



Centre for Career Development,  
Indian Institute of Technology Guwahati

**Placement  
Brochure-2024**

**Department of Computer  
Science and Engineering**



## About The Institute

# Indian Institute of Technology, Guwahati

Established in **1994**, as an 'Institute of National Importance', IIT Guwahati has grown into being a preferred destination for people passionate about learning and innovation. IIT Guwahati has been ranked among the Top 100 Young Universities in the world by the Times Higher Education, one of the two Universities from BRICS nations. IIT Guwahati has several factors contributing to how in a short span of time it has established itself as one of the best institutes of its kind in the country. The programmes and courses that are offered at IIT Guwahati are perpetually evolving to adapt to the ever changing global requirements and along with the diversity of the fields of study, this has helped the institute become one of the nation's nerve centres for research and development, and technical education. The faculty ensure that the students of the campus are ready to face the challenges of the professional world by providing them with a sound conceptual understanding of their respective disciplines. The institute also offers a plethora of opportunities to students for their holistic development, through the excellent facilities that it has for sports and general extracurricular activities.

## About The Computer Science and Engineering Department

The Department of Computer Science and Engineering at Indian Institute of Technology Guwahati was formed in the year 1995. Currently, the department has more than 490+ students in the B.Tech. program, 130+ students in the M.Tech. program and 120+ students in the Ph.D. program, supported by 30 faculty members and 10 staffs.

- Since its inception, the department has always been recognized all over the world for excellence in research and academics. Over the years, the department has strengthened its research activities, has state-of-the-art infrastructure and computing equipment supported by high speed Ethernet and wireless networks. Various student organizations like ACM Chapter, ACS Chapter, CSEA, Linux and Open Solaris Community are active throughout the year.
- The major research areas encompass a wide spectrum, spanning AI, ML, Computer Vision, NLP, algorithms, distributed systems, security, IoT, robotics, user-centric computing, virtual reality, formal verification, VLSI, hardware security, real-time scheduling, and cloud-based solutions, among others. These fields drive innovation in technology, enabling advancements in intelligent systems, decentralized IoT, efficient algorithms, and cutting-edge hardware architectures.

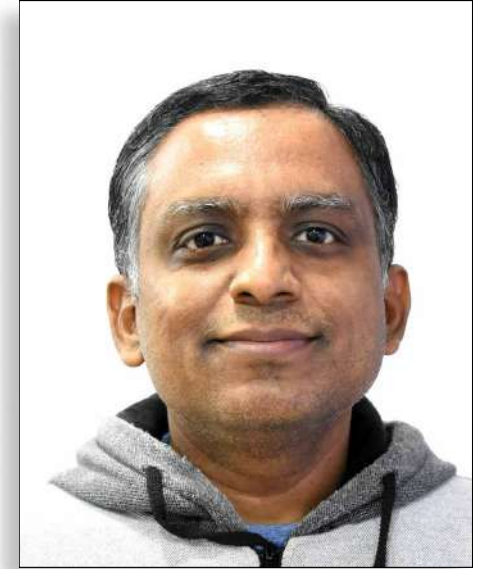
For more information , please visit [this site](#)

## FROM THE HOD'S DESK

The department of Computer Science and Engineering was established in 1995 during the time of the inception of Indian Institute of Technology Guwahati. The department started with an undergraduate course for B.Tech. in Computer Science and Engineering with an intake of 30 students. Currently, the department admits 122 BTech students, 68 MTech students each year and there are around 120 PhD students in the department. We are dedicated to excellence in research and teaching. The main focus of the department is on doing basic research and solving important problems in the core and emerging areas of Computer Science and Engineering, as well as important problems of the society. The department periodically upgrades its course curriculum for catering to the need of industry and research and maintains state-of-the-art laboratories for both hardware and software domains.

The department has a flourishing research environment with active research groups in the areas of Theoretical Computer Science, Computer Architecture and Embedded Systems, Computer Systems, Man-Machine Interfaces, and Artificial Intelligence, Machine Learning and Data Mining. The department is involved in many significant research projects sponsored by the government and industries. We have a pool of active and energetic research students and have won many accolades in recent times. Many of them have obtained prestigious external fellowships and various best paper awards at conferences.

Graduates from the department of all programmes secure excellent placements. A large number of our Alumni are successful in different careers and many of them occupy top positions in both academia and industry all over the world, and some of them have founded successful enterprises.



**Dr. Tamarapalli Venkatesh**

**Professor and Head,  
Department of CSE  
IIT Guwahati**

# Academic Curriculum

## Undergraduate Programs – B.Tech

The Department of Computer Science and Engineering at IIT Guwahati is renowned for imparting state of the art undergraduate education and preparing its students for real-world challenges. We attract the brightest students from the country who score very high ranks in the IIT-JEE, arguably the toughest entrance exam for any academic institution. Our alumni have done extremely well and the list of their achievements is too big to list here, which include managing top companies, designing revolutionary products, and contributing to fundamental research.

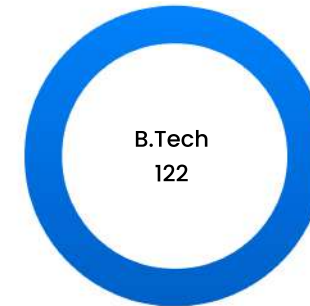
Apart from the courses, most of the students have industrial experience as interns. Many students are doing the BTech Project in their final semester. The course structure provides an optimal mix of compulsory and elective courses to explore their interests.

## Postgraduate Programs – M.Tech

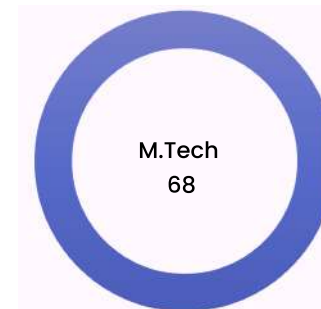
The CSE department invites outstanding candidates to pursue the degree of Masters of Technology (M.Tech.) at IIT Guwahati. The M.Tech. programme lets students do a number of specialized courses, as well as letting them explore their research and development skills through a year-long project.

The courses at the CSE department will challenge student intellect and advance student knowledge in various subjects in Computer Science and Engineering while the M.Tech. project will be a part of the various exciting research and development projects going on in the Department.

The engineering graduates coming from Computer Science and Engineering background with a mix of freshers and experienced professionals have been selected from the National level GATE exam and all of those who secured very good ranks taken into this program.



Total No of Students in Graduating Batch



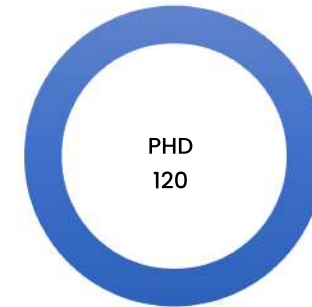
Total No of Students in Graduating Batch

# Academic Curriculum

## Postgraduate program – Ph.D. Computer Science and Engineering

The doctoral program in Computer Science and Engineering offers students the possibility of doing intensive research in an area of their choice. The Computer Science and Engineering Department has a vibrant research program consisting of about 120 Ph.D. students, and it has been the CSE department's constant endeavor to provide the best facilities and working environment to the research students.

Ph.D. students often collaborate with researchers within and outside the country. It is common, and regularly encouraged, for students to spend time at collaborating institutions in academia and industry. Our students regularly publish research results in leading international conferences and reputed journals.





# CSEA , IIT GUWAHATI

The student body of the Computer Science and Engineering department at IIT Guwahati is called CSEA (Computer Science and Engineering Association). It is in charge of holding various workshops and coding competitions in which any student from any department is welcome to take part.

Several of the coding competitions and workshops that CSEA organizes:

- **Coding Competition (CodeKar 2.0) - Apr 2022**  
A Coding Competition contest to encourage the coding culture in the college and department.
- **Alumni Talks**  
Several talks related to career choices in masters, research, industry roles
- **Research Talk - Sep 2022**  
A talk for discussing research opportunities in computer science.
- **Badminton Tournament - Jan 2022**  
A tournament open to the entire department for increasing the bonding in the department
- **Academic talks**  
Regular talks between seniors and juniors every semester related to academics.

For complete list of CSEA events, please visit [this site](#)

# List of Department Electives Courses

- Machine Learning
- Artificial Intelligence
- Topics and Tools in Social Media Data Mining
- Speech Processing
- Neural Networks for NLP
- Mobile Robotics
- Mobile Computing
- Machine Learning using Cloud Computing
- Data Analysis For Machine Learning
- Algorithmic Game Theory
- Multimedia Systems
- Computer Vision Using Machine Learning
- Deep Learning
- Introduction to Natural Language Processing
- Intelligent Systems And Interfaces
- Randomized Algorithms
- Information Transmission And Security
- Human Computer Interaction
- Advanced Compilers
- C Based VLSI Design
- Virtual and Augment Reality Systems
- Computational Number Theory and Cryptography
- Formal Modelling and Analysis of Cyber-Physical Systems and many more...

For complete list of courses please visit this [this link](#)



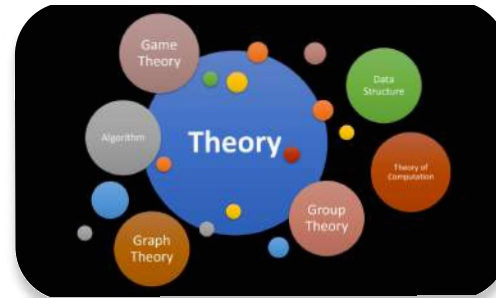
# Key Research Areas

## Artificial Intelligence, Machine Learning and Data Mining



- Artificial Intelligence
- Machine Learning
- Data Mining
- Computer Vision
- Speech Processing
- Natural Language Processing
- Media Forensics
- Complex Networks

## Theoretical Computer Science



- Data Structures and Algorithms
- Logic and Formal Methods
- Parallel Algorithms
- Game Theory
- Distributed Algorithms
- Randomized Algorithms
- Discrete Mathematics

## Computer Systems



- Computing and Storage
- Communications and Networks
- Security and Privacy

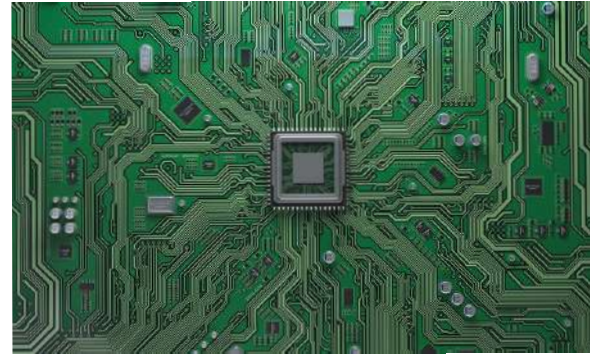
# Key Research Areas

## Man-Machine Interfaces



- Speech processing
- Speaker characterization
- Low resource speech modeling
- Image characterization and modeling
- Mobile Agent based Systems
- User-centric computing
- Virtual and augmented reality
- Smart systems and interfaces

## Computer Architecture and Embedded Systems



- Formal Verification
- VLSI Testing
- Embedded and Cyber-Physical Systems
- Memory processing and Machine learning accelerators
- Networks on Chip
- Hardware Security
- Real-time scheduling and Cloud based scheduling
- Hardware Approximate Computing

For details about Research Areas please visit [this link](#)

# Research Laboratories

- Robotics Lab
- Speech Lab
- IDS Lab
- ISEA Lab
- VLSI Lab
- Aakash Lab
- IOT Lab
- RTDLS Lab
- Hardware, Peripherals and Embedded Systems Lab
- MARS Lab
- Multimedia Lab
- OSINT Lab
- Network System and Security Lab
- Susma Lab
- User Centric Computing & Networking Lab



**User Centric Computing & Networking Lab**



**MARS Lab**

# Research Laboratories



**IOT lab**



**Robotics Lab**



**IDS Lab**



**Hardware Lab**



**Network systems and Security Lab**



**Susma Lab**

# Sponsored Research Projects

Title of the Project	Investigator	Sponsor
Enhancing Security Features of On-Chip Networks in Modern Multicore Processors	Dr. John Jose	SERB, Department of Science & Technology, Govt of India
Computer Vision for Under Water Exploration under Technology Innovation Hub on Under Water Exploration	Dr. Arijit Sur	DST NM-ICPS, Govt. of India
AI and IoT based Attack Detection and Authentication Scheme for Cyber Security in Grid Connected Power Electronic Converters	Dr. Manas Khatua	Central Power Research Institute (CPRI), Bangalore
Quality of Living: Smart Home Environment Creation through Automatic Monitoring and Utilization of the Physical and Cognitive State of the Residents	Dr. Sukumar Nandi	Ministry of Electronics and Information Technology, Govt. of India
Design a framework to resist image-based adversarial attacks on deep learning models.	Dr. Arijit Sur	Core Research Grant, DST, Govt. of India

For a complete list of sponsored projects, [visit the website](#)

# Previous Recruiters



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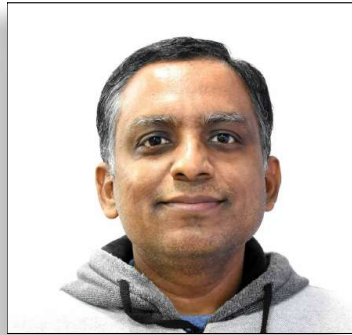
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