



माधव प्रौद्योगिकी एवं विज्ञान संस्थान ग्वालियर

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE GWALIOR  
DEEMED UNIVERSITY

October-December 2025

# THE FUSION FRONTIER

**CENTRE FOR COMPUTER SCIENCE  
AND TECHNOLOGY**

## E-NEWSLETTER

### Editorial Board

- Dr. Abhihsek Dixit  
Coordinator, Centre for CST
- Dr. Saumil Maheshwari
- Arya Raghuvanshi
- Kavya Saxena
- Anurag Ojha

### Contents

- Award/Prize/ Recognition by Faculty Members
- Talk delivered/Activity outside the Institute
- Activities Organized
- Latest Technology

## Vision

To develop top-tier professionals in Computer Science and Business Systems, nurturing innovations and leadership to bridge the tech-business divide for societal growth and development.

## Mission

- **Cultivate Excellence:** Develop world-class computer science and business systems professionals with a strong foundation in both disciplines.
- **Foster Innovation and Research:** Encourage a culture of innovation and support cutting-edge research to develop solutions that bridge the gap between technology and business.
- **Empower Leaders:** Equip graduates with the skills and knowledge to become adept leaders who excel at integrating technology and business solutions.
- **Drive Societal Impact:** Prepare graduates to leverage their expertise for impactful advancements across all spheres of life and society.

## Award/Prize/ Recognition by Faculty Members:

**Dr. Shradha Dubey** received a letter of appreciation from the Honourable Pro Vice Chancellor, MITS-DU, Gwalior for the Web technology course which has been identified among the top 9% courses offered to the I Semester students based on the feedback received.

## NPTEL/ATAL/COURSERA/INTERNSHALA courses attended by the faculty

- **Dr. Suchitra Agrawal** successfully attended and completed the NPTEL FDP on Big Data Computing and was awarded the Silver Elite Certificate. She is also awarded with Silver Elite Certificate for Programming with Generative AI and has been recognised among top 5%.
- **Dr. Shradha Dubey** successfully completed the NPTEL course and Faculty Development Programme (FDP) on Large Language Models and was awarded the Elite Certificate, conducted by IIT Madras.

## Publications SCI/UGC/SCOPUS with DOI number

- **Dr. Devanshu Tiwari et al** (2025). A novel hybrid deep learning approach for COVID-19 detection using CT scans and chest X-rays: CovVoxTrada. *Traitements du Signal*, Vol. 42, No. 5, pp. 2877-2892. <https://doi.org/10.18280/ts.420537>.
- **Dr. Saumil Maheshwari et.al** "Predicting Health Risks Among Menopausal Women Using Machine Learning," 2025 IEEE International Conference for Women in Innovation, Technology & Entrepreneurship (ICWITE), Bangalore, India, 2025, pp. 1-6, doi: 10.1109/ICWITE64848.2025.11307071.

## **Talk delivered/Activity outside the Institute**

**Dr Tejaswita Mishra** served as a Session Chair in 17th IEEE International Conference on Computational Intelligence and Communication Networks (CICN 2025) is organized by NIT Goa in Association with technical sponsor by Bombay section and financial sponsored by MP Section at National Institute of Technology Goa, INDIA from 20-21 December 2025.

**Dr. Shradha Dubey** served as a judge at HACKSETU 1.0, a 24-hour national-level hackathon organized by the Amity School of Engineering & Technology, Amity University Madhya Pradesh, conducted on 3–4 November 2025.



## Activities Organized (Workshop/Conference/FDP/STC) at Institute level

### One-Day Workshop on “Report Writing”

The Centre for Computer Science and Technology (CST), Madhav Institute of Technology and Science (MITS), Gwalior, organized a One-Day Workshop on “Report Writing” on 4<sup>th</sup> October 2025 (Saturday). The session was conducted by Ms. Pritha Singh, Assistant Professor, MITS-DU, Gwalior, M.P. The workshop aimed to guide students to the fundamentals of academic writing, structure, formatting, and presentation of reports. The workshop emphasized the importance of clarity, coherence, and professional standards in technical communication. A total of 97 students attended the workshop on “Report Writing”.



## Activities Organized (Workshop/Conference/FDP/STC) at Institute level

### One-Day Workshop on “Indian Constitution and Cultural Values”

The Centre for Computer Science and Technology (CST), Madhav Institute of Technology and Science (MITS), Gwalior, organized a One-Day Workshop on “Indian Constitution and Cultural Values” on 2<sup>nd</sup> November 2025 (Sunday). The session was conducted by Dr. Rakhi Singh Chouhan, Principal, Prestige Institute of Management and Research, Gwalior, M.P. The workshop encouraged students to appreciate India’s cultural diversity, heritage, and ethical values, fostering a sense of responsibility, respect, and unity. A total of 200+ students across the institute attended the workshop.



**Dr. Devanshu Tiwari, Mr. Utkarsh Sharma, Mr. Mithun Sahay Shrivastava, Ms. Aditi Samadhiya, and Mr. Anil Kumar Fatehpuria** successfully participated in the Faculty Development Programme on “Cyber Security in the Age of GenAI,” jointly organized by Madhav Institute of Technology and Science (DU), Gwalior and the E&ICT Academy, Pandit Dwarka Prasad Mishra Indian Institute of Information Technology, Jabalpur held from 31 December 2025 to 5 January 2026

## Latest Technology- Agentic AI systems

Agentic AI systems represent a major shift in artificial intelligence, moving beyond single-response models to autonomous agents capable of planning, reasoning, and executing multi-step tasks. These systems combine large language models with tools, memory, and decision-making frameworks, enabling AI to act more like a problem-solving assistant rather than a passive responder.

### **Recent Examples & Use Cases :**

**Auto-GPT / BabyAGI** – Demonstrate autonomous task execution by breaking goals into subtasks and iteratively completing them.

**OpenAI Function-Calling Agents** – Enable AI to interact with APIs, databases, and external tools for real-world automation.

**AI Agents in Software Engineering** – Used for code generation, debugging, testing, and continuous integration workflows with minimal human intervention.

### **Why They're Important / What's Driving the Trend :**

**Autonomy & Productivity** – Agentic AI reduces human effort by independently managing complex workflows, increasing efficiency across industries.

**Tool Integration** – These systems can interact with external tools, making AI useful for real-world applications beyond text generation.

**Scalability of Intelligence** – Organizations can deploy multiple agents working in parallel, enabling scalable problem-solving and decision-making.

### **Real-World Possibilities :**

**Enterprise Automation** – Agentic AI can autonomously handle workflows such as customer support resolution, supply chain optimisation, and report generation, significantly reducing manual effort.

**Software Development** – AI agents can plan features, write code, debug errors, run tests, and deploy applications, accelerating the entire development lifecycle.

**Healthcare & Research** – Autonomous agents can assist in medical data analysis, drug discovery, and clinical decision support while working alongside human experts.

**Personalized Digital Assistants** – Future AI agents could manage schedules, finances, learning paths, and daily tasks with long-term memory and contextual understanding.

### **Challenges Ahead :**

**Control & Reliability** – Ensuring that autonomous agents behave predictably and do not take unintended actions remains a major challenge.

**Security & Privacy Risks** – AI agents interacting with tools and systems increase the risk of data leaks, misuse, or malicious exploitation if not properly secured.

**Ethical & Accountability Concerns** – Determining responsibility for decisions made by autonomous systems raises legal and ethical questions.

**Alignment & Oversight** – Designing agents that align with human goals, values, and constraints requires strong monitoring and governance mechanisms.