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

Department of Information Technology

ITSPECTRUM

IT Newsletter

Issue : Apr - Jun, 2024

Volume : 14



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

Dr. Ch. Baswaraj,

Associate Professor, Dept of IT.

Jukanti Anjali (IV-I Student)

B Jaya Sri (III-I Student)

Manasi Agarwal (III-I Student)

Ch.Vaishnavi (II-I Student)

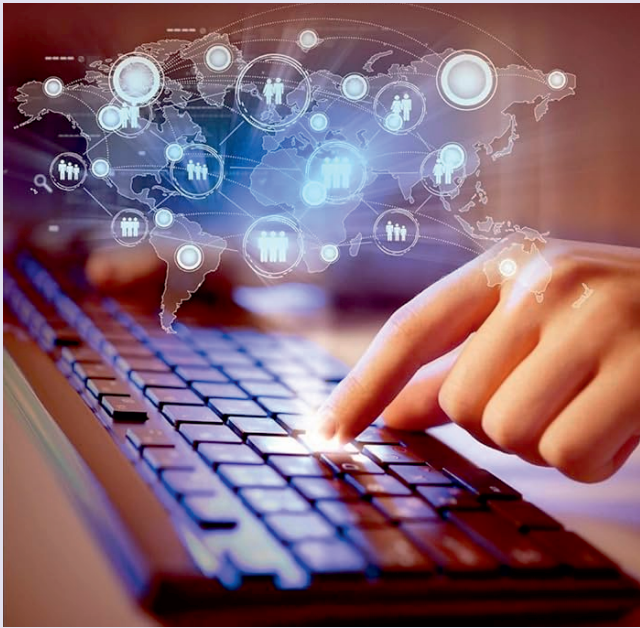
INFORMATION TECHNOLOGY

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

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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).



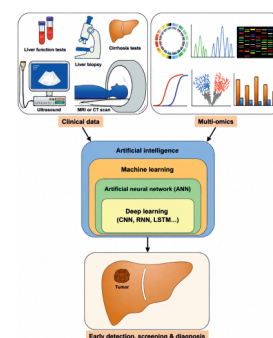
1. FACULTY ARTICLE'S DISCOVERY AND ACCURATE DIAGNOSIS OF TUMORS IN LIVER USING GENERATIVE ARTIFICIAL INTELLIGENCE MODELS

By Mr. J. Ranjith
Assistant Professors
Dept of IT



Title: Discovery and Accurate Diagnosis of Tumors in Liver Using Generative Artificial Intelligence Models

The integration of Generative Artificial Intelligence (AI) models into medical diagnostics has revolutionized the early detection and accurate classification of liver tumors. These advanced models, particularly Generative Adversarial Networks (GANs) and Variational Autoencoders (VAEs), enable the generation of high-quality synthetic medical images that enhance diagnostic precision even with limited datasets. By learning complex patterns from radiological scans such as CT and MRI images, these AI systems can distinguish between benign and malignant liver lesions with remarkable accuracy. Furthermore, generative models assist in image enhancement, anomaly detection, and predictive analytics, thereby supporting radiologists in making data-driven clinical decisions. This technology not only reduces diagnostic errors but also accelerates treatment planning and patient monitoring. The integration of AI-driven tumor detection systems thus marks a transformative step toward personalized, efficient, and accurate healthcare solutions in the field of liver oncology.



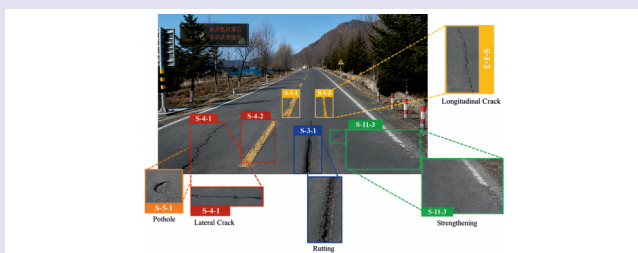
2. FACULTY ARTICLE'S AUTOMATIC DETECTION OF DAMAGED ROADS AND LANE DETECTION USING DEEP LEARNING

By Mrs. K Sandhya Rani
Assistant Professors
Dept of IT

Title: Automatic Detection of Damaged Roads and Lane Detection Using Deep Learning



The application of Deep Learning in intelligent transportation systems has opened new avenues for enhancing road safety and maintenance efficiency. The project on Automatic Detection of Damaged Roads and Lane Detection utilizes advanced Convolutional Neural Networks (CNNs) and computer vision techniques to identify potholes, cracks, and faded lane markings from real-time road images or video feeds. By processing large datasets collected through vehicle-mounted cameras or drones, the system accurately classifies road defects and detects lane boundaries even under challenging conditions such as low light or heavy traffic. The integration of semantic segmentation and edge detection algorithms ensures precise localization of damaged areas and clear lane tracking for autonomous driving support. This automated approach not only aids civic authorities in timely road maintenance but also contributes to reducing accidents caused by poor road conditions. Ultimately, this deep learning-based model represents a significant step toward smart road infrastructure and safer transportation systems.



1.Student's Article The Rise of Artificial Intelligence

By K N S S J NAIMISHA
23UP1A1218-IT

Title: Article The Rise of Artificial Intelligence



Artificial Intelligence (AI) is reshaping industries and human lifestyles. From smart assistants to driverless cars, AI applications have become part of everyday life. However, this technological revolution also raises ethical concerns about data privacy, job loss, and machine bias. As nations compete to lead in AI innovation, it becomes crucial to establish global standards for responsible use. The balance between progress and ethics will determine whether AI remains humanity's ally or becomes a challenge for the future.

2.Student's Article Climate Technology and the Race to Save Earth

By B.Hindu
22UP1A1209 III-IT

Title: Climate Technology and the Race to Save Earth



Climate change is one of the greatest challenges of our time. Technology offers hope through renewable energy, carbon capture, and green innovations. Nations are investing in solar, wind, and electric vehicle infrastructure to reduce emissions. However, political interests and industrial greed often delay progress. Young engineers and environmentalists must unite science with ethics to create sustainable solutions for a cleaner planet.

3.Student's Article The Future of Robotics and Human Employment

By Rongali Bhanu
23UP1A1238 - IT

Title: The Future of Robotics and Human Employment



Automation and robotics have improved efficiency but sparked fears of unemployment. From manufacturing to service industries, robots are replacing human labor at a rapid pace. Governments and educators must prepare youth with skills for the digital era — creativity, problem-solving, and emotional intelligence. The real challenge is to coexist with machines while retaining the essence of humanity.

Sahitya Club - A Celebration Of Words And Expression

The Sahitya Club of Vignan's Institute of Management and Technology for Women stood out as one of the most vibrant and creative student communities during the recent campus events. As reflected in their colorful and lively stall, the club radiated enthusiasm for literature, art, and public speaking. The stall featured an eye-catching handmade poster with bright visuals and informative notes about the club's activities, capturing the attention of students and visitors alike.

The Sahitya Club serves as a dynamic platform for students who love language, literature, and creative expression. Through engaging events like Poetry Writing, Jam Sessions, Essay Competitions, Seminars, and Debates, the club encourages participants to explore their thoughts and express ideas with clarity and confidence. Each event fosters communication skills, critical thinking, and cultural appreciation among students. Members of the club actively contribute to nurturing a literary culture on campus, promoting a space where imagination meets intellect. The Sahitya Club continues to inspire budding writers, speakers, and thinkers, making it a hub of creativity and expression at VMTW.



Student's Participation

S. No	Name of the Student	Name of the Event	State/National/ International level	Date of the Event
1	B. Swetha Reddy	Vivitsu-24	National	19th & 20th April
2	J. Sai Sri Mayukha	Vivitsu-24	National	19th & 20th April
3	K. Yuktha Reddy	Vivitsu-24	National	19th & 20th April
4	Madhira Kusuma	Vivitsu-24	National	19th & 20th April
5	P. Pranitha	Vivitsu-24	National	19th & 20th April
6	M. Sri Sathvika	Vivitsu-24	National	19th & 20th April

SAC Activities

1. Title: Cherlapally Industries Association (CIA) MSME Expo – 2024



The Cherlapally Industries Association (CIA) proudly organized the MSME Expo–2024 on 3rd May 2024 at the Cherlapally Industrial Estate, marking a significant milestone in the promotion of innovation, collaboration, and growth within the Micro, Small, and Medium Enterprises (MSME) sector. The event brought together industrialists, entrepreneurs, business leaders, investors, and students from across Telangana, celebrating the spirit of industrial excellence and sustainable

development. The Cherlapally Industrial Area, known for being one of the most dynamic and diverse industrial hubs in the state, hosts a unique blend of large, medium, and small-scale enterprises. The CIA MSME Expo served as a platform to showcase the achievements of these industries while encouraging emerging entrepreneurs to explore new business opportunities. The event was inaugurated by prominent industry leaders and government officials, who emphasized the importance of MSMEs in strengthening India's economy and contributing to employment generation. on equipping them with industry-relevant -



The Expo featured an impressive display of industrial products, machinery, automation tools, and innovative technologies from a wide range of sectors including manufacturing, engineering, electrical, pharmaceutical, and fabrication industries. The exhibits reflected the ingenuity and progress of local industries that have made Cherlapally one of the most successful industrial estates in the state. Several stalls highlighted eco-friendly technologies, green manufacturing practices, and the adoption of digital tools for industrial efficiency, aligning with the government's "Make in India" and "Digital India" initiatives. Interactive sessions, business networking meetings, and panel discussions were also held as part of the Expo. Experts discussed key

issues such as technological upgradation, export promotion, supply chain challenges, and financial support schemes available for MSMEs. The sessions provided valuable insights into government policies and collaborative opportunities between industries and academic institutions. Young entrepreneurs and students benefited immensely from the exposure to industrial processes and business models showcased at the event.

NSS Activities

Title: International Day Against Drug Abuse and Illicit Trafficking – 26th June 2024

The National Service Scheme (NSS) Unit of Vignan's Institute of Management and Technology for Women (VMTW), in association with the Ghatkesar Municipality, observed the International Day Against Drug Abuse and Illicit Trafficking on 26th June 2024. The event focused on spreading awareness about the harmful effects of drug addiction and the importance of building a drug-free society. The program began with an awareness rally around Ghatkesar, where students carried placards with slogans promoting healthy lifestyles. The volunteers presented a powerful street play depicting the tragic consequences of drug abuse and the importance of seeking help. Motivational talks by health professionals emphasized rehabilitation and prevention, urging youth to lead purposeful lives. The event concluded with students taking a pledge to remain drug-free and act as ambassadors of change in their communities.



Title: Training on Traffic Regulation for NSS Volunteers – 25th June 2024

On 25th June 2024, NSS volunteers from VMTW attended a Traffic Regulation Training Program organized by the Hyderabad Traffic Police at the Goshamahal Police Parade Ground. The session was designed to educate students about road safety measures, traffic discipline, and civic responsibility. Officers demonstrated real-time traffic management techniques and shared insights on accident prevention. The volunteers



learned about pedestrian safety, the significance of traffic signals, and the role of responsible driving in reducing accidents.



This hands-on training inspired NSS members to spread road safety awareness in their local communities and contribute towards creating a safer road environment for all.

Title: International Yoga Day – 21st June 2024

VMTW celebrated International Yoga Day on 21st June 2024 with the theme “Yoga for Self and Society.” The NSS in collaboration with the



Red Cross, Brahma Kumaris, and Samskruthi Foundation, organized a grand yoga session on campus. The event began with an invocation and a brief talk on the importance of yoga in daily life. Expert trainers guided students and faculty through various asanas and pranayama techniques that promote mental peace and physical fitness. The serene atmosphere encouraged participants to embrace yoga as a daily discipline. The event reinforced the message that yoga is not merely an exercise but a holistic approach to a balanced and mindful lifestyle.



Title: Meet on Girl Child Awareness and Road Safety Awareness – 22nd April 2024

On 22nd April 2024, selected NSS representatives from VMTW attended a Meet on Girl Child Awareness and Road Safety Awareness organized by the JNTUH NSS Cell at Rashtrapati Bhavan. The meet aimed to empower students with knowledge about gender equality and road safety practices. Eminent speakers, including social

activists and educators, addressed the participants on issues like the importance of educating the girl child, personal safety, and community responsibility. The session also covered topics like defensive driving and the need for responsible road behavior. The event left participants motivated to become advocates for equality and safety in their respective environments.

Title: Clean Campus Drive & Blood Donation Camp – 15th April 2024

On 15th April 2024, NSS volunteers from VMTW participated in the Clean Campus Drive & Blood Donation Camp organized by the JNTUH NSS Cell. The cleanliness drive focused on promoting hygiene and maintaining a clean learning environment. Volunteers enthusiastically cleaned



different areas of the campus, encouraging others to adopt cleanliness as a habit. Simultaneously, a blood donation camp was held, drawing tremendous participation from students and faculty. The event promoted the spirit of service and humanity, reflecting the core values of NSS – “Not Me But You.”

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 Aileni	IAENG	Life Member
19	Mrs.Eenaja Aileni	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.

