Indian Institute of Technology Kanpur

Department of Computer Science & Engineering

Placement Brochure

Session 2025-2026

The Recuiter's Guide
Students' Placement Office

Department of Computer Science & Engineering

Indian Institute of Technology, Kanpur

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About Us

The Computer Science & Engineering Department at IIT Kanpur is the first department in India to start Computer Science education. The department started in August 1963 with an IBM 1620 system--a novelty then, even in many North American and European universities.

Today, many of the nation's leading experts, educationists, and consultants in computer science are alumni of this department. Currently, the department has a faculty of 34 whose interests span almost all areas of computer science.

The department runs BTech, MTech, MS(R), and Ph.D. programs and is known for its academic rigor, excellence, and cutting-edge research with several sponsored projects and consultancies. Some students convert their B.Tech. program into a dual degree program, which results in students getting both a B.Tech and an M.Tech. degree at the end of 5 years. The department has also started the M.S. program, which focuses on research in various domains of Computer Science.

Welcome Message

Prof. Surender Baswana

Head of Department Computer Science & Engineering
Indian Institute of Technology, Kanpur

"I am proud to introduce the exceptional talent nurtured within our Computer Science and Engineering department. Our curriculum is meticulously designed to provide a strong foundation in computing while incorporating emerging and advanced topics. This ensures our students are always at the forefront of technological innovation.

Our graduates are not just engineers, they are visionaries and leaders, ready to make significant impacts in various industries. From core computing roles to positions in financial software, algorithmic trading, and E-commerce, our alumni are thriving and driving success in global companies. Additionally, many have ventured into entrepreneurship, founding and contributing to groundbreaking startups worldwide.

I invite you to visit our department and witness the unique, stimulating environment where your next top talent is being prepared for success. Our commitment to excellence guarantees that hiring from our department will bring unparalleled expertise and innovation to your organization."

Major Degree Programs

B.Tech

In-depth analysis of engineering programs that introduce students to core curricula aligned with modern industry requirements.

BT-MT (Dual Degree)

The integrated five-year program culminates in the award of both B.Tech and M.Tech degrees. Students are introduced to core engineering disciplines during their undergraduate years, followed by a dedicated year of research contributing to their postgraduate specialization.

M.Tech

It includes an intensive academic curriculum, culminating in a research-focused final year. Students typically engage in advanced group projects or pursue individual research topics.

M.S. (By Research)

Designed with a strong research focus, this program is similar to the M.Tech but allocates fewer credits to coursework and more to thesis and research work. Students gain experience through both academic research and real-world, industry-oriented challenges.

Ph.D.

This prestigious degree is awarded to students committed to research careers. Unlike other programs, it emphasizes innovation and discovery over traditional coursework.

About Students

Number of final year students (2025-2026)

Recent Achievements

- IIT kanpur team "facelessmen3.0" participated in the ICPC 2023 regionals and **World Finals.**
- Anindya Ganguly, PhD, won the **TCS Scholarship** 2023.
- Akshay Kumar Sharma's poster (with Depanshu Sahu, Prof. Preeti Malakar) won Best Poster Paper at HiPC 2023.
- Pranjal Dutta won **ACM India Doctoral Dissertation Award 2023.**

Distinguished Alumni

- Prof. Rajeev Alur (BT/CSE/1987) : Professor of Computer Science and the Founding Director of ASSET.
- Mr. Ambarish Kenghe (MT/CSE/1998) was appointed as the Group CEO of Angel One.
- Prof. Pushpak Bhattacharyya (MT/CSE/1986) : Chairman of RBI's committee to develop the Framework for Ethical AI (FREE-AI) in the financial sector.
- Dr. Eshan Chattopadhyay (BT/CSE/2011): Professor at Cornell University.
- Dr. Prateek Jain (BT/CSE/2004): Senior Research Staff at Google AI.
- Prof. Ashish Goel (BT/CSE/1994): Professor at Stanford University.
- Dr. Abhishek Bhowmick (BT/CSE/2010): CTO of Samooha.
- **list is long ...**

Lab Facilities

Network

- The CSE lab has a 1 Gbps switched network using a tree topology. All servers and client systems have 1 Gbps NICs.
- A CISCO Catalyst 3750G Series Layer-3 switch serves as the backbone.
- Lab connects to the campus network via a router.
- Connectivity to the Institute Computer Center is through fiber optic cable.
- Network spans both CSE buildings using 50 switches (24 ports each, 1 Gbps).
- Two dedicated server rooms house a variety of servers, including project-specific systems.

Cloud

- CSE lab has deployed one cloud "Vyomkesh" ,
- It has currently 20 compute nodes having dual Xeon 6 core CPUs with 48 GB RAM each.
- It supports 240 physical (480 logical) cores with 960 GB RAM.

Hardware Lab

- The hardware lab in the CSE department is a state of the art lab equipped for embedded computing.
- The lab provides several FPGAbased stations for hardware programmability

Lab Facilities

Robotics Lab

- Vicon Vero Motion Capture System for indoor robot localization has been installed in this Lab

SCADA Cyber Security Test Bed

- A flexible SCADA test bed with Schneider industrial hardware and software is installed. Supports research in cybersecurity for critical infrastructure.
- Replicates power distribution automation (three-phase & single-phase).
- Includes real field devices:
  - Energy meters, protection relays, modular control system
  - GPS time sync unit (IRIG-B based), IEC61850 Ethernet switches
  - Unified Threat Management hardware, industrial-grade HMI
  - Full SCADA system for monitoring and control

Sun Grid

- Sun Grid has been established in the department with funding from Sun Microsystems, USA.
- The grid has 20 workstations based on Opteron (64-bit AMD processor) and it is available to all the users who want to do research and explore the area of High Performance Technical Computing.
- The department is recognized as the "Sun Regional Academic and Research Partner for Excellence in Grid Computing".

Lab Facilities

CDIS

- The Center for Developing Intelligent Systems - is an R&D Center within IIT Kanpur
- It is dedicated to rapid development and prototyping of intelligent software systems, geared towards solving problems arising within the Indian ecosystem.

C3i Center

- Cyber security is now a national security issue due to digital control in critical infrastructure.
- Systems like power grids, water systems, nuclear plants, railways, and air traffic rely on networked software control.
- These are vulnerable to cyber-attacks by nation-states, terrorists, or criminals.
- IIT Kanpur's Centre for Cyber Security (funded by SERB/DST) focuses on protecting critical infrastructure.
- The centre develops India's first cyber security test bed for such systems.
- Works closely with NCSC and government agencies to report threats and solutions.
- Trains students and utility professionals in cyber defence.
- Collaborates with global partners (USA, Israel) and organizes events to build awareness and research culture.

Faculty List and Expertise

Abhranil Chatterjee
Complexity Theory and Designing algorithms with algebraic techniques

Amey Karkare
Compilers, Functional Programming, Program Analysis & Code Optimization, Programming Languages and Education

Anil Seth
Logic, Theoretical Computer Science retrieval

Ashutosh Modi
Natural Language Processing, Machine Learning and Affective Computing

Debapriya Basu Roy
Hardware Security, VLSI for Cryptography and Post Quantum Cryptography

Adithya Vadapalli
Applied Cryptography, Private Information retrieval, Secure Multi party computation, Zeroknowledge Proofs and Oblivious RAMs

Amitangshu Pal
Wireless and Sensor Networks, Sensing and Communication for Internet of Things (IoTs) and Building IoT Solutions for Smart Cities

Angshuman Karmakar
Post Quantum Cryptography, SideChannel attacks and Computation on encrypted data and Cryptology

Arnab Bhattacharya
Databases, Data Mining, Information Retrieval, Natural Language Processing and Artificial Intelligence

Faculty List and Expertise

Debadatta Mishra
Operating Systems, Virtualization and Cloud Computing and Computer Networks

Hamim Zafar
Computational Biology, Machine Learning and Bioinformatics

Mainak Chaudhuri
Computer Hardware and Architecture

Nisheeth Srivastava
Human Factors in Computing, Computational Cognitive Science and Computational Social Science

Piyush Rai
Machine Learning and Bayesian Statistics

Gunjan Kumar
Sublinear Algorithms, Approximation Algorithms, Statistical Learning Theory and Information Theory

Indranil Saha
Application of formal methods to embedded and cyberphysical systems and Robotics

Manindra Agrawal
Computational Complexity Theory, Security, Theoretical Computer Science and Algorithms

Nitin Saxena
Computational Complexity Theory, Algebra, Algebraic Geometry, Theoretical Computer Science and Algorithms

Faculty List and Expertise

Preeti Malakar
High Performance Computing, Scalable Parallel Communication and Workflow Optimization

Roop Aparajita Subhra Purushottam
Optimization, Statistical Learning Theory and Machine Learning

Rajat Mittal
Computational Complexity and Quantum Computing and Semidefinite Programming

Sandeep K Shukla
Application of formal methods to embedded and cyberphysical systems and Embedded Computing

Satyadev Nandakumar
Theoretical Computer Science, Algorithmic Information Theory and Computible Analysis

Priyanka Bagade
internet of things, computer vision, deep learning, and cyber-physical systems

Raghunath Tewari
Computational Complexity Theory, Graph Theory, Theoretical Computer Science and Computational Geometry

Rajat Moona
Computer Architecture, VLSI Design, Operating Systems, Embedded Systems, Security, Smart Cards and RFID

Sanjeev Saxena
Parallel Processing, VLSI, Data Structures, Algorithms, Heuristics, Graph Theory and Computational Geometry

Faculty List and Expertise

Sayak Ray Chowdhury
Reinforcement Learning, Multi-armed bandits, Differential Privacy and Language Model Alignment

Sruti S Ragavan
Human-Computer Interaction, Software Engineering, End-user Programming, Humanistic Aspects of Computation

Sumit Ganguly
Databases, Data Streaming and Algorithms

Surender Baswana
Graph Algorithms, Dynamic Algorithms and Randomized Algorithms and Algorithms

Swarnendu Biswas
Programming Languages, Compilers, Program Analysis, Software systems and High Performance Computing

Soumya Dutta
High Performance Computing and Visualization, Visual Computing and Computer Vision, Big Data Visual Analytics

Subhajit Roy
Formal Methods, Artificial Intelligence, Software Engineering, Programming Languages and Compiler Optimization

Sunil Simon
Game Theory, Distributed Systems and Temporal Logics and Verification

Sutanu Gayen
Foundations of Machine Learning and Probabilistic Algorithms

Faculty List and Expertise

Urbi Chatterjee
Hardware Security, Physically Unclonable Functions, Secure Authentication Protocols Design and Internet of Things Security

Prateek Jain
Visiting Faculty
Principal Scientist / Director at Google DeepMind India.

Amartya Sanyal
Adjunct Faculty
Assistant Professor in Machine Learning in the Department of Computer Science in the University of Copenhagen.

Shashank Srivastava
Adjunct Faculty
Assistant Professor of Computer Science at UNC Chapel Hill.

Gaurav Sharma
Visiting Faculty
Computer Vision, Face Image Analysis, Visual Analytics, Machine Learning and Deep Learning

Rajesh Kumar Gupta
Visiting Faculty
Professor in the Department of Computer Science and Engineering at the University of California, San Diego.

Pravesh K. Kothari
Adjunct Faculty
Assistant Professor in Computer Science Department, Princeton..

Snigdha Chaturvedi
Adjunct Faculty
Assistant Professor at UC-Santa Cruz.

Industrial Engagements

Research/Project Topic	Organisation
Establish an academic partnership program that aims to foster innovation in areas such as earth and cloud computing as well as data-driven content creation	Microsoft
Collaborate on the advancement of digital forensic technology for medical devices	wipro, GE
Establish a state-of-the-art Advanced Innovative Integrated Laboratory at the ITITI Doon Sanskrit School premises.	ITITI Doon Sanskrit School; Information Technology Institute for the Tribes of India
Jointly develop sector-specific Cyber Security Capability Maturity Models for the National Critical Information Infrastructure Protection Center (NCIIPC)	C3iHub; IHUB NTIHAC Foundation
Development and generation of a range of semantically equivalent queries and prompts for general QnA systems	intuit
Methods for Identifying and Redacting Protected Health Information in Clinical Notes	mimansa
Establish the Intel India Research Fellowship Agreement with the aim of funding for a candidate to pursue a research project.	intel
Use of e-Governance technologies such as blockchain to safeguard data integrity in records management, integrated financial management systems, e-coupons, electronic health records, and theJanadhar residents' data repository	RISL

Industrial Engagements

Research/Project Topic	Organisation	Professor name
Video analytics for smart survelliance systems	SERB INDIA	Amitangshu Pal
seamless transition to post-quantum cryptography	Google	Angshuman Karmakar
Interior Design	saltmine	Nisheeth Srivastava
Establishing the UP Digital Health Stack	&	Nisheeth Srivastava
DAVi: An Intelligent Data Analytics and Visualization Framework	इसरो isro	Soumya Dutta & Purushottam Kar
Digital Public Goods for AI in Health	national health authority	Nisheeth Srivastava
Reviewing status of telemedicine hubs in Uttar Pradesh	Deloitte.	Nisheeth Srivastava
Samar Abhilekh: Controlled Digital Lending for MoD History Division records	रक्षा मंत्रालय MINISTRY OF DEFENCE	Nisheeth Srivastava
HT cable fault prediction.	adani	Sayak Ray Chowdhury
Deep Learning-Based Time Series Forecasting of Short-Term Gas Demand	adani	Sayak Ray Chowdhury

List is long ..

Recent Research & Developments

Interdisciplinary Center For Cyber Security And Cyber Defence

- DST has sanctioned 14.43 crores (~2.2 million USD) for the Interdisciplinary Center for Cyber Security and Cyber Defense of Critical Infrastructure. Prof. Sandeep Shukla and Prof. Manindra Agrawal will lead the group.
- This is **the first center, set up in India**, to pursue cyber security of critical infrastructure.

JEE Seat Allocation : An Algorithmic Perspective

- Prof. Surender Baswana proposed an algorithmic perspective for JEE seat allocation for CFTIs.
- This approach ensures each candidate submits a single choice list over all available programs and receives no more than a single seat from the system, based on the choices and the ranks in the relevant merit lists.

Primality Testing In Polynomial Time

- One of the major problems in computational number theory was solved by Prof. Manindra Agrawal, Neeraj Kayal, and Nitin Saxena.
- The problem was whether a number could be tested for primality in polynomial time deterministically.

Identity Testing, Dependence Testing, Root Finding

- One of the major problems in algebraic complexity is that of polynomial identity testing. A large number of special cases have been solved jointly by the research group of Prof. Nitin Saxena. The group also has famous complexity results in the related questions of algebraic dependence testing and finding roots of polynomials

Recent Research & Developments

Dev. Of National Air Quality Index (NAQI) For Indian Cities

- The National Air Quality Index (NAQI) translates individual air pollutant concentrations into a single number that reflects the status of air quality in simple terms. The scientific basis of developing AQI is the attainment of air quality standards and pollutant dose-response relationships. This was developed by Prof. Arnab Bhattacharya.

MOOC And Agropedia Software Models

- MOOCs provide affordable and flexible way to learn new skills, pursue lifelong interests and deliver quality educational experiences at scale.
- Agropedia, a software as a service model, can be used to rapidly build agriculture portals for different communities

Prutor : A Cloud Based Web Application

- Prutor is a cloud-based web application that provides instant and useful feedback to students while solving programming problems.
- Prutor provides a view of the students' approach to solving programming problems, regardless of programming environments

Smart Card Technology Development

- A standard for smart card operating system has been developed which is used by the government of India for all their smart card based applications.
- A smart card operating system has also been implemented which is compliant to this standard. This technology is in the process of being commercialized

Recent Research & Developments

Language Technology

- Some path breaking contributions have been made in Indian language coding (ISCII), keyboard design, transliteration, OCR machine translation, Linux ware, NLP, Indian scripts on Linux, Web content creation and search.
- Some of landmark achievement is : GIST multilingual technology, AGLABHARTI & ANUBHARTI MACHINE aided translation strategies and popular web sites such as Gitasupersite.

Multipurpose Human Identification System

- The primary aim is to design a robust system which is capable of handling problems like security, personal, verification/identification etc. The various traits that are considered are Face, Iris, Signature, Fingerprints and Ear

Spacecraft Health Monitoring Platform for ISRO

- An integrated web-based platform for performing data analytics, visualization, monitoring, and forecasting tasks with satellite telemetry data is being developed.
- Portal aims to automate spacecraft health monitoring tasks for ISRO scientists and provide alerts about spacecraft health without significant manual intervention.

Medical Application

- The medical applications group supported by media lab Asia developed a portable mobile model of printing healthcare delivery which uses ICT and digital devices to contact remotely located individuals requiring medical attention with doctors. The 'Sehat Saathi' software was one of the software for telemedicine.

Foundational Courses

- Mathematics for Computer Science I, II, III
- Computer Organisation, Computer Architecture
- Software Development and Operations
- Principles of Database Systems
- Operating Systems
- Compiler Design
- Theory of Computation
- Principles of Programming Languages,
- Computer Networks
- Computer Systems Security
- Fundamentals of Computing I, II
- Data Structures and Algorithms
- Algorithms II
- Sensing, Comm. and Networking for Smart Wireless Devices
- Introduction to Machine Learning
- Data Mining
- Indexing and Searching Techniques in Databases

Advanced Courses

- Large Language Models (LLMS)
- Blockchain Technology
- Statistical Natural Language Processing
- Deep Reinforcement Learning
- Probabilistic Machine Learning
- Generative Artificial Intelligence
- Advanced Topics in Algorithms and Data Structures
- Computer Vision and Image Processing
- Concurrent Data Structures and Algorithms
- Cryptographic Techniques for Privacy
- Preservation Quantum Computing,
- Topics in Distributed Systems,
- Parallel Computing Program Analysis
- Linux Kernel Programming
- Multi-core and Multiprocessor Architecture
- Programming for Performance
- Functional Programming
- IoT System Design
- Secure Memory Systems

*A detailed list of courses can be found here

Prominent Recruiters

Google
Microsoft
Graviton Research Capital LLP
Da Vinci Derivatives
Cisco
databricks
Optiver
SAP
glean
Quadeye
stripe
OLA
mastercard
Tower Research Capital
Goldman Sachs
Qualcomm
NVIDIA
paytm
Uber
intel
ABACUS.AI
NK Securities Research
sprinklr
micron
SAMSUNG
CARS24
ATLASSIAN
zomato
harness
amazon
Square Point
NUTANIX
BARCLAYS
ORACLE
Adobe
Myntra
EATON
McKinsey & Company
J.P.Morgan
Walmart
Texas Instruments
ZACROS
BNY
American Express
MathWorks
ThoughtSpot
CDAC
Morgan Stanley

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