



CENTRE FOR CAREER DEVELOPMENT
INDIAN INSTITUTE OF TECHNOLOGY GUWAHATI

ROBOTICS & ARTIFICIAL INTELLIGENCE

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About IIT Guwahati

Established in 1994, Indian Institute of Technology Guwahati is the sixth member of the IIT fraternity and one of India's premier institutions for higher education, research, and innovation.

Within a short span, the Institute has emerged as a global centre of excellence in science, technology, management, and design.

The picturesque campus spans 285 hectares on the northern bank of the Brahmaputra River, approximately 20 km from the heart of Guwahati city.

Surrounded by scenic hills and open spaces, it offers a perfect environment for learning, research, and holistic development.

IIT Guwahati offers a wide array of academic programmes including B.Tech., B.Des., BSc (Hons), M.Tech., M.Des., M.Sc., MBA, M.A., MS(R) and Ph.D.

across 11 departments, 9 interdisciplinary centres, and 5 schools, covering major disciplines in engineering, science, humanities, healthcare, and management.

The Institute has built world-class infrastructure and

houses state-of-the-art laboratories and National Centres of Research that support cutting-edge research.

Students are encouraged to take up interdisciplinary coursework, pursue minor degrees, and choose from a rich variety of open and interdepartmental electives.

IIT Guwahati has signed MoUs with top international universities, facilitating semester exchanges and summer internships, thereby broadening students' global exposure.

Our students regularly intern at leading global firms and research institutions, gaining invaluable real-world experience.

Ranked among the top 100 world universities under 50 years by Times Higher Education (THE), IIT Guwahati continues to excel globally.

The Institute was ranked 42nd globally in 'Research Citations per Faculty' and 344th overall in QS World University Rankings.



Director's Message

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Indian Institute of Technology Guwahati was established in 1994 by an Act of Parliament. The academic programme started with 65 students in three undergraduate programmes in 1995. The institute is growing steadily and the total number of students in eleven departments, nine academic centres and five schools in numerous undergraduate and postgraduate programmes is now around 8600. The institute has excellent infrastructure for the all round development of its students. The institute has full-fledged Technology Incubation Centre and Research Park to promote entrepreneurship activities.

IIT Guwahati continues to maintain its superior position in various International and National Rankings. IIT Guwahati secured the 8th position among the top engineering institutions in India in the NIRF 2025 Rankings, released by the Ministry of Education.

Additionally, IIT Guwahati has been ranked as the 11th best university in the country. IIT Guwahati has been ranked 2nd in the 'Swachhata Ranking' conducted by the Govt. of India. IIT Guwahati has been ranked as the topranked university in 2019 for IT developers by HackerRank in the Asia-Pacific region. IIT Guwahati gained 42 position globally in the 'Research Citations per Faculty' category and overall 344 rank in the QS World University Rankings 2025 released recently. Also, IIT Guwahati ranks 6th globally in Sustainable Development Goal 7 (Affordable and clean energy) of the Times Higher Education Impact Rankings 2023.

With Best Wishes,

Prof. Devendra Jalihal

Director, IIT Guwahati

The institute has a very good central library, which provides library and information services to support teaching, learning, and research activities by creating state-of-the-art facilities. It is housed on a four-storey building having a floor area of about 7500 sq. meter. Inhouse services of the library are fully computerised and wi-fi facility is provided within the library building for connecting to the internet and accessing the Institute's electronic resources. The sports facilities of the institute are of international standard. The students graduating from this institute are motivated, bright, and very eager to perform after they graduate.

IIT Guwahati has extensive facilities for cultural and creative activities too. For example, the Technical Board promotes technology, creativity and innovation. IIT Guwahati helps in shaping up bright minds with proper perspectives. IIT Guwahati hosts two supercomputing facilities PARAM-Kamrupa (838 TF) and PARAM-ISHAN (250TF) to carry out research activities in various scientific domains including forecasting of weather and climate, bioinformatics, computational chemistry, molecular dynamics, artificial intelligence (AI) and machine learning and especially data science.

Because of the excellent performance of the students of IIT Guwahati in all the fields of study and research, guided by the dynamic faculty members and with the full support of the non-teaching employees, IIT Guwahati could feature in the coveted list of young universities (under 50 years of age) of the world selected by the Times Higher Education (THE) magazine. IIT Guwahati is the only Indian entry to this elite list. I cordially invite all prospective employers to visit IIT Guwahati and to participate in the on-campus placement and internship processes.

About the Program

The Robotics and Artificial Intelligence (R&AI) vertical under the School of Interdisciplinary Studies and Sustainability at IIT Guwahati is established to promote activities focused on Technology Development, Human Resource Development, Technology Business Incubation, M.Tech Program, Ph.D Program.

The vertical is intended to focus on targeted activities such as developing technologies and products, job creation, making collaborations, Skill development etc. At present 41 Faculty Members (18 ME, 8 EEE, 6 CSE, 5 DoD, 3 CE, 1 Chemistry) are involved in the vertical. The vertical consists of nine different laboratories viz., Underwater Natural Resources lab, Product Development Laboratory, Reverse Engineering Laboratory, Fabrication Laboratory, Virtual & Augmented Reality Laboratory, E-Mobility Laboratory, Internet of Things Laboratory, Product Testing Laboratory and Sensor & Actuator Fabrication Laboratory. These facilities available at the vertical have been a great support for the students working in different areas at IITG as well for the students of various academic and research institutions of the north east. ICPS vertical aims to revolutionize the world by advancing intelligent cyber-physical systems that seamlessly integrate the digital and physical realms. It is committed to pioneering cutting-edge technologies, fostering innovation, and driving sustainable solutions that enhance efficiency, safety, and connectivity across diverse industries.

Our MTech program in Robotics and Artificial Intelligence is designed for top-tier students who excel in the GATE examination, ensuring that we attract the brightest minds.

The program offers an advanced curriculum that seamlessly integrates AI and robotics, covering areas like machine learning, computer vision, and intelligent automation. Students gain hands-on experience through direct engagement with our state-of-the-art laboratories, allowing them to design, develop, and test sophisticated systems and solutions. The goal is to harness the power of artificial intelligence, machine learning, and the Internet of Things to create systems that adapt, learn, and optimize operations in real-time. By bridging the gap between the digital and physical worlds, the vertical aims to unlock unprecedented possibilities for automation, data-driven decision-making, and human-machine collaboration. It strives to cultivate a collaborative ecosystem where various disciplines converge to address complex challenges, ensuring the responsible and ethical development of these technologies. Through continuous research, development, and collaboration with industry leaders, academia, and communities, the vertical aspires to be at the forefront of innovation, setting new standards for intelligent, resilient, and secure cyber-physical systems. .



Message from Head of the School



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It is my privilege to introduce the graduating batch of M.Tech in Robotics and Artificial Intelligence at IIT Guwahati. The program is designed to bridge the gap between the physical and digital worlds by combining Robotics, Artificial Intelligence, and Machine Learning with real-world engineering applications.

Our comprehensive curriculum blends core courses with advanced electives across Machine Learning, control systems, computer vision, deep learning, NLP, optimization, and human-machine interaction. This balanced academic approach ensures that our students are not only academically strong but also industry-ready from day one. With guidance from 41 expert faculty members across ME, EEE, CSE, Civil, and Design.

The students of this batch have undergone a rigorous selection process. Their training uniquely equips them to tackle complex real-time challenges with automation, data-driven decision making, and sustainable technological solutions.

With Best Wishes,

Prof. Animes Kr. Golder

Head of School, SiSAS

Programmes Offered

M. Tech in Robotics and Artificial Intelligence

ADMISSION VIA GATE

M. Tech in Robotics and AI is a four semesters program with eleven courses in first and second semesters and followed by two project works in fourth and fifth semesters. Total forty seats, in which 30 is for regular category, and rest 10 seats for sponsored category. Candidates applying in regular category, have completed B. Tech or equivalent in EE/EEE/CSE/Mech/PE/Civil/IT/Design and with valid GATE or CEED Score in EE/ECE/ME/CSE/CE/PE/Design.

Doctor of Philosophy

ADMISSION VIA WRITTEN TEST & INTERVIEW

The Ph.D. programme consists mainly of an open-ended research work that is expected to make a contribution to Technologies for Underwater Exploration. Major goal of the centre is to provide students with a broad variety of educational experiences: developing their problem solving skills, challenging them with open-ended problems and design projects, developing their written and verbal communication skills, and making research or independent experiences available to those students with the desire and capability.

Student Strength

PROGRAMME	GRADUATING YEAR	STUDENTS
Master of Technology	Batch of 2027	29
Doctor of Philosophy	Batch of 2027	05
Total		34



Curriculum Highlights

05 COURSES

MTech Core courses

Artificial Intelligence

Machine Learning

Fundamental of robotics

Robot Sensing & Vision

Technical Writing

13+ ELECTIVES

Electives

Advanced Machine Learning

Augmented Virtual Reality

Introduction to Large Language Models (LLMs)

Video Analytics

Signal and Image Processing

IoT (Internet of Things)

Computer Network and Security

Formal Methods of System Verification

Performance Modelling

Non-linear Control in Robotics

Speech Technology

ML for EDA

Additive Manufacturing

04 LABS

Laboratory courses

Artificial Intelligence Lab

Python Programming Lab

Robot Design Laboratory

Technical Writing Lab

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Research Areas

The department pursues research at the intersection of artificial intelligence, robotics, intelligent systems, and engineering, with the aim of developing computationally intelligent technologies for complex real-world environments. Our work spans machine learning, deep learning, computer vision, multimodal intelligence, generative AI, autonomous systems, sensing, control, and computational modelling.

A key focus is the development of systems that can perceive their environment, learn from data and experience, reason over multimodal information, and make autonomous decisions. This research extends from fundamental methods in AI and robotics to applications in engineering, healthcare, mobility, environmental monitoring, and scientific discovery. The department's interdisciplinary research ecosystem encourages collaboration across domains, combining mathematical foundations, computational techniques, experimental validation, and physical systems to translate emerging ideas into practical technologies.

Thrust areas

01 Artificial Intelligence & Multimodal Intelligence

Research spans machine learning, deep learning, generative AI, large language models, and vision-language models, with emphasis on learning, reasoning, perception, and multimodal understanding. Applications include aerial and underwater vision, object tracking, anomaly detection, intelligent agents, and data-driven decision-making.

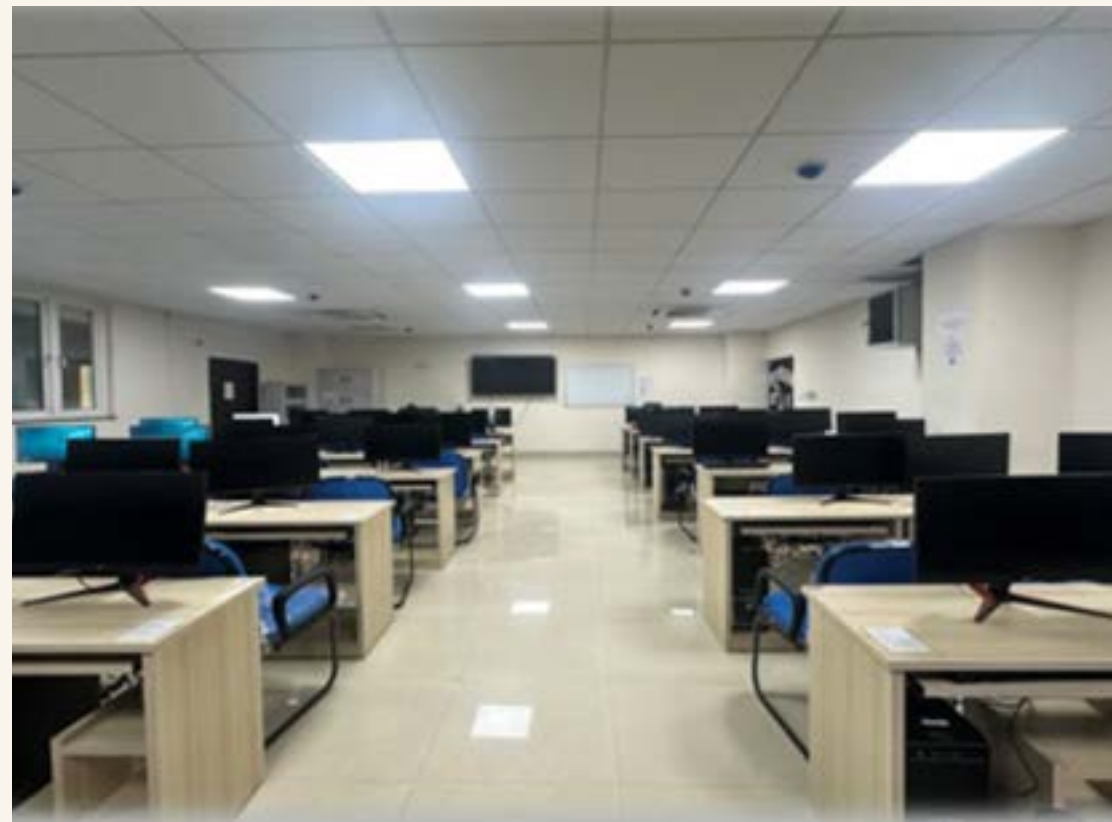
02 Robotics & Autonomous Systems

Research investigates intelligent robotic systems capable of perception, planning, learning, and autonomous control. Key directions include robot manipulation, mobile and aerial robotics, underwater vehicles, autonomous agents, multi-object tracking, and nature-inspired robotic mechanisms.

03 Smart Systems & AI for Engineering Applications

Research integrates AI with sensing, cyber-physical systems, computational modelling, and engineering design. Areas include smart and biosensing systems, healthcare monitoring, predictive maintenance, AI-driven CAD and engineering design, scientific simulation, photonics, metamaterials, and computational modelling.

Laboratories & Facilities



Product Development Lab

The Product Development Lab provides an environment for transforming innovative ideas into functional prototypes and engineering solutions. The lab supports hands-on experimentation, product design, rapid prototyping, testing, and development of technologies addressing real-world challenges.



Internet of Things Lab

The Internet of Things Lab focuses on connected systems that integrate sensors, embedded devices, communication networks, and intelligent computing. It enables research and experimentation in smart systems, edge computing, automation, and data-driven applications for real-world environments.



E-Mobility Lab

The E-Mobility Lab supports research and experimentation in electric and intelligent transportation technologies. The facility provides an environment for developing and evaluating solutions related to electric vehicles, energy systems, power electronics, vehicle control, and sustainable mobility.



Underwater Natural Resources Lab

The Underwater Natural Resources Lab is dedicated to research and technological development for the exploration, monitoring, and sustainable management of underwater resources. The lab supports interdisciplinary work involving sensing, underwater systems, data analysis, and technologies for challenging aquatic environments.

Past Recruiters



Meet Our Team



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