



# **M.TECH PROGRAMME**

## **IN**

# **COMPUTER SCIENCE AND ENGINEERING**

**Department of Computer Science and Technology**  
**Indian Institute of Engineering Science and Technology (IIST), Shibpur**  
**(An Institute of National Importance under MHRD, Govt. of India)**

## **ABOUT THE PROGRAMME**

The M.Tech in Computer Science and Engineering at the Department of Computer Science and Technology, IIST, Shibpur is a comprehensive two-year master's degree programme designed to impart advanced knowledge and practical skills in the field of computer science. This programme delves deep into both foundational and emerging areas, including mathematical foundations of computer science, algorithms, high-performance computing, machine learning, cybersecurity, advanced networking, and so on.

Structured to balance rigorous academic coursework with hands-on research and projects, the curriculum emphasizes critical thinking and problem-solving. Students have the opportunity to engage in cutting-edge research, participate in internships, and collaborate on real-world projects, preparing them for roles in academia, research, and the tech industry.

Graduates of this programme are well-prepared to pursue careers as software developers, data scientists, system architects, and researchers, or to continue their studies in doctoral programmes. The M.Tech in Computer Science and Engineering fosters innovation and leadership, enabling students to contribute significantly to the evolving landscape of technology.



# KEY AREAS FOR RESEARCH



## Robotics & Automation

Control systems, AI-ML integration, and autonomous vehicles.



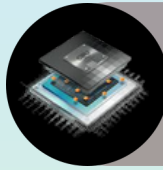
## Internet of Things (IoT)

Sensor networks, smart devices, edge computing, and real-time data flow.



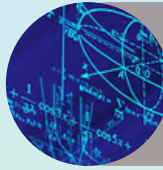
## Cybersecurity

Network security, cryptography, and secure systems design.



## Embedded Systems

Real-time OS, microcontrollers, and VLSI fundamentals



## Theoretical Computer Science

Algorithms, automata theory, computational complexity, and formal methods.



## Artificial Intelligence

Natural language processing, computer vision, and machine learning.



## Blockchain Technologies

Distributed ledgers, cryptographic protocols, and decentralized applications.



## Signal Processing

DSP, image/audio processing, and pattern recognition.



## Software Systems

Operating systems, databases, cloud computing, and software engineering.

## ELIGIBILITY CRITERIA

- Candidates must hold a bachelor's degree in any Engineering disciplines.
- Admission is based on valid GATE score in CS paper.
- Non-GATE and sponsored candidates may also apply (eligibility for Institute fellowship a subject to institutional criteria).

## FACILITIES

- **High-Performance Computing Lab**  
Access to a dedicated GNU/Linux-based server cluster for programming, simulation, and parallel computing tasks.
- **Personalized Workstations**  
Each M.Tech student is provided with an individual desktop (Ubuntu/Linux) for coursework, research, and development.
- **Two Dedicated GPU Servers**  
Equipped with NVIDIA GPUs to accelerate deep learning, AI research, and high-performance computing tasks.
- **Departmental Server Access**  
Secure SSH access to departmental servers with pre-installed compilers, libraries, and deep learning frameworks (e.g., TensorFlow, PyTorch).
- **High-Speed Internet**  
Gigabit LAN and campus-wide high-speed Wi-Fi to ensure seamless access to online resources and cloud platforms.
- **Research Laboratories**  
Specialized labs for IoT, Embedded Systems, Computer Vision, VLSI, and Cybersecurity, equipped with industry-grade tools and devices.
- **Open Source & Software Resources**  
Access to licensed and open-source tools including MATLAB, Xilinx, NS3, LaTeX, Docker, and Git repositories.

## MAJOR RECRUITERS



## CONTACT US

Department of Computer Science & Technology ,  
IIST Shibpur , Howrah , West Bengal , India  
Email : [hod@cs.iists.ac.in](mailto:hod@cs.iists.ac.in)

