

# Computer Science Engineering

## Overview

IIITB was established in the year 1999 offering programs - Integrated M.Tech, M.tech, M.S and PhD in Computer Science and Electronics. The goal of CSE programs at IIIT Bangalore is to develop professionals of high quality to cater to the needs of industry and academia. Such education is based on a broad grasp of the fundamental principles of the sciences and scientific methods. Program include courses of study, seminars, project work, internships, and research leading to a thesis.

IIITB has state-of-the-art infrastructure including well-equipped classrooms, laboratories, and research facilities. The institute collaborates with industry and other research organisations to contribute to technological advancements. It encourages industry internships and collaborations to provide students with real-world exposure and opportunities.

IIITB focuses on advanced research and education in a wide range of topics such as Artificial Intelligence and Machine Learning, Software Engineering, Networking and Communication, Cyber Security, Robotics, Theory and Systems for Computing and Data.

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## Specialization & Courses

### AI & ML

- Introduction to Machine Learning & Deep Learning
- Introduction to Visual Recognition
- Advanced Visual Recognition and Rendering with emphasis on GenAI for Vision.
- Natural Language Processing and Introduction to LLMs

- Reinforcement Learning
- Self-supervised Learning
- Recommendation System
- Few Shot Learning
- Artificial General Intelligence
- Causal Inference and Learning
- Bayesian Methods and Statistics
- Optimization
- Geographic Information Systems
- Multi Agent Systems

## Theory and Systems for Computing and Data

### Theory

- Algorithms (Basic and Advanced)
- Graph theory
- Approximation Algorithms
- Exact and Parameterized Algorithms
- Programming Languages
- Compilers
- Foundations of Distributed Consensus and Blockchain
- Secure Computation

### Systems

- Data Visualization (Basic and Advanced)
- Computer Graphics (Basic and Advanced)
- Introduction to Distributed Systems and NoSQL Systems
- Streaming Data Systems
- Healthcare Application Development (Full Stack Development)
- Software Production Engineering (DevOps)
- Software Architecture and Design Principles
- Data Modelling
- Software Testing

## Networking and Communication

- Wireless Access Network
- Network Security
- Internet of Things
- Computer Networks (Basic and Advanced)
- Mathematical Analysis of Networks

## Cyber Security

- Foundations of Cryptography
- Cyber Security (Basics and Advanced)
- Cryptographic Engineering
- Computing on Private Data

## Research & Labs

### E-Healthcare Research Center (EHRC)

- Brain Health Initiative (BHI)
- Mental Health Assistance Tele Mental Health Assistance and Networking Across States (Tele-MANAS)
- Karnataka Mental Health Management System (E-MANAS)
- Clinical Decision Support Solution (CDSS)
- Practice of Use Self Help for Depression (PUSH-D)
- Cranial Neuro-Navigation for Robotic Surgery

### Graphic Visualization Computing Lab

- LIDAR point cloud analytics and visualization
- Human brain functional connectivity community detection
- Population survey data visual and statistical analytics
- Chart data extraction and visual analytics
- Automated data extraction and text summarization of charts from images
- Natural hazard risk assessment and data analysis

### Multimodal Perception Lab

- Facial Gesture and Behaviour Analysis with Generative AI
- Multimodal Assessment towards Healthcare Domain
- Multimodal Embodied Conversational Agents
- Multimodal LLMs

## Web Science Lab

- Big Data Analytics for Policy Support.
- Large scale retrieval models for multi-sensor data search
- Characterizes the problem of consent management in data trusts and proposes
- Creating a mechanism to locate a learner in the learning space

## Few Shot Learning Lab

- Few Shot Segmentation
- Generalized Few shot Segmentation
- Self Supervision Learning for Image Segmentation
- Visual Question Answering with Scene-Text
- Learning Visual Grounding in 3D Scenes
- Enhancing visual odometry with panoptic segmentation

### Scalable Data Science (ScaDS) Lab

- Streaming data Processing
- Data Anonymisation
- Explainable AI Systems using KG embeddings

## Machine Intelligence and Robotics Center

- Humanizing Automation : AI Based Governance.
- Multimodal Language Translation and Speech Technology.
- Autism Detection with Visual Analytics.
- Real time traffic analysis for efficient traffic management

## Modular Open Source Identity Platform

- Migration of Open Source Microservices
- Selective disclosure of JSON Web Token (JWT)

## Software Engineering and Analysis Lab

- Formal verification and testing of various applications.
- Automated application processing.

## Compensation Details

|         | Full-Time (CTC) (in Lakhs per annum) |        | Internship Stipend (Thousands/month) |        |
|---------|--------------------------------------|--------|--------------------------------------|--------|
|         | MTech                                | IMTech | MTech                                | IMTech |
| Highest | 65                                   | 65     | 110                                  | 177    |
| Average | 22.69                                | 33.46  | 55                                   | 69     |
| Median  | 18.9                                 | 28.3   | 50                                   | 55     |

\*Includes Off-Campus and international Offers

## Top Recruiters



## Higher Education and Research Universities



Write to IIIT-B Placement Office: [placement.committee@iiitb.org](mailto:placement.committee@iiitb.org) | [iiitb\\_placement@iiitb.ac.in](mailto:iiitb_placement@iiitb.ac.in)