



## 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.

**Ms. Samreen Begum**, Assistant Professor, CSE.

**Ms. Suha Saleem** CSE (Student)

**Ms. Shahana**, CSE (Student)

**Ms. G S Yamini Devi** CSE (Student)

**Ms. Ojasvi Pattanaik** 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,**

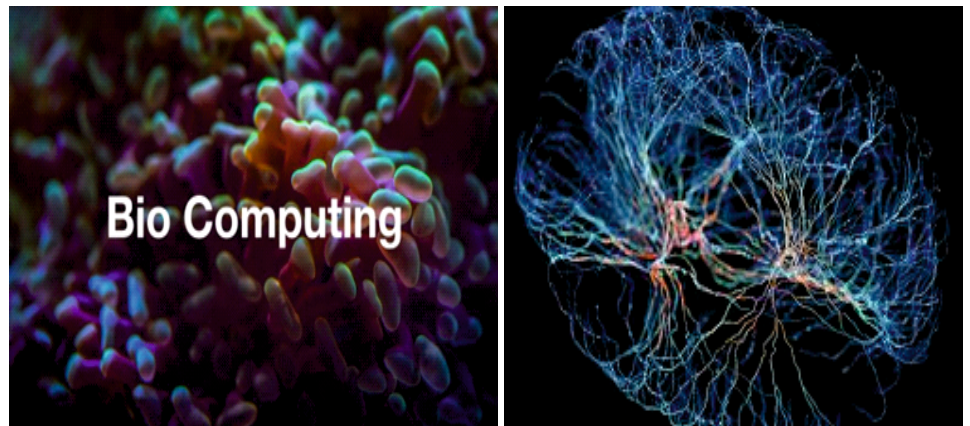
Associate Professor &  
HoD, DEPARTMENT OF  
COMPUTER SCIENCE AND  
ENGINEERING

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 (Code: 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.

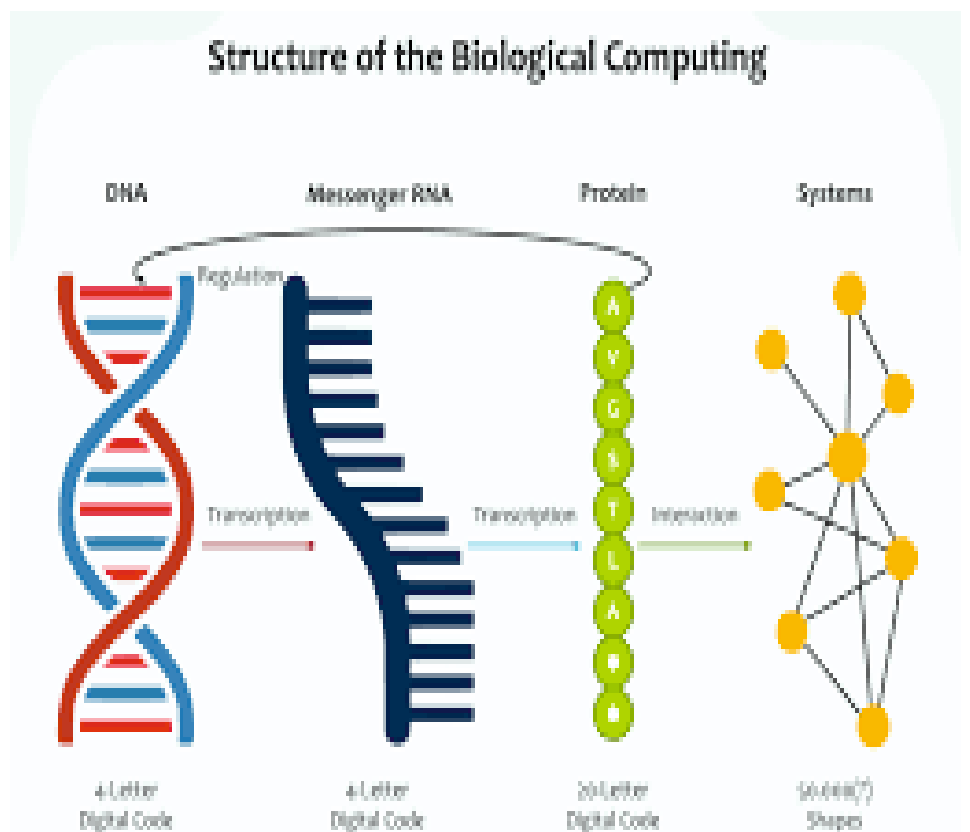
## FACULTY ARTICLE ON THE FUTURE FUSION OF BIOLOGY AND TECHNOLOGY

By, **Chandrashekar**, Assistant Professor (CSE)

**Bio-Computing – The Future Fusion of Biology and Technology** In the ever-evolving landscape of technology, Bio-Computing stands at the fascinating intersection of biology and computer science. It explores how biological systems—like DNA, proteins, and cells—can be used to perform computational tasks traditionally handled by electronic computers. Unlike silicon-based computing, bio-computing utilizes the natural information-processing abilities of living organisms to store data, solve complex problems, and even self-repair.



Researchers are already developing DNA computers capable of performing parallel computations at a molecular level, promising massive storage capacity and energy efficiency. Such innovations could revolutionize fields like medicine, data security, and artificial intelligence. Imagine a future where diseases are diagnosed and cured through bio-engineered circuits operating within the human body.



## FACULTY PUBLICATIONS

| SI No | Author                 | Title                                                                                         | ISSN No   | Journal name                   |
|-------|------------------------|-----------------------------------------------------------------------------------------------|-----------|--------------------------------|
| 1     | R. KRISHNA NAYAK       | MACHINE LEARNING BASED REAL-TIME HEALTHCARE SYSTEM USING IOT TECHNOLOGIES                     | 0970-2555 | Industrial Engineering Journal |
| 2     | Sathini Santhosh Kumar | Frameworks for Industrial Internet of Things by Using Open Source Machine Learning Techniques | 2393-8021 | IARJSET                        |

## BOOKS & CHAPTERS PUBLISHED:

| S.NO. | AUTHOR               | TITLE OF THE BOOK                                             | ISSN NUMBER       |
|-------|----------------------|---------------------------------------------------------------|-------------------|
| 1.    | Dr. C Srinivas Kumar | A Strategic approach to data science tools & its applications | 978-93-93769-19-0 |
| 2.    | B Mamatha            | A Strategic approach to data science tools & its applications | 978-93-93769-19-0 |

## FACULTY ACHIEVEMENTS

| S.NO. | NAME OF THE FACULTY | EVENT TYPE                               | DATE OF EVENT         | MODE OF ATTENDING | PLACE |
|-------|---------------------|------------------------------------------|-----------------------|-------------------|-------|
| 1.    | Mr. Ravi Kumar      | Programming in modern C++                | April 2023- July 2023 | Online            | NPTEL |
| 2.    | Mr. Ravi Kumar      | Problem solving through programming in C | April 2023- July 2023 | Online            | NPTEL |
| 3.    | Dr. Rajendra Prasad | Programming in JAVA                      | April 2023- July 2023 | Online            | NPTEL |

## STUDENT ARTICLE ON NPREDICTIVE TRENDS IN MARKETING

By, Ojasvi P III year (CSE)

### The Power of Anticipation: Predictive Trends in Marketing



Predictive analytics is reshaping how businesses understand and serve customers. By analyzing purchase patterns, engagement data, and social signals, marketers can now anticipate customer needs before they arise.



Companies like Amazon and Netflix use AI and machine learning to personalize recommendations, creating seamless and emotionally engaging experiences. This proactive approach, known as anticipatory marketing, boosts customer satisfaction and loyalty.

Blending data intelligence with human creativity, predictive marketing ensures that businesses stay ahead — transforming anticipation into the new foundation of customer experience.

### STUDENTS ATTEMPTED COMPETITIVE EXAMS:

| SI No | Roll No    | Name                       | Exam Reg No | Name of the Exam |
|-------|------------|----------------------------|-------------|------------------|
| 1     | 20UPIA0563 | PAVANI KRISHNA PRIYA CHAVA | 1939343     | GRE              |
| 2     | 20UPIA0555 | NAGACHAN DRIKA ARIGELA     | 2697510     | GRE              |

## Awards:

### District level NSS participation:



B Sai Lavanya of 3rd year CSE A won 1st prize for essay writing on Swami Vivekananda



Omera Sultana of 3rd year CSE-A won 1st prize for declamation



Rati Harshitha of III-CSE C won 1st prize for photography

## Event at department:

### NASSCOM Foundation

B Sai Lavanya of 3rd year CSE A won 1st prize for essay writing on Swami Vivekananda

The Department of Computer Science and Engineering organized an inspiring event in collaboration with the NASSCOM Foundation at VMTW. The session aimed to bridge the gap between academia and industry by creating awareness about digital skills, employability, and innovation in emerging technologies.

Experts from the NASSCOM Foundation interacted with students, sharing insights on career readiness, skill development, and the role of technology in driving social change. The event motivated students to embrace continuous learning and prepare for the evolving digital future.



## CAMPUS RECRUITMENT

| S.NO. | COMPANY'S NAME | OFFERS | PACKAGE  | ROLE                      |
|-------|----------------|--------|----------|---------------------------|
| 1.    | ADP            | 3      | 6 LPA    | Graduate engineer trainee |
| 2.    | HCL            | 9      | 4.25 LPA | Graduate engineer trainee |
| 3.    | JARO           | 3      | 6.6 LPA  | Business development      |
| 4.    | Aliens group   | 1      | 6.6 LPA  | Business development      |

## STUDENT PROJECTS

### Agriculture Soil Analysis, Classification & Crop Suitability Recommendation Using ML:

Nalla Bhavani (20UP1A0589)

Agriculture productivity largely depends on soil quality and appropriate crop selection. Traditional farming practices often rely on experience rather than data-driven insights, which may lead to reduced yield. With the use of Machine Learning, soil characteristics can be analyzed efficiently to recommend suitable crops, helping farmers make informed decisions.



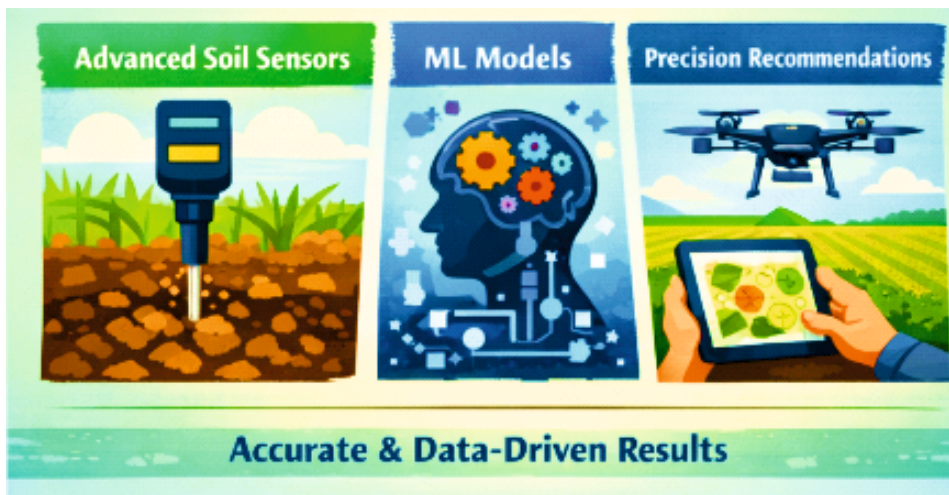
### Existing System:

Existing soil analysis methods involve manual testing and expert consultation. These approaches are time-consuming, costly, and not easily accessible to farmers in remote areas. Crop selection is often based on assumptions rather than accurate soil data.



### Proposed System:

The proposed system applies Machine Learning techniques to analyze soil parameters such as pH, moisture content, and nutrient levels. Based on this analysis, the system classifies soil types and recommends the most suitable crops to maximize productivity.



### Methodologies Used:

The methodology includes collecting soil datasets, preprocessing the data, applying ML algorithms such as Decision Tree and Random Forest for classification, and generating crop recommendations based on model predictions. This system supports data-driven agriculture and helps improve crop yield while reducing farming risks.



### Emotion Recognition from Telugu Speech Using SVM:

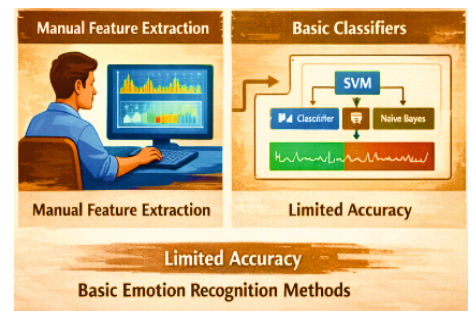
Sunkari Deekshitha Reddy (20UP1A05A1)

Speech emotion recognition plays a crucial role in human-computer interaction. Recognizing emotions from regional languages such as Telugu enhances the effectiveness of voice-based applications. This project focuses on detecting emotions from Telugu speech signals using machine learning.



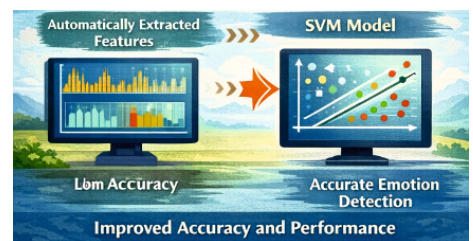
### Existing System:

Most existing emotion recognition systems are developed for English speech datasets. Limited support for regional languages results in lower accuracy and reduced applicability for native language users.



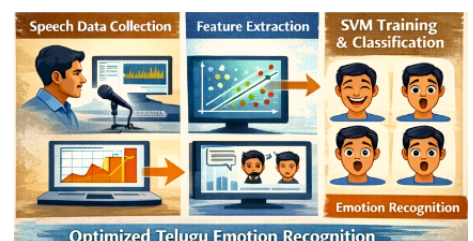
### Proposed System:

The proposed system extracts acoustic features from Telugu speech samples and uses Support Vector Machine (SVM) to classify emotions such as happiness, sadness, anger, and neutrality.



### Methodologies Used:

The methodology involves speech data collection, feature extraction using MFCC and pitch values, normalization of features, training the SVM classifier, and evaluating performance using accuracy metrics. This system improves regional language emotion recognition and enhances voice-driven applications.



### Generating Text to Realistic Image Using GAN:

Thulluri Rithika (20UP1A05A3)

Text-to-image generation is an advanced application of Artificial Intelligence where images are generated from textual descriptions. Generative Adversarial Networks (GANs) enable realistic image synthesis by learning complex visual patterns.



### Existing System:

Traditional image generation methods rely on predefined templates or manual image creation. These systems lack flexibility and cannot generate images dynamically from natural language input.



### Proposed System:

The proposed system utilizes GAN architecture to generate realistic images based on text descriptions. The model learns the relationship between textual features and image attributes to produce accurate visual outputs.



### Methodologies Used:

The methodology includes preparing paired text-image datasets, converting text into embeddings, training the generator and discriminator networks, and evaluating image quality based on realism.

This project demonstrates the potential of GANs in creative content generation and visualization.



## 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.