

Ahmedabad
University

MTech

Master of Technology

COMPUTER SCIENCE AND ENGINEERING





Ahmedabad University

About Us

- Established in 2009
- Leading private, non-profit research university
- Liberal education focused on interdisciplinary learning, practice orientation, and research thinking
- Prepares critical thinkers who are analytically equipped, practically oriented, and contextually aware global citizens
- Six schools and nine centres bringing liberal arts, sciences, and the professions to engage together in knowledge creation for addressing complex challenges of the society
- Curriculum offering majors that merge the boundaries of disciplines to prepare students for the new economy



School of Engineering and Applied Science

The school delivers undergraduate and graduate engineering programmes with extensive student-centric pedagogies to achieve excellent learning outcomes. Our project-based educational approach helps shape dynamic and proactive graduates with capabilities for lifelong learning, complex problem-solving, design and innovation, and adaptation of technology towards meeting the needs of society. We not only teach technology but actively guide and nurture its use in ways that may be unattainable with conventional approaches.

Amrut Mody School of Management ▪ Bagchi School of Public Health ▪ School of Arts and Sciences
 ▪ School of Engineering and Applied Science
 ▪ Undergraduate College ▪ The Graduate School

Ahmedabad Design Lab ▪ Centre for Heritage Management ▪ Centre for Learning Futures
 ▪ Global Centre for Environment and Energy ▪ Sahyog: Centre for Promoting Health ▪ Stepwell Centre for Asian Futures
 International Centre for Space and Cosmology ▪ The Climate Institute
 ▪ The Institute of Manufacturing and Economy ▪ VentureStudio

Message from the Dean

Ahmedabad University is committed to providing an education that prepares students to think critically and creatively enabling them to emerge as independent thinkers and compassionate leaders. The School of Engineering and Applied Science has created curricula that help students grow intellectually, personally, and professionally so that they may thrive themselves and also help others thrive.

The School's infrastructure, comprising contemporary advanced facilities, well-equipped laboratories, and a large and well-stocked library, fosters a conducive environment for learning. Our students are also supported and mentored by faculty, who are active researchers and engage students in their academic pursuits. Additionally, the school promotes holistic development and participation among students through workshops, conferences, and other extracurricular events organised on campus. We deliver a sound engineering education and a nuanced approach for tackling real-world challenges.

Professor Sunil Kale

Dean

School of Engineering and Applied Science

PhD (Stanford University)



Why Study

MTech in Computer Science and Engineering

at Ahmedabad University?

Specialisation in Data Science and Analytics; and Artificial Intelligence: Focused on cutting-edge applications and technologies making graduates highly sought after in the industry.

Future-Ready & Industry-Aligned Curriculum: Develop analytical, conceptual and technological skills through hands-on projects, case studies, and research opportunities. Designed by faculty and industry experts, our program directly aligns with current technological trends and practical applications.

Flexible Learning for Working Professionals: Designed for working professionals, the programme offers a flexible structure, such as weekend and evening classes, to facilitate upskilling while maintaining career continuity.

Strong Industry and Research Collaborations: Ahmedabad University's strong industry ties, including collaborations with leading AI and Data Science companies and research labs, provide students with internships, projects, and career opportunities.

Expert Faculty: Learn from renowned academicians and industry leaders with expertise in Big Data Analytics, Machine Learning, Cloud Computing, Data Science, and AI.

State-of-the-Art Infrastructure: Access to advanced computing labs, high-performance servers, and AI research facilities.

Career & Placement Support: Dedicated career support with placement assistance, mentorship programmes, and networking opportunities.



Master of Technology in **Computer Science and Engineering**

The advent of emerging technologies in recent times has led to rapid advancements in computer science and engineering, transforming the field exponentially. These technologies are driving innovation across industries, creating new opportunities, and becoming increasingly interdisciplinary, marking a crucial moment in the impact of technology on our daily lives.

Given that continuous learning and adaptation are imperative to remain current with the rapid pace of technological change, the School of Engineering and Applied Science offers a Master of Technology programme in Computer Science and Engineering, specialising in Data Science and Analytics. Furthermore, the School has introduced a specialisation in Artificial Intelligence, commencing in the academic year 2024-2025.

The specialisation in Data Science and Analytics trains students in applied mathematics, statistics, and computer science, enabling them to apply their knowledge to real-world domains such as finance, energy, supply chain management, agriculture, and e-commerce. Data Science focuses on the collection, preparation, analysis, and visualisation of large datasets—including multimodal and unstructured data—to derive meaningful insights.

Programme Highlights

- 2-year programme
- Student-centric pedagogy
- Expert Faculty
- State of Art Computing Infrastructure
- Industry-Oriented courses
- Project-based problem-solving approach
- Deep, interdisciplinary education that builds skills and perspectives
- Flexible Learning
- Career & Placement Support



Programme Overview

Credits

Programme Core

28

Programme and Specialisation Electives

15

Technical Communication

3

Research Project Proposal

3

Major Project I and II (Off-Campus Industry Project OR On-Campus Thesis)

32

TOTAL

81



Curriculum Structure

• Semester 1

- Advanced Data Structures and Algorithms
- Statistical Learning
- Computational Thinking
- Artificial Intelligence
- Artificial Intelligence Lab

• Semester Break

Minor Project

• Semester 2

- Technical Communication (common for MTech Programs)
- Machine Learning Theory and Practice
- Deep Learning
- Applied Data Science
- Data Science Lab
- Elective 1
- Elective 2

• Summer

Research Project Proposal

• Semester 3

- Major Project (Part 1) [Off-campus Industry OR On-campus Thesis]
- Cloud and Large-Scale Computing / Any new proposed electives
- Elective 3

• Semester 4

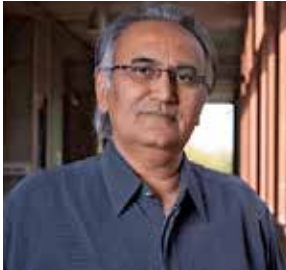
- Major Project (Part 2) [Off-campus Industry OR On-campus Thesis]
- Elective 4

Electives:

From Computer Vision: Modern Methods and Applications, Social Network Analysis, Data Analytics and Visualization, Big Data Analytics, and Introduction to Blockchain: Technologies, Approaches and Applications and any new proposed electives



Faculty



Sanjay Chaudhary

PhD
(Gujarat Vidyapeeth)

Computer Science
and Engineering



Mehul Raval

PhD
(Pune University)

Computer Science
and Engineering



Amit Nanavati

PhD
(Louisiana State University)

Computer Science
and Engineering



Dhaval Patel

PhD
(Nirma University)

Computer Science
and Engineering



Jayendra Bhalodiya

PhD
(The University of Warwick)

Computer Science
and Engineering



Souvik Roy

PhD
(Indian Institute of Engineering
Science and Technology
Shibpur)

Computer Science
and Engineering



Kuntal Patel

PhD
(Hemchandracharya North
Gujarat University)

Computer Science
and Engineering



Shashi Prabh

PhD
(University of Virginia)

Computer Science
and Engineering



**Srikrishnan
Divakaran**

PhD
(Rutgers University)

Computer Science
and Engineering



Shefali Naik

PhD
(Sardar Patel University)

Computer Science
and Engineering



Career Prospects

The programme equips students with advanced technical expertise and industry-relevant skills through theoretical and practical learning, research, and industry collaborations. Industry partnerships facilitate internships, live projects, and job opportunities with top AI, data science, and software development companies.

Ahmedabad University actively engages with leading tech firms, research institutions, and startups to offer campus recruitment drives, industry talks, and hackathons. The programme also encourages students to explore entrepreneurial ventures and research opportunities.

Graduates from the programme have career prospects in AI research, data analytics, software engineering, and emerging fields like blockchain and cybersecurity. With a strong academic foundation and industry exposure, students are well-positioned for high-paying roles in India and globally, making Ahmedabad University an excellent choice for career-focused MTech aspirants.

AI and Machine Learning

- AI Research Scientist
- Machine Learning Engineer
- Computer Vision Engineer
- NLP Engineer (Natural Language Processing)

Technology Entrepreneur

Launching independent business ventures leveraging AI, data, or software products.

Data Science & Analytics

- Data Scientist
- Data Engineer
- Business Intelligence (BI) Developer

Software Engineering & Emerging Tech

- Software Engineer / Full-Stack Developer
- Blockchain Developer / Engineer
- Cybersecurity Analyst / Engineer Innovation & Research

Career Planning and Placement

The Career Development Centre (CDC) at Ahmedabad University prepares students for successful careers by offering access to significant resources. It enables them to explore, discover, develop, and pursue personal and professional goals, while facilitating their connection to the corporate world in alignment with those goals. MTech students can tap such active connections to attain summer internships at the end of their first year. The CDC also facilitates final placement of students and prepares them for successful careers by augmenting their technical and technological skill sets.

The CDC is thus committed to working with students across various levels of career development, ranging from interest to assessments, networking opportunities to job searching strategies, and all other requirements.

Career Development Centre

Role of the CDC

The objective of the CDC is to:

- Help build a solid and active University-industry interface;
- Enhance students' career readiness through coaching, counselling, instruction, innovative programming, and aligning with prevalent industry trends;
- Organise various forums for students and faculty to engage with the industry, such as guest lectures, career masterclasses, workshops, seminars, conferences, and projects;
- Provide experiential learning opportunities to students through internships;
- Assist students in achieving their career goals by connecting them with recruiters; and
- Promote a sense of responsibility among students for lifelong career development efforts through exploration, education, and experience.

How Can the CDC Help You?

The CDC offers support to students in the following areas:

- Career counselling, guidance and planning
- Career assessment and testing
- Career development workshops and interactions with industry leaders
- Industry engagement (guest lectures, seminars, and research projects, among other things)
- Placement and internship assistance
- Campus-to-corporate training, including:
 - o Professional grooming sessions;
 - o Personality development workshops;
 - o Communication proficiency interventions;
 - o Resume writing workshops;
 - o Mock group discussions and personal interviews;
 - o Quantitative, analytical and logical practice tests; and
 - o Aptitude practice tests.

Campus Infrastructure

The Ahmedabad University campus offers a modern, sustainable, and fully networked environment designed to enrich the learning experience. The state-of-the-art infrastructure at the University includes modern and technically equipped classrooms, laboratories, a central library, and other learning resources. It provides comprehensive facilities for student well-being, including accommodation, sports facilities, cafes, spaces for recreation, and a wellness centre.

The award-winning University Centre is a vibrant hub for exchange of ideas, informal meetings, and social events. The eco-friendly campus, characterised by a rich biodiversity, has implemented sustainability strategies to enhance resilience against extreme heat, reduce water runoff, and augment green spaces for the entire community.

Student Housing

The Ahmedabad University student residences offer high-quality, comfortable, and secure living accommodations. Committed to fostering a sense of community, the residencies celebrate diversity in ideas, lifestyles, and cultural practices, providing a true home-away-from-home experience.

Located within a one-kilometer radius of Ahmedabad University's Central Campus, the residencies offer air-conditioned accommodations on a sharing basis, subject to availability. Shared dining halls, gymnasiums, and recreational spaces are available for residents' convenience. The University also provides transportation to and from the campus. All residencies are under 24/7 security surveillance, with wardens, security guards, CCTV cameras, and on-call medical services ensuring residents' safety and wellbeing.

Life at Ahmedabad

At Ahmedabad University, learning extends beyond the classroom. Vibrant student clubs, cultural events, and a robust support system create a strong community. On campus, students receive the support and resources they need to succeed.

Located in the heart of Ahmedabad, India's first UNESCO World Heritage City, the University offers a unique blend of academic excellence and cultural experiences. The city's vibrant mix of tradition and modernity provides an inspiring backdrop for holistic education and exploration. The city brims with opportunities for students who can participate in inter-college competitions, music and performance festivals and explore ancient monuments, vibrant markets, and more.

Student Testimonials

"The programme proved to be a transformative experience. The curriculum is designed to bridge the gap between academia and industry, providing hands-on learning through real-world projects. The faculty, with their extensive research and industry expertise, guide us in understanding complex AI models and data-driven solutions. The programme has significantly enhanced my problem-solving skills and prepared me for leadership roles in AI-driven industries."



Krina Khakhariya

Class of 2026

Ahmedabad University



Abhishek Gandhi

Class of 2026

Ahmedabad University

"Choosing Ahmedabad University for my MTech in CSE was one of the best decisions of my career. The programme is well-structured, offering a perfect blend of theoretical concepts and practical applications. The University's focus on interdisciplinary learning and industry collaborations has exposed me to cutting-edge technologies. The small batch size ensures personalised mentoring, and the workshops and networking events have opened doors to exciting career opportunities."

Accreditations and Awards

- Recognised by University Grants Commission to award degrees under Section 22 of the UGC Act, 1956, in 2010.
- Recognised by the Government of Gujarat as a Centre of Excellence.
- Accredited with an 'A' grade by the National Assessment and Accreditation Council (NAAC).
- Awarded a 5-star rating, one of the highest awarded in the Gujarat State Institutional Rating Framework (GSIRF) for 2021-22 by the Knowledge Consortium of Gujarat (KCG), Department of Education, Government of Gujarat.
- Recognised by the UGC under Section 12(B) of the UGC Act, becoming one of the few private research universities to have been awarded this recognition for select research universities.
- Recognised as a Highly Commended University for Teaching and Learning Strategy of the Year in the Times Higher Education (THE) Awards Asia 2023.
- Awarded the Association to Advance Collegiate Schools of Business (AACSB) Innovations That Inspire Award 2023 for its Foundation Programme.
- Awarded Platinum Rating by the Indian Green Building Council for achieving the Green Building Standards at our University Centre.
- Awarded the Royal Institute of British Architects (RIBA) International Award for Excellence 2024 for our University Centre.

Admissions

Eligibility

Candidates must hold a BE/BTech degree in any branch of engineering or a master's degree in sciences equivalent to MS (Mathematics), MS (Statistics), MCA, MS (IT), MS (ICT), BS (CS), BS (Physics).

Admission Process

- Candidates must apply through the online application form with payment of a non-refundable application fee of INR 1,200 (inclusive of GST). Upon online registration, candidates are issued a unique login ID, which should be used for subsequent admission process correspondence.
- GATE/ CUET-PG Qualified Candidates: Applicants with a valid GATE or CUET-PG score are exempt from the University's written entrance examination and will be called directly for a Personal Interaction.
- Non-GATE/ CUET-PG Candidates: Applicants who do not possess these scores are required to appear for a Written Entrance Exam conducted by the University.
- Final Selection: For all applicants, regardless of the entry path, final selection is contingent upon a mandatory Personal Interaction session.
- All the shortlisted candidates are invited to participate in the Personal Interaction (PI) round for admission. After that, the admission offers are made to the eligible candidates.

Financial Support

At Ahmedabad University, we believe that finances should not stand in the way of pursuing education.

All admitted students will be eligible to receive a monthly stipend, subject to undertaking Teaching Assistantship (TA) responsibilities for courses assigned by the University.

- INR 12,000 per month (GATE-qualified candidates)
- INR 8,000 per month (Non-GATE candidates)

These fellowships are not applicable to industry-sponsored students.









**Ahmedabad
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