

Electronics and Communication 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. IIITB focuses on advanced research and education in a wide range of topics such as VLSI Architecture Design, FPGAs, Custom fabricated VLSI circuits, Networks and Communication Systems, Real time Embedded Systems and Robotics, Artificial Intelligence and Machine Learning.

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.

Learn more about IIIT-BANGALORE [↗](#)

Specialization & Courses

VLSI Systems [↗](#)

- Digital CMOS VLSI Design
- System Design with FPGA
- VLSI Architecture Design
- Analog Power Integrated Circuits
- Analog CMOS VLSI Design
- Physical Design of ASICs
- Electronics System Packaging
- Functional Verification of SOCs
- Testing and Design for Testability

Networking & Communication [↗](#)

- Advanced Digital Communication
- Wireless Communication
- Optimization
- Estimation and Detection Theory
- Mobile Computing
- Networking and Communication
- Software-Defined Networks
- Digital Image Processing
- Fundamentals of Radar Sensing

AI & ML

- Automatic Speech Recognition
- Natural Language Processing
- Visual Recognition
- Few Shot Learning
- Reinforcement Learning
- Artificial General Intelligence
- Recommendation Systems

Research & Labs

VLSI Architecture Design Lab [↗](#)

- Approximate Computing (Based Accelerator)
- Hardware Accelerator for Digital Signal Processing
- Hardware Security
- Systolic Array Architectures
- POSIT based Circuits and Systems
- AI / ML Accelerator
- Neuromorphic Computing

Analog VLSI Design

- Design of Low Current, Low Noise and High PSRR LDO
- Buck and Boost converter
- Voltage reference models
- RF energy harvesting

IIIT-B COMET Foundation [↗](#)

- Prototype of IRS and Phase optimization
- Developing 5G Base Station using O-RAN
- UAV/Drone Communication
- Radar for Drone Detection and Routing

Connected Devices and Wearables Lab [↗](#)

- Wearables for Internet of Things
- Ultra-Low Power and Secure Communication
- Hardware Security for Wearable Devices

CEEMS Lab [↗](#)

- AI/ML based Systolic accelerator on FPGA
- FPGA based Hardware-Software Co-design Accelerators
- Hardware-Algorithm co design and optimization
- HLS Tool exploration and Design Space Exploration
- BFloat and Floating-Point Unit Circuit design, Optimization and Verification
- Frequency and Power Analysis of FPGA based circuit implementation

Advanced Wireless Communications Lab [↗](#)

- Physical Layer Security
- Channel Estimation
- Beam Training and Tracking
- Intelligent Reflecting Surfaces
- Energy Harvesting in MIMO Networks
- Sensing and Localization

Compensation Details

	Full-Time (CTC) (in Lakhs per annum)		Internship Stipend (Thousands/month)	
	MTech	IMTech	MTech	IMTech
Highest	39.5	65	60	240
Average	25.05	34.91	44.6	68
Median	21.17	32.88	45	45

*Includes Off-Campus and international Offers

Top Recruiters



Higher Education and Research Universities



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