- M1: To Providing a comprehensive curriculum that covers foundational concepts and advanced topics in AI and machine learning and emphasizes hands-on experience and project-based learning.
- M2: Encouraging and supporting cutting-edge research in AI and machine learning and fostering collaborations with industry and academia.
- M3: Providing opportunities for professional development, networking, and lifelong learning, and supporting our alumni in their continued success in the field of AI and machine learning.

Program Educational Objectives

- PEO1: Exhibit the knowledge of artificial intelligence and machine learning concepts to solve complex problems in diverse industries.
- PEO2: To implement necessary skills to design, develop, and implement intelligent systems that can analyze large datasets, learn from them, and make informed decisions.
- PEO3: Apply deep understanding of ethical considerations in the development and deployment of AI systems, including privacy, security, and fairness.

Program Specific Outcomes

- PSO1: **Engineering Fundamentals:** Ability to apply mathematical foundations, algorithms, and statistical models to analyze and solve complex problems in AI and machine learning.
- PSO2: **Industrial Skills Ability:** Ability to design and develop AI and machine learning models using various tools and programming languages such as Python, R, and TensorFlow., Ability to evaluate the performance of AI and machine learning models using various performance metrics and data visualization techniques.
- PSO3: **Ethical and Social Responsibility:** Understanding of the ethical, social, and legal issues associated with the development and deployment of AI and machine learning systems. Ability to work collaboratively in interdisciplinary teams to design and implement AI and machine learning solutions to real-world problems.

EDITORIAL BOARD

Dr. VISHNU VARDHANA RAO, HOD - CSE (AI&ML)
 Mr. S. JAYANNA, Assistant Professor, CSE (AI&ML)
 Dr. SUZAN SHALINI, Assistant Professor, BSH
 Ms. B. SRI LAXMI, 23UP1A6658
 Ms. SIDDIIQA KHATOON, 23UP1A66A1
 Ms. M. KEERTHANA, 23UP1A6635
 Ms. C. RAGHAMAI, 23UP1A6614



CSE (Artificial Intelligence & Machine Learning)

The department of Artificial Intelligence & Machine Learning has been started in the year 2020 with an of 60 students.. They always strive to provide quality education to the students and work hard to develop the overall personality of the students. The laboratories of the department are well developed with advanced equipment to impart the required practical training to the students. The department also contain huge computer centre with 100 systems and with registered software to impart the computing knowledge to the students. The department maintains a strong links with the infrastructure industry, academic and research institutions at the national level.

The Department of Artificial Intelligence and Machine Learning at VMTW focuses on simulating human intelligence processes using machines, especially computer systems. AI involves developing algorithms for dynamically changing environments.



HOD'S MESSAGE

Dr.M .Vishnu Vardhana Rao,
Associate Professor & HoD, CSE (AI&ML)
Ph.D(CSE)., M.Tech(CSE)., B.Tech(CSE)(AIME).,
UGC-NET(2018)., AP-SET(2017).
Mobile: +91 9989362190, +91 8639936639
Email: vishnucse@vmtw.in

Welcome to the Department of CSE(Artificial Intelligence & Machine Learning)

The Department of CSE (Artificial Intelligence & Machine Learning) is committed to academic excellence, research innovation, and outcome-based education aligned with the vision and mission of the institution. In today's rapidly evolving technological landscape, Artificial Intelligence and Machine Learning play a pivotal role in driving digital transformation across industries and society. Our department strives to equip students with the knowledge, skills, and ethical values necessary to meet global challenges and contribute meaningfully to technological advancement.

The curriculum is designed in accordance with Outcome Based Education (OBE) principles, integrating strong foundations in Computer Science with emerging domains such as Data Science, Deep Learning, Computer Vision, Natural Language Processing, Robotics, and Intelligent Systems. Emphasis is placed on experiential learning through laboratory practices, project-based learning, internships, industry collaborations, research initiatives, and participation in technical competitions and innovation activities.

The department promotes a culture of continuous improvement through regular curriculum updates, stakeholder feedback, faculty development programs, research publications, funded projects, and industry interaction. Our dedicated faculty members mentor students not only in academics but also in developing problem-solving abilities, leadership qualities, teamwork, communication skills, and social responsibility.

We encourage students to actively participate in research, innovation, entrepreneurship, and community engagement activities. Our goal is to produce competent professionals who are industry-ready, globally competitive, and committed to lifelong learning and ethical practices.

Let us work together to foster a vibrant academic ecosystem that drives excellence, innovation, and sustainable development through Artificial Intelligence and Machine Learning.

ACTIVITIES



1. Healthcare

- Disease diagnosis using medical images
- Cancer detection and prediction
- Drug discovery and personalized treatment
- Virtual health assistants
- Patient monitoring and predictive healthcare

2. Space and Defence

- Satellite image analysis
- Autonomous systems
- Object detection
- Cybersecurity
- Mission planning

3. Education

- Personalized learning systems
- AI tutors and chatbots
- Automated evaluation and grading
- Student performance prediction

FROM PIONEERS TO VISIONARIES: THE MINDS SHAPING ARTIFICIAL INTELLIGENCE

GREAT QUOTES ABOUT CSE (AI & ML)

Learn Today | Innovate Tomorrow | Lead the Future

“ AI is the most transformative technology of our time. It will redefine every industry and create opportunities we can't yet imagine.” – Jensen Huang CEO, NVIDIA	“ Machine Learning is the core, and it will transform every product we build.” – Sundar Pichai CEO, Google	“ AI will impact every aspect of our lives. The challenge is to ensure it is used for good.” – Fei-Fei Li AI Researcher, Stanford University
“ AI is the new electricity.” – Andrew Ng AI Pioneer & Co-founder, Coursera	“ Machine Learning is a tool, not a magic wand.” – Yann LeCun Chief AI Scientist, Meta	“ Our mission is to solve intelligence and then use it to solve everything else.” – Demis Hassabis CEO, Google DeepMind
“ AI is far more powerful than humans in many ways.” – Elon Musk CEO, Tesla & SpaceX	“ The goal of AI and machine learning is to make better decisions.” – Lex Fridman AI Researcher & Podcast Host	“ I believe that at the end of the century the use of words and general educated opinion will have altered so much...” – Alan Turing Father of Computer Science & AI Pioneer

CODE. LEARN. THINK. INNOVATE. EMPOWERING INTELLIGENCE, SHAPING THE FUTURE.

AI MEDICINE

AI-Powered Healthcare
Smarter Decisions, Better Outcomes

- Medical Image Analysis AI
- Diagnostics AI
- Risk Forecasting AI
- Assistant AI
- Speeding Up Work AI
- Automating Routine Tasks AI

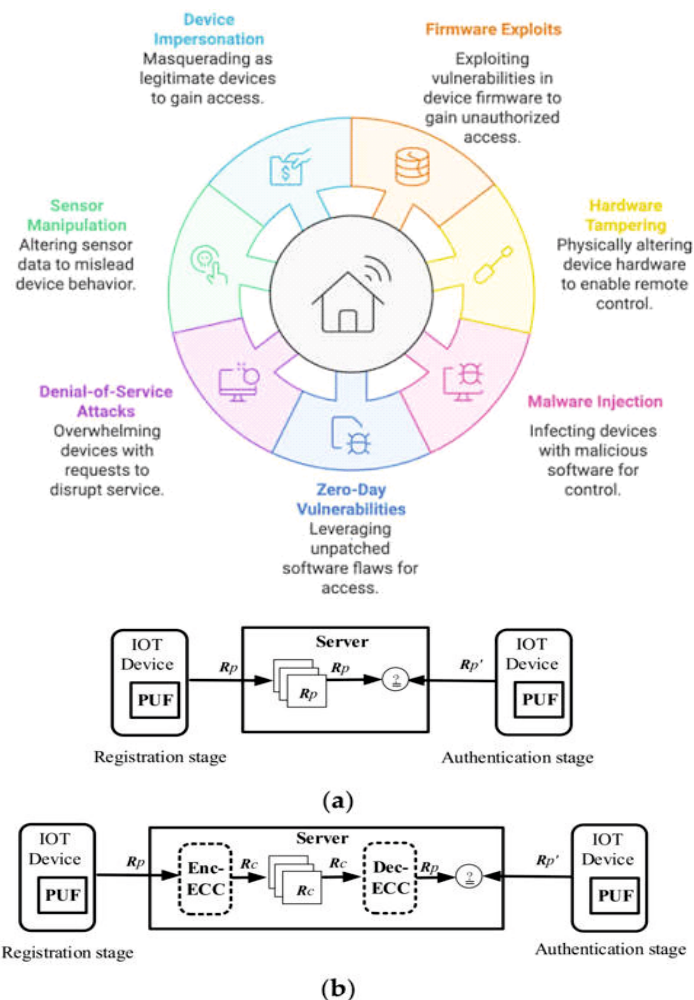
1.FACULTY ARTICLES ON ECC-Hash Authentication Technique for Internet of Things Devices

By Dr. M. Vishnu Vardhana Rao

Abstract:

The rapid growth of Internet of Things (IoT) devices has introduced significant security challenges, including unauthorized access, data breaches, and identity verification issues. Due to the limited computational power, memory, and energy resources of IoT devices, traditional security mechanisms are often unsuitable for IoT environments. The ECC-Hash Authentication Technique for Internet of Things Devices proposes an efficient and lightweight security framework that combines Elliptic Curve Cryptography (ECC) and hash functions to provide secure authentication and data protection.

The proposed technique uses ECC-based cryptographic algorithms to generate secure keys and establish communication between IoT devices while minimizing computational and energy requirements. Hash functions are integrated to ensure data integrity, prevent message tampering, and verify the authenticity of transmitted information. The authentication process enables secure communication between devices and servers while protecting against common attacks such as replay attacks, impersonation attacks, and



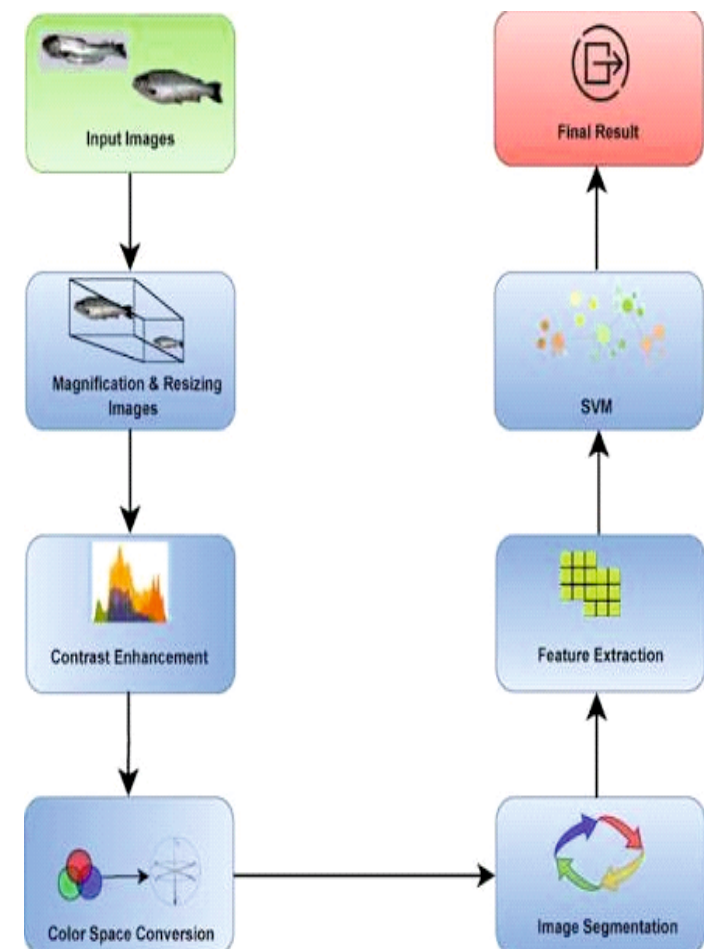
2.FACULTY ARTICLES ON Predictive Diagnosis of Fish Diseases Through Water Quality Analysis Using Machine Learning

By Dr. S.Ranga Swamy

Abstract:

Aquaculture plays a significant role in global food production and economic development, but fish diseases caused by poor water quality conditions often lead to severe losses in fish populations and reduced productivity. Early detection and prevention of diseases are essential for maintaining healthy aquatic ecosystems. The Predictive Diagnosis of Fish Diseases Through Water Quality Analysis Using Machine Learning project proposes an intelligent system that uses machine learning techniques to predict and identify fish diseases based on water quality parameters.

The proposed system analyzes important environmental factors such as pH level, temperature, dissolved oxygen, ammonia concentration, turbidity, and water hardness to determine the health conditions of aquatic environments. Machine learning algorithms are applied to historical and real-time water quality data to identify patterns associated with disease occurrence and provide early predictions. The system can classify potential disease risks and generate recommendations to help farmers take preventive actions.



NSS ACTIVITIES

SAY NO TO DRUGS

"Say No to Drugs" rallies are public awareness campaigns designed to educate communities—particularly youth—about the dangers of drug abuse, promote addiction-free lifestyles, and encourage collective responsibility in building a healthier society.



SAC ACTIVITIES

1. Student Articles On AI And Cybersecurity

By B. HARINI, 24UP1A6671

The digital world became more connected, but with connection came danger. Cyberattacks became faster and more sophisticated. Security experts needed a way to detect threats quickly. AI began monitoring unusual activities and identifying suspicious patterns. It could work continuously, watching systems even when humans were asleep. But cybersecurity professionals remained necessary because attackers also used creativity. The future of digital security became a continuous battle between intelligent systems and intelligent humans.

2. Student Articles On AI And Health Care

By T AISHWARYA, 24UP1A6660

A doctor once spent hours examining medical reports and images. Today, AI can assist by identifying patterns that may be difficult to notice. It can help analyze scans, predict risks, and support diagnosis. But AI does not replace the doctor. A machine may identify a possibility, but the doctor understands the patient's emotions, history, and individual needs. The future of healthcare is not about machines replacing doctors. It is about technology helping doctors make better decisions.

STUDENT ACHIVCEMENTS

Ms. Sree Samhitha (22UP1A6648) has compleated her Internship on "Simulated Drone Swarm Controller" under the guidance of Shri Sumanth Pole, Scientist 'B' from DRDO (15-09-2025)



Sl. No.	Roll No.	Student Name	Company
1	22UP1A6611	B. Vaishnavi	DELOITTE
2	22UP1A6607	B. Archana	INFOSYS
3	22UP1A6629	K. Gayathri	DELOITTE

INDUSTRIAL VISITS

T-Hub (26-04-2025)



Students had the opportunity to visit T-Hub on 26 April 2025, gaining valuable insights into the world of innovation, entrepreneurship, and technology-driven startups. The visit aimed to provide students with practical exposure to the startup ecosystem and understand how ideas are transformed into successful business solutions.

DEPARTMENT EVENTS AND ACTIVITIES

One-Day Poster Presentation on "Recent Trends in Prajwalan"



The rapid growth of Internet of Things (IoT) devices has introduced significant security challenges, including unauthorized access, data breaches, and identity verification issues. Due to the limited computational power, memory, and energy resources of IoT devices, traditional security mechanisms are often unsuitable for IoT environments. The ECC-Hash Authentication Technique for Internet of Things Devices proposes an efficient and lightweight security framework that combines Elliptic Curve Cryptography (ECC) and hash functions to provide secure authentication and data protection. The proposed technique uses ECC-based cryptographic algorithms to generate secure keys and establish communication between IoT devices while minimizing computational and energy requirements. Hash functions are integrated to ensure data integrity, prevent message tampering, and verify the authenticity of transmitted information.

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 and 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.

Individual and team work: Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.

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 and 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 life-long learning in the broadest context of technological change.