



**VIGNAN'S INSTITUTE OF MANAGEMENT AND
TECHNOLOGY FOR WOMEN**



Department of Information Technology

ITSPECTRUM

IT NEWS LETTER

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Vision of the Department

“To impart technical education producing competent and socially responsible engineering professionals in the field of Information Technology”.

Mission of the Department

- M1: To make the teaching–learning process more engaging, effective, and stimulating.
- M2: To impart strong foundational knowledge in sciences and information technology while fostering a positive attitude.
- M3: To create a conducive environment for developing skills and technologies aligned with industry needs.

Program Educational Objectives

- PEO1: Apply knowledge of mathematics and information technology to Analyze, design, and implement effective solutions for real-world problems in core as well as multidisciplinary domains.
- PEO2: Communicate effectively, work collaboratively in teams, uphold professional ethics, and leverage computing technologies for the betterment of society.
- PEO3: Pursue professional growth through lifelong learning, continuous skill enhancement, or higher education.

Program Specific Outcomes

- PSO1: Apply standard practices for software project development using hands-on programming skills for analysis, design and creation of software solutions.
- PSO2: Design networks and awareness of network security related issues.
- PSO3: Develop IT Application services with the help of different current engineering Tools.

Editorial Board

Mr Venkat Rao Ubbala

Assistant Professor, Dept of IT.

Ch.Vaishnavi (IV-I Student)

R.Bhanu (III-I Student)

K.Poojitha (III-I Student)

K.Sravya (II-I Student)

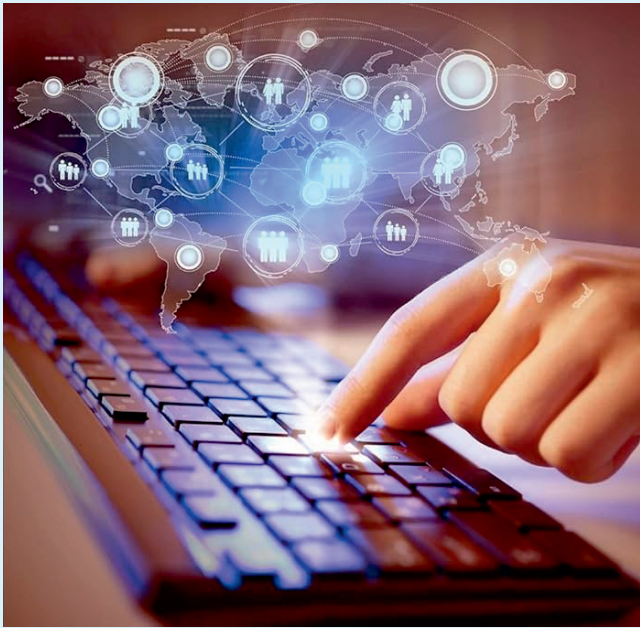
INFORMATION TECHNOLOGY

The Department of Information Technology was established in 2019 with an initial intake of 60 students. Since its inception, the department has been committed to providing excellent learning facilities and a dynamic academic environment that nurtures competent engineers capable of meeting both national and global industry standards.

The department's success is driven by the creativity, innovation, and dedication of its faculty and students. To strengthen technical competence, students are offered various in-house training programs designed to enhance their practical skills and domain expertise. The academic focus extends beyond theoretical knowledge, emphasizing holistic personality development through a blend of technical, analytical, and interpersonal skills.

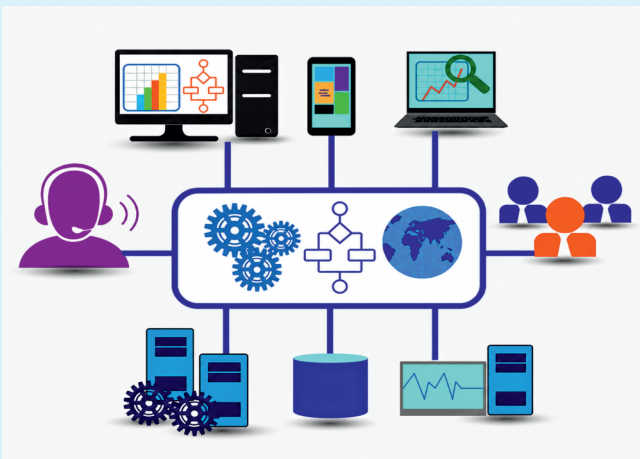
The department regularly organizes workshops, seminars, and conferences to keep students and faculty abreast of emerging technologies in the field of Information Technology. Many of our students have secured placements in leading IT companies, while others have pursued higher education at top-ranked universities in the USA and other countries.





The collective efforts of both faculty and students have significantly contributed to the department's achievements and recognition. The Information Technology Students' Association (ITSA) plays an active role in organizing diverse academic and co-curricular activities such as quizzes, extempore sessions, mock interviews, debates, alumni seminars, guest lectures, and technical fests. ITSA also conducts specialized training programs to bridge curriculum gaps and explore topics beyond the syllabus.

Furthermore, students are encouraged to participate in social outreach programs and extracurricular activities, fostering a spirit of leadership, teamwork, and community engagement.



HOD'S MESSAGE

Dr. D. Shanthi

Postdoc (USA), PHD(CSE),
M.Tech(CSE), B.Tech(CSE), PG.Diploma
in AI(NITW), (M.SC.(Psychology), AU)
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Dr. D. Shanthi brings 18 years of experience to her role as Professor and Head of the Department of Information Technology at VMTW, Hyderabad, India. She completed her Postdoctoral research at California Public University (USA) and holds a PG Diploma in AI & ML with a 3.66 CGPA from NITW. Dr. Shanthi earned her Ph.D. in Computer Science from JNTU Hyderabad in 2020. She comes from a core Computer Science Engineering background. She also qualified the UGC NET examination in 2024. Additionally, she holds 3 copyrights, including 2 national and 1 international. Dr. Shanthi has been invited as an expert by esteemed organizations such as RCI (Hyderabad), IEI (Hyderabad), Telangana State Residential Degree Colleges, Thiruvalluvar University (Tamil Nadu), SRM (AP),

and Chaitanya Deemed University (Hyderabad). She has 2 scholars from CDU and Lincoln University College (Malaysia), under her guidance one scholar got his PHD. She has also been recognized as a research guide by JNTUH. She has authored 45 research papers in prominent international and national journals, including IEEE, Springer, and Inderscience, and few are presented at notable conferences. Her research citations are 537 H-Index: 12 and I10 Index: 13 and one of her research article won the “Best Paper Award” in 2019. Her accolades include the “Young Scientist Award” from DK International Research Foundation Faculty Awards in 2019, the “Outstanding Research Faculty Award” from Amaravathi Research Academy Faculty Excellence Awards in 2020, and the “APJ Abdul Kalam Award” from Shikshak Kalyan in 2021. Dr. Shanthi has published 2 national-level books, 4 international books, 3 Scopus-indexed book with Bentham Science, and 1 AICTE local language translation of a Software Engineering textbook. She is an active member of professional bodies such as FSIESRP, MIAENG, LMCSI, MEMRC, and MIEEE, and serves on the editorial boards of several journals, including the American Journal of Software Engineering and Applications, IJERT, and Microprocessors and Microsystems (SCI Journal), Discover Computing (springer Journal).



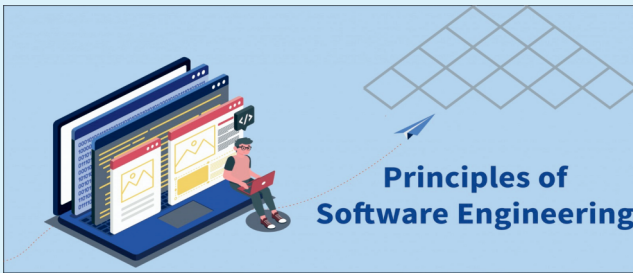
1.FACULTY ARTICLE ON SOFTWARE ENGINEERING PRINCIPLES AND TECHNIQUES

By Dr. D. Shanthi

Professor & HOD, Dept of IT

Title: Software Engineering Principles And Techniques

Software Engineering is the systematic approach to designing, developing, testing, and maintaining software systems that meet user requirements efficiently and reliably. It applies engineering principles to software development, ensuring quality, scalability, and sustainability. The fundamental principles of software engineering include modularity, abstraction, reusability, maintainability, and reliability, which together help in managing the complexity of modern software systems. Key techniques such as requirement analysis, design modeling, coding standards, testing methodologies, and project management form the backbone of the software development life cycle (SDLC). Agile and DevOps practices have further revolutionized the field, emphasizing collaboration, continuous integration, and iterative improvement. Effective software engineering requires not only technical proficiency but also clear communication, documentation, and adherence to ethical practices. As technology continues to evolve, software engineers must stay updated with emerging tools, frameworks, and security standards. By mastering software engineering principles and techniques, developers can deliver high-quality, user-centric solutions that drive innovation and contribute to technological advancement.



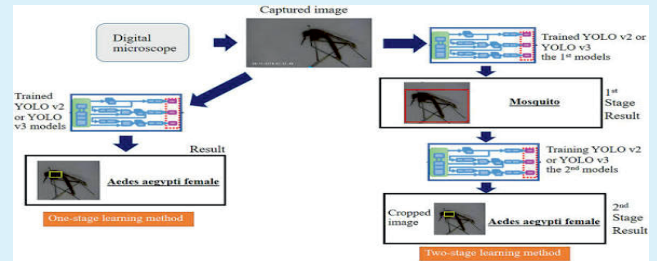
Principles of Software Engineering

2. FACULTY ARTICLE DEEP LEARNING-BASED IDENTIFICATION OF MOSQUITO SPECIES USING YOLOV5 FRAME WORK

By Dr. Poluru Eswaraiah,
Assistant Professor, Dept of IT

Title: Deep Learning-based Identification Of Mosquito Species Using YOLOv5 Frame Work

The accurate classification of mosquito species plays a crucial role in monitoring and controlling mosquito-borne diseases such as malaria, dengue, and Zika. This research presents an advanced deep learning approach utilizing the YOLOv5 framework to identify mosquito species from digital images with exceptional precision. The proposed model achieved an impressive 98% accuracy, effectively distinguishing between *Aedes*, *Anopheles*, and *Culex* species. Incorporating CSPDarknet53 for feature extraction and PANet for feature aggregation, the model ensures efficient detection and classification. The evaluation metrics—precision, recall, and F1-score—all exceeded 97%, confirming the robustness of the system. Owing to the computational efficiency of YOLOv5, this model can be seamlessly deployed on mobile or edge devices, enabling real-time identification in field conditions. This innovation provides a valuable tool for health authorities, supporting rapid disease surveillance and timely interventions. Furthermore, the framework holds potential for expansion to include additional species and larger datasets, making it a scalable solution for global mosquito-borne disease management.



1. STUDENT'S ARTICLE ROLE OF AI IN ENVIRONMENTAL CONSERVATION

By, N. Varshitha 23UP1A1232- III(IT)



Artificial Intelligence (AI) has emerged as a dominant tool. AI algorithm can process vast quantities of environmental data, including satellite imagery, weather patterns, and pollution levels. This data helps monitor changes in Waste management systems powered by AI can sort and process waste more efficiently. Robotics and computer vision enable automated sorting, recycling, and waste-to-energy processes, reducing environmental impact. ecosystems, deforestation, ice melt, and pollution, allowing for timely interventions and policy adjustments. Similarly, AI algorithms can foretell future environmental trends based on historical data and current patterns. For instance, AI models can forecast climate changes, enabling communities to prepare for extreme weather events, sea-level rise, and other environmental impacts and optimize resource use in various sectors, such as energy, agriculture, and transportation. Apart from climate prediction, AI is also aiding wildlife conservation efforts by

analyzing animal behavior, tracking endangered species, and observing poaching activities. Machine learning helps identify poaching hotspots, allowing authorities to take targeted actions to protect vulnerable species. The role of AI in environmental conservation and sustainability is rapidly evolving. As AI technologies continue to advance, their integration into environmental efforts holds great promise for creating a more sustainable and resilient world.

2. STUDENT'S ARTICLE "MOTHER"

By, Rongali Bhanu 23UP1A1238 (III-IT)



'M'= Magnificent
'O'= Outstanding
'T'= Tender
'H'= Honourable
'E'= Extraordinary
'R'= Remarkable

Mother is a person who gives millions of things. She can shed tears when she is in full compassion but she can be fierce like a tigress when her child is in danger. She teaches us lessons, lessons of life, moral lessons. She is modest, humble. She is a never-say-die spirit. She is extraordinary.

Conducted Events In Department

Department of IT Organizes International Online STTP on “Intelligence Reimagined: A Journey from AI to GenAI Applications”

The Department of Information Technology at Vigna n's Institute of Management and Technology for Women (VMTW) in Hyderabad held a Two-Week International Online Short-Term Training Program (STTP) on “Intelligence Reimagined: A Journey from AI to GenAI Applications” from September 15 to 27, 2025. The program took place under the guidance of Dr. L. Rathaiah, Chairman of the Vignan Group

of Institutions, with Mr. B. Shravan, CEO, as the Patron. Dr. G. Apparao Naidu, Principal of VMTW, convened the event, which was coordinated by Dr. D. Shanthi, Professor and Head of IT, along with Mrs. A. Eenaja, Assistant Professor.



This program served as an important platform for academics, researchers, and industry professionals worldwide to explore the changing landscape of Artificial Intelligence (AI) and Generative AI (GenAI). The sessions aimed to close the knowledge gap between traditional AI methods and modern GenAI innovations. Participants learned about key topics such as Machine Learning, Deep Learning, Large Language Models (LLMs), Prompt Engineering, and Retrieval-Augmented Generation (RAG).

Experts from top institutions and industries participated, including professionals from the University of Hyderabad, NIT Warangal, BITS Pilani, Deloitte, Bennett University, Tech Mahindra, and King Khalid University in Saudi Arabia. Their talks provided deep insights into the evolution of AI, multi-modal AI systems, ethical practices in AI, and the latest GenAI applications in academia, healthcare, education, and Industry 5.0.

Participants gained practical experience with modern AI tools like OpenAI, Hugging Face, Lang Chain, and vector database-based RAG systems. This training equipped them with skills to build intelligent and generative AI models. The program also focused on

responsible AI development and explainable AI techniques, helping participants understand the capabilities and ethical limits of contemporary AI systems.

Over 200 participants, including faculty members, research scholars, postgraduate students, and industry professionals, joined the sessions. E-certificates were awarded to those who participated successfully and submitted feedback. This initiative demonstrated VMTW's commitment to promoting quality education and creating research-oriented learning environments for women in technology.

Founded in 2008, VMTW is renowned for excellence in engineering education, particularly for rural women. Accredited by NBA and affiliated with JNTUH, the institute aims to empower students with the latest technological skills. The Department of Information Technology, established in 2019, has consistently been a leader in organizing innovative programs and supporting students' academic and professional growth. The successful completion of this STTP highlights VMTW's vision of creating a vibrant learning ecosystem where knowledge, research, and innovation come together. The organizers expressed sincere gratitude to all participants, speakers, and management for their vital support in making this program successful.

Independence Day Celebrations At Vmtw



Vignan's Institute of Management and Technology for Women (VMTW) celebrated Independence Day with great patriotic fervor and enthusiasm. The event commenced with the hoisting of the National Flag, followed by the National Anthem, echoing a spirit of pride and unity across the campus. The celebration was graced by the Guest of Honor, Dr. G. Apparao Naidu, Principal, who addressed the gathering with an inspiring speech on the significance of freedom, the role of youth in nation-building, and the responsibilities of citizens in preserving the nation's integrity. Students and NSS volunteers showcased their talents through patriotic songs, dances, and speeches, expressing their love and respect for the country. The campus was beautifully decorated in tricolor, symbolizing unity and harmony. The event concluded with a vote of thanks and the distribution of sweets, leaving everyone filled with patriotic zeal and a renewed commitment to the nation's progress.

TED^x VMTW Hyderabad

A Day of Ideas, Inspiration & Innovation



Vignan's Institute of Management and Technology for Women (VMTW), Hyderabad, proudly hosted TEDx VMTW Hyderabad on 12th September 2025 at its campus—a remarkable event that celebrated innovation, inspiration, and the courage to own one's story. The theme “From Self-Doubt to Self-Belief: Owning Your Story” resonated deeply with the audience, motivating them to embrace confidence and transformation. The event featured an exceptional lineup of speakers, including Dr. Ajay Rakesh, Dr. Jyothi Reddy, Harshith Yadlapati, Phalgun Nibru, Shamala Vanaga, Vine Surapaneni, Vigneshwaran J., and Prof. Anil Boddepalli, with Mr. V. Satish Sri Raj serving as the Curator. Each speaker shared unique insights, life experiences, and innovative perspectives that inspired students to think boldly and act with purpose.

TEDx VMTW Hyderabad created a platform where ideas sparked dialogue and transformation, empowering young minds to believe in their potential. The event concluded with gratitude to the organizers, volunteers, and audience for making it a grand success, marking yet another milestone in VMTW's journey toward fostering creativity, leadership, and intellectual growth.



SAC Activities

Teacher's Day Celebrations at VMTW



Vignan's Institute of Management and Technology for Women (VMTW) celebrated Teacher's Day with great enthusiasm and respect on 5th September 2025, honoring the invaluable contributions of teachers in shaping young minds. The event was organized by the students to express their gratitude and admiration towards their mentors. The celebration began with a heartfelt tribute to Dr. Sarvepalli Radhakrishnan, whose birthday marks the occasion. Students showcased their talents through cultural performances, speeches, and skits highlighting the teacher-student bond. Fun games and interactive sessions added joy to the event, while students presented handmade cards and tokens of appreciation to their faculty members. The teachers, in turn, shared their experiences and encouraged students to pursue excellence with dedication and integrity. The event concluded with smiles, applause, and a renewed sense of respect, making it a memorable day that strengthened the bond between teachers and students at VMTW.

NSS Activities

NSS Students Participate in Kargil Vijay Diwas:





The NSS volunteers of Vignan's Institute of Management and Technology for Women (VMTW) actively participated in the Kargil Vijay Diwas program held on 26th July 2025 at Hyderabad, organized by Mera Yuva Bharat (MY Bharat)–Telangana, under the Ministry of Youth Affairs and Sports, Government of India. The event was a tribute to the brave soldiers who made the ultimate sacrifice during the Kargil War. NSS students attended the session with great enthusiasm, paying homage to the martyrs and reflecting on the importance of patriotism, unity, and service to the nation. The program included motivational talks and felicitation of young achievers, inspiring students to emulate the values of courage and dedication displayed by the Indian Armed Forces. The participation of NSS volunteers showcased their commitment to national service and their deep respect for the heroes who safeguard the nation's integrity.

Professional Societies/Bodies

S.N.	Name of the Faculty	Name of the Professional Society /Body at National and International Level	Name of the Grade/ Level/Position
1	Dr.D. Shanthi	CSI	Life Member
2	Dr.D. Shanthi	IEEE	Member
3	Dr.D. Shanthi	IAENG	Life Member
4	Dr.D. Shanthi	FSIESRP	Life Member
5	Dr.D. Shanthi	AIMERS	Member
6	Dr.D. Shanthi	IFERP	Member
7	Dr.D. Shanthi	MEMRC	Life Member
8	Dr.P.Eswaraiah	IAENG	Life Member
9	Dr.P.Eswaraiah	IFERP	Life Member
10	Mr.Janakiraman Ranjith	IAENG	Life Member
11	Mrs.Swapna Chiluguri	ISTE	Life Member
12	Mrs.Swapna Chiluguri	IFERP	Member
13	Mrs.Swapna Chiluguri	IAENG	Life Member
14	Mrs.Kolan Helini	AIMERS	Member
15	Mrs.Kolan Helini	IFERP	Member
16	Mrs.P.Amreswari	IAENG	Life Member
17	Mrs.P.Amreswari	IFERP	Member
18	Mrs.Eenaja Alleni	IAENG	Life Member
19	Mrs.Eenaja Alleni	AIMERS	Member
20	Mrs.Bojjapalli Archana	AIMERS	Member
21	Mrs.Bojjapalli Archana	IAENG	Life Member
22	Mrs.Bojjapalli Archana	SDIWC	Member
23	Mr.U.Venkat Rao	NDLI Club	Member
24	Mr.U.Venkat Rao	AIMERS	Member
25	Mr.U.Venkat Rao	IAAC	Member
26	Mr.U.Venkat Rao	CSI	Member
27	Mr.U.Venkat Rao	ABCDINDEX	Life Member
28	Mr.U.Venkat Rao	IFERP	Member
29	Mrs.FouziyaMojammed	IAENG	Life Member
30	Mrs.FouziyaMojammed	IFERP	Member
31	Mr.ChandraShekher Sangishetty	IAENG	Life Member
32	Mr.ChandraShekher Sangishetty	IFERP	Member
33	Mr.Srinivasarao Munagala	IFERP	Member
34	Mrs.Sandhya Rani Gangu	IAENG	Life Member
35	Mrs.Sandhya Rani Gangu	FSIESRP	Member
36	Mrs.Sandhya Rani Gangu	AIMERS	Member
37	Dr.A.Sudheer Babu	IFERP	Member
38	Dr.Ch. Baswaraj	IFERP	Member



Program Outcomes (Adapted from NBA)

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.

