# Mehta Family School of Data Science and Artificial Intelligence

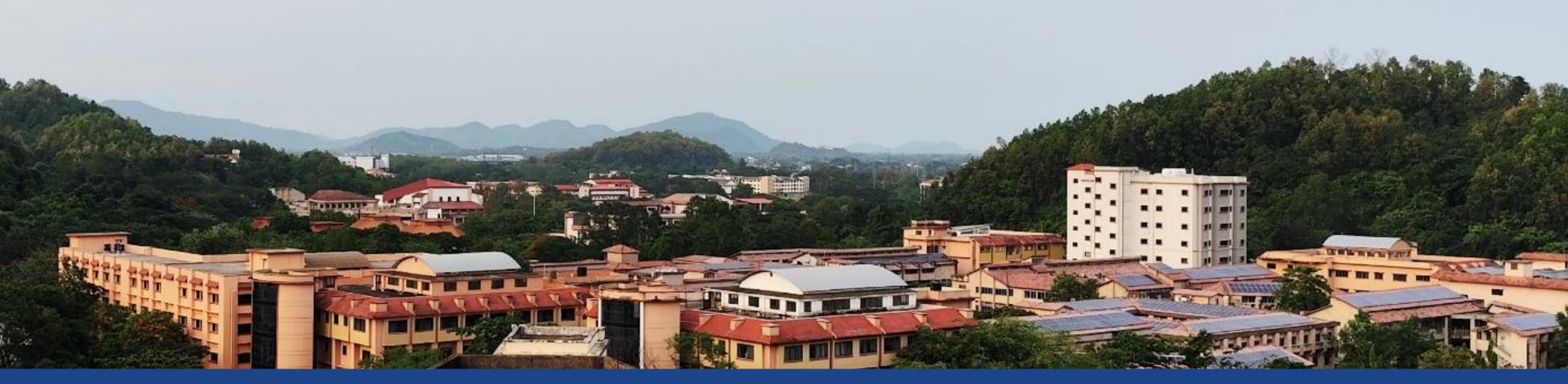
Indian Institute of Technology Guwahati
Assam, India

Placement Brochure 2025–26

BTech in Data Science and AI Degree Program >>>

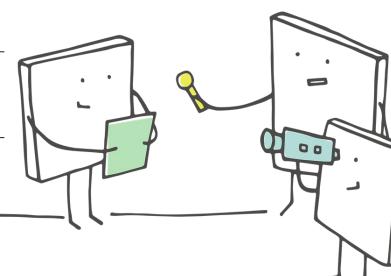






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# Who we are



## About the Institute

Established in 1994, the Indian Institute of Technology Guwahati is the sixth member of the IIT fraternity and a leading centre for higher education, research, and innovation in India. In just a few decades, it has emerged as a globally recognized hub of excellence.

The picturesque campus, spread across 285 hectares on the northern bank of the Brahmaputra River, is located about 15 km from Lokpriya Gopinath Bordoloi International Airport in Guwahati. With its harmonious blend of natural beauty and modern infrastructure, the campus provides an ideal environment for learning, research, and holistic development.



IIT Guwahati offers a diverse range of academic programmes — B.Tech., B.Des., Online B.Sc. (Hons.), M.Tech., M.Des., M.Sc., MBA, M.A., MS(R), and Ph.D. — spanning 11 departments, 9 interdisciplinary centres, and 5 schools across engineering, science, humanities, healthcare, and management. The Institute is equipped with world-class infrastructure, state-of-the-art laboratories, and national research centres that foster cutting-edge research.

Students benefit from interdisciplinary coursework, options for minor degrees, and a wide range of open and interdepartmental electives. With MoUs signed with top international universities, IIT Guwahati facilitates semester exchanges and summer internships, enhancing global exposure. Our students also intern with leading global firms and research institutions, gaining invaluable real-world experience.

# School in a snapshot



Mehta Family School of Data Science and Artificial Intelligence | Understanding, Building and Sharing Intelligence Since 2021

Establishment	Founded in April 2021
Aim	Be a leading place pursuing education, research and development, enabling engineering intelligence for the benefit of science, technology and society
R&D pursuits	Building datasets, designing algorithms, and advancing Data Science & Al applications across science and engineering domains, with demonstrable national and global impact
Educational goal	Nurture curious minds, from India and across the world, with excellent undergraduate and postgraduate programs on data science & artificial intelligence

## **Locate Us:**

We are geographically located at the gateway to North-East India, in the city Guwahati, Assam, India

(15 kms from the International Airport)



Website: <a href="https://www.iitg.ac.in/dsai/">https://www.iitg.ac.in/dsai/</a>



## Shaping the Future of Data Science & AI

Founded in 2021, the School of Data Science and Al has, in four years, built a robust faculty of 20+ — including 10 core faculty with PhD, post-doctoral and industry R&D experience in DS&Al, and 15 associate faculty from EEE, Mathematics, CSE, BSBE, Chemical Engineering and Physics, adding strong interdisciplinary depth.

In its inaugural year the School launched a visionary BTech in DS&AI — one of the few undergraduate engineering degrees of its kind globally — and a PhD programme to anchor R&D. In 2023 it contributed to the interdisciplinary MTech in Data Science (with Mathematics and EEE) and, in October 2023, launched a fully online BSc (Hons.) in DS&AI with faculty-designed, flexible content, multi-entry/multi-exit options and campus immersion opportunities to reach diverse learners.

On the research front, the School pursues end-to-end data science: capture, modeling and prediction — from fundamentals to engineering solutions — with applications in mobile-edge communications, AI in healthcare, face/hand gesture and spoken-language recognition for Indian contexts, visual-field processing, conversational AI, ML reliability testing, time-series analysis, generative AI and more. Faculty and students regularly publish and engage in outreach, translating research into real-world impact.



# Funding Agencies & Collaborations





















## Message from Head of School

Dear Industry Partners and Recruiters,

With great pride and excitement, I introduce to our second batch of B. Tech students in Data Science and Artificial Intelligence (DS&AI) from the Mehta Family School of Data Science and Artificial Intelligence at IIT Guwahati, who will graduate in 2026.

Our curriculum, designed to meet the dynamic needs of the Al-driven future, blends rigorous theoretical foundations with practical, hands-on experience across diverse disciplines. The batch of B. Tech students scheduled to graduate in 2026, represent the vanguard of India's data science and Al-skilled workforce. They have been nurtured in an environment that encourages interdisciplinary thinking, innovative problem-solving, and ethical considerations in Al applications. Their training spans mathematics, computer science, electrical engineering, and extends into fields such as psychology, humanities, chemistry, and biology, preparing them for the multifaceted challenges of the Al landscape. The Mehta Family School's commitment to excellence is evident in our expanding academic offerings, including B. Tech, M. Tech, and Ph.D. programs, and our groundbreaking online B.Sc. (Hons.) in DS&Al. Our state-of-the-art facilities, currently under construction, further underscore our dedication to providing a world-class learning environment.



By choosing our graduates, you are not just recruiting employees; you are partnering with future leaders and innovators in the field of Data Science and AI. They are equipped to drive technological advancements, spearhead data-driven decision-making, and contribute significantly to your organization's growth in the AI era. We invite you to engage with our talented students and explore the myriad ways in which they can add value to your teams. We look forward to building lasting partnerships that will shape the future of AI and data science. Thank you for considering our graduates. We are confident that they will exceed your expectations and make substantial contributions to your organization's success.

Sincerely,

Prof. Ratnajit Bhattacharjee Head, Mehta Family School of Data Science and Al IIT Guwahati

## Message from Placement Coordinator

Dear Esteemed Recruiters,

As the Faculty in charge of Placements at the Mehta Family School of Data Science and Artificial Intelligence, IIT Guwahati, I am happy to present our second batch of B.Tech graduates in Data Science and Al. Our students have been meticulously prepared to meet the evolving demands of the industry. This includes the following.

- Cutting-edge Skills: They are proficient in the latest tools and technologies, including advanced machine learning frameworks and big data technologies.
- Practical Experience: Through industry collaborations, internships, and bachelor term projects, our students gain real-world experience in applying DS&AI solutions to complex problems.
- Interdisciplinary Approach: Our unique curriculum has equipped them with the ability to apply DS&AI techniques across various domains, from finance to healthcare, manufacturing to environmental sciences.
- Ethical AI: We have instilled a strong sense of ethical responsibility, ensuring our graduates consider the societal implications of AI in their work.
- Research Orientation: Several students contribute to research projects, demonstrating their capability for critical thinking.



Sincerely,

Neeraj Kumar Sharma, PhD School Placement Coordinator, Assistant Professor, Mehta Family School of Data Science and Al IIT Guwahati

# School's Academic Strength >>>

# Our Degree Programs

BTech in Data Science & Al Online BSc. (Hons.) in Data Science & Al

MTech in Data Science

**PhD** 

While making an impact with R&D through Data Science & AI, we cherish the opportunity to teach undergraduate and postgraduate students, and PhD Scholars.

Our degree programs in Data Science & Al are visionary, and amongst the early ones not only in India but globally as well.



Oct, 2021 First Batch of BTech in DS&Al joins



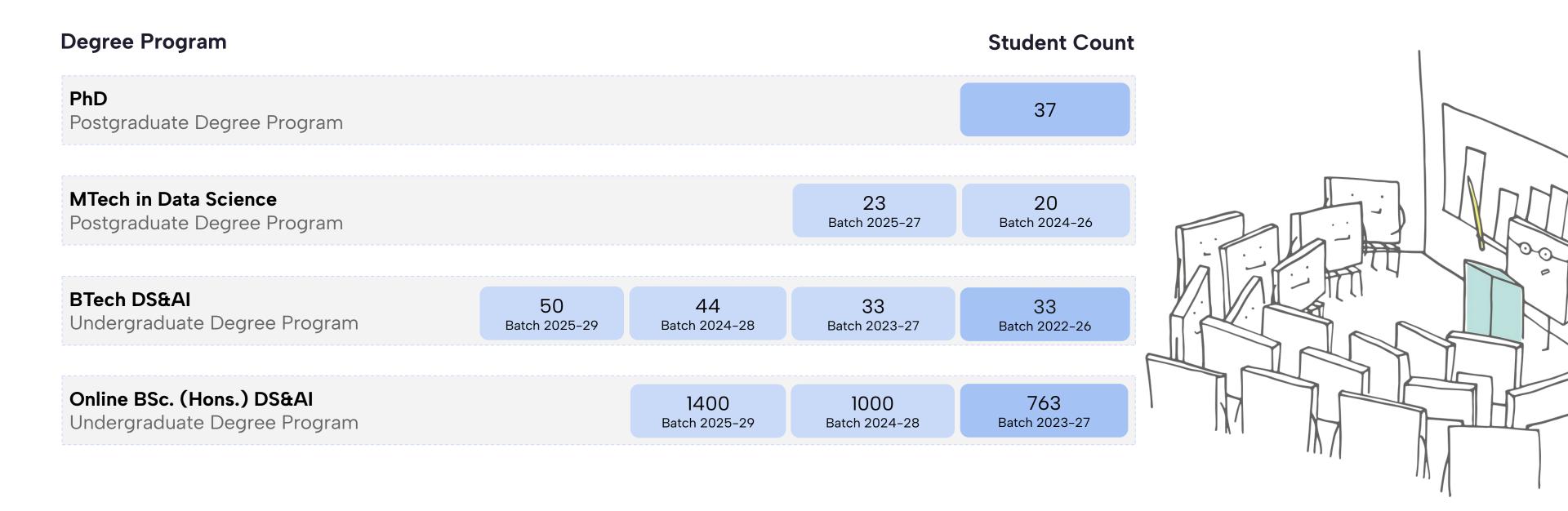
Jul,
2023

Joins hands with
Depts. EEE and
Mathematics to
offer MTech in
Data Science





## Our Student Pool



# Faculty Pool

**10** Core Faculty

**15** Associate Faculty

2 Distinguished Faculty

**3** Strategic International Academic Advisors

With PhDs from globally recognized institutes And R&D expertise gained by working in national and international labs, our Faculty are demonstrating impact of DS&AI on a range of application areas.

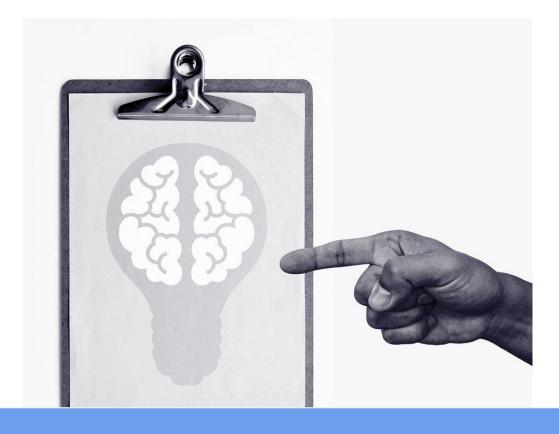


## Research Pursuits

#### Al-Driven Vision & Multimedia Intelligence

This theme unites cutting-edge advances in computer vision, multimodal AI, and deep learning for visual and multimedia understanding. Research includes image and video enhancement, object detection, segmentation, captioning, and storytelling, as well as deepfake detection and super-resolution across challenging weather conditions. The group emphasizes building robust, scalable models that perform reliably in real-world environments, from multimedia recommendation systems to automated surveillance.





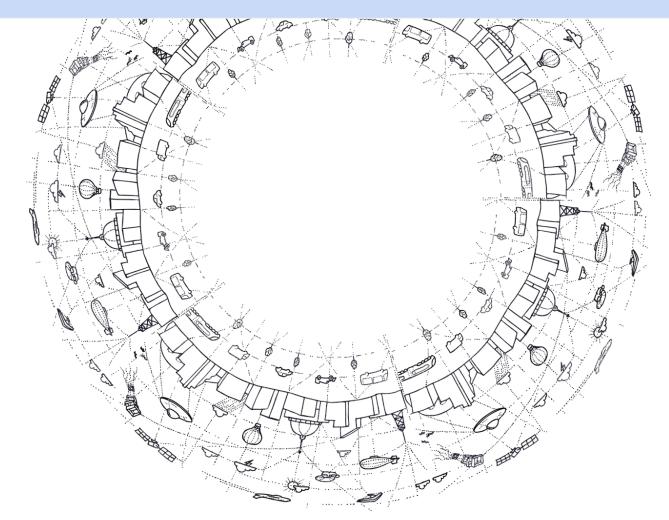
## Signal Processing & Neuro-Inspired Al

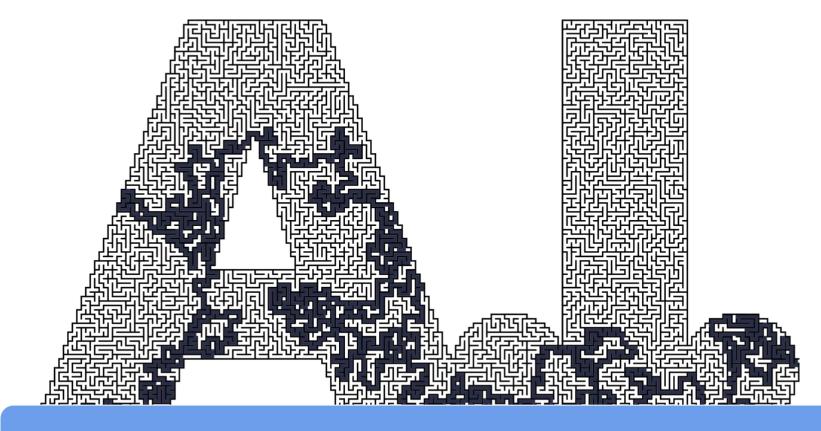
Focusing on speech, audio, biosignal, and neuro-AI, this area explores sophisticated signal representations and biologically inspired learning systems. Projects involve speech and EEG modeling, multimodal representation learning, computational neuroscience, and neuromorphic systems that mimic brain-like processing. By bridging human perception and machine intelligence, this theme advances AI that learns and adapts in ways akin to natural systems.

## Research Pursuits

## Statistical Modeling & Predictive Reliability

Dedicated to rigorous statistical inference, the modeling of complex systems, and real-world reliability analysis, this area encompasses parameter estimation, robust modeling techniques, Bayesian methods, and reliability under stress. Applications range from manufacturing reliability and life-testing to anomaly detection in dynamic environments. These methodologies are critical for designing systems that withstand uncertainty and offer predictive insights.





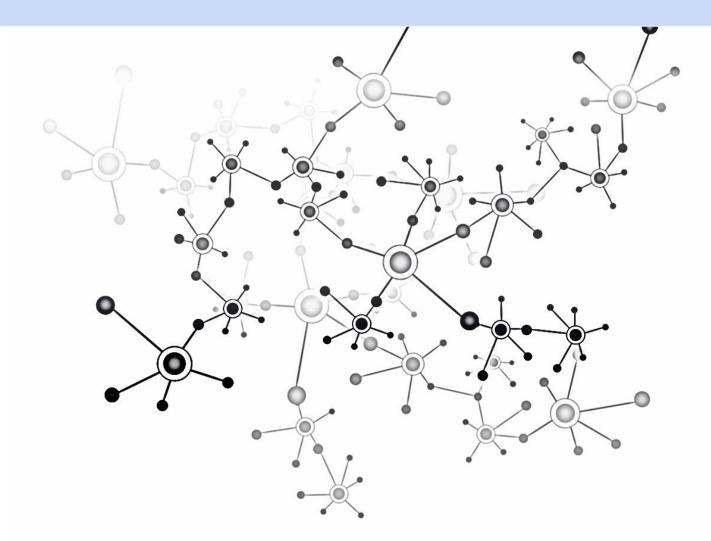
## Reinforcement Learning & Optimization in Networks

This area harnesses probabilistic control, reinforcement learning, and stochastic optimization for resource allocation and dynamic decision-making in complex systems. Core pursuits include Markov decision processes, multi-armed bandits, and optimal control applied particularly in wireless networks, IoT, and mobile edge computing contexts. The goal is to craft intelligent adaptive systems capable of efficient, autonomous decision-making under uncertainty.

## Research Pursuits

#### Finance, Risk Modelling & Sustainable Analytics

This theme applies data science to finance, covering portfolio optimization, derivative pricing, financial risk, and sustainable investment strategies. The center of gravity lies in integrating statistical and computational methods to model market dynamics, quantify risk, and support decision-making in sustainable finance. This strengthens the paradigm of responsible and resilient financial systems.





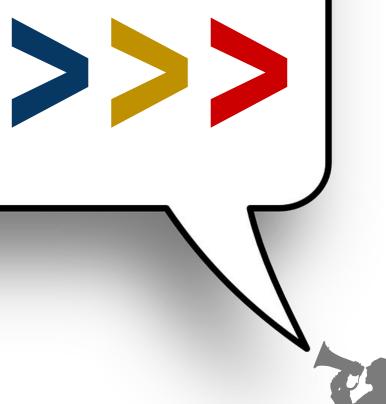
## **Equity-Aware AI & AI for Social Good**

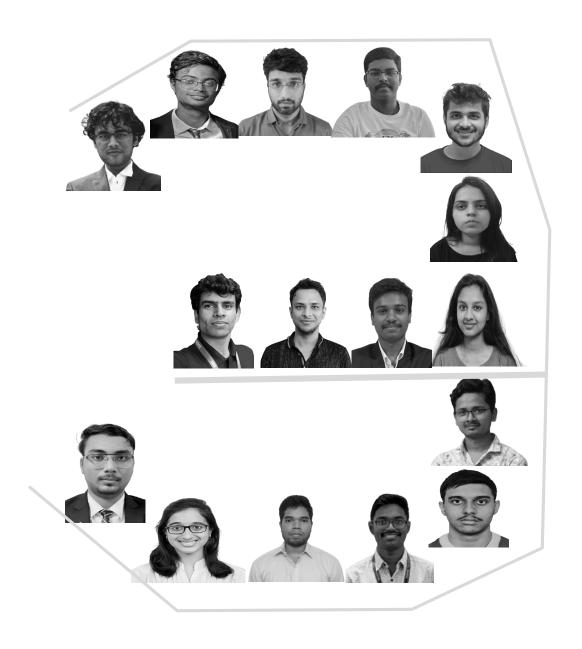
Here, the department tackles societal challenges through AI for equity and accessible healthcare. Research spans bias reduction using transfer learning for data-disadvantaged groups, developing racially unbiased AI models, and creating AI-based disease screening systems using body signals and respiratory audio. This theme exemplifies the school's commitment to inclusive AI and socially impactful innovation.





Hire the Future of Data Science & AI.







DS & AI
Innovators
in the Making

# BTech in

## Data Science and Artificial Intelligence (DS&AI)

#### About

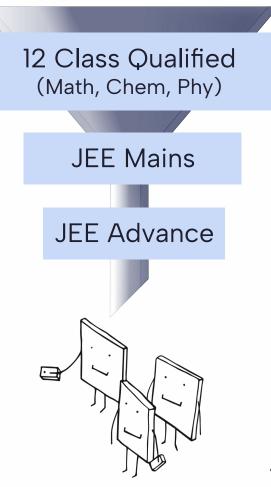
The launch of the BTech in Data Science and AI (DS&AI) program in 2021 exemplifies IITG's commitment, as it recognizes the rapid advancements in data science and AI, and the potential for the profound societal impact resulting from its progress. This **four year program** has been designed in collaboration with academic advisors from the Mehta Family Foundation Care, USA with the purpose of cultivating a new generation of DS&AI engineers who will be at the forefront of the data science and AI-aided revolution shaping this century.

By equipping students with cutting-edge knowledge and skills in DS&AI, IIT Guwahati aims to empower them to be key contributors to the transformative potential of data science and AI across various industries and domains.

#### Admissions

This program admits students through the highly competitive JEE Advanced exam, which is the gateway to all IITs in India. Candidates must first qualify JEE Mains before appearing for JEE Advanced, where top-ranking students are selected based on merit.

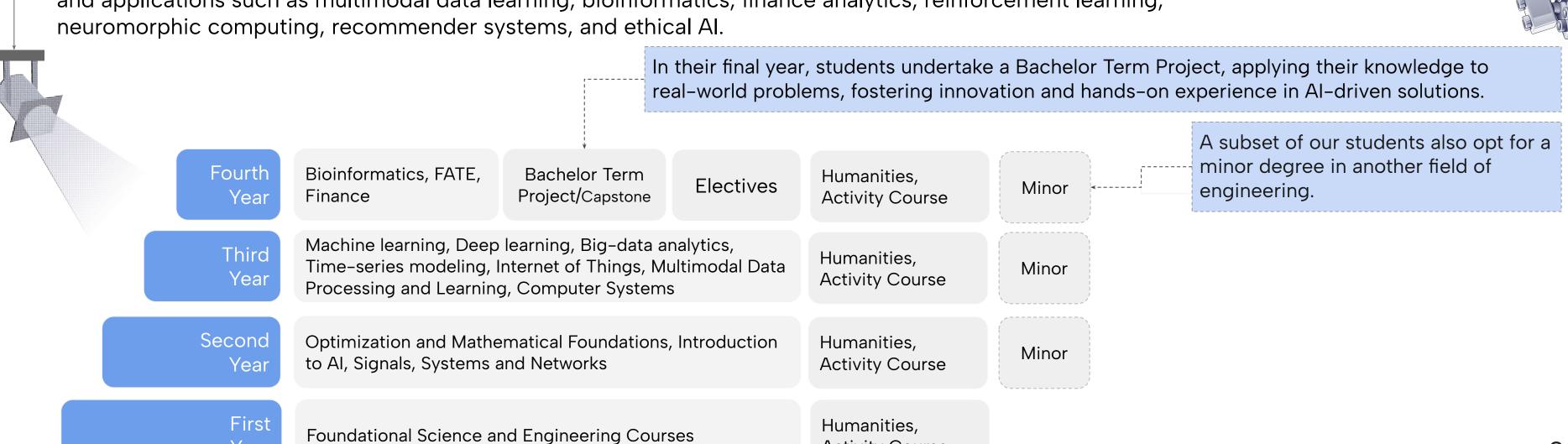
The rigorous selection process guarantees that students possess exceptional analytical and problem-solving skills, essential for success in the field. The program attracts some of the brightest minds from across the nation.



## Curriculum

Our BTech in Data Science & Artificial Intelligence (DS&AI) provides a comprehensive and interdisciplinary education, covering core subjects in sciences, computer science, mathematics, engineering and humanities, alongside specialized courses in data science, big data analytics, machine learning, and AI and its applications.

Students are trained in foundational topics like physics, electronics, and chemistry, building towards advanced theory and applications such as multimodal data learning, bioinformatics, finance analytics, reinforcement learning, neuromorphic computing, recommender systems, and ethical AI.



**Activity Course** 

20

## Courses

#### Foundational Sciences and Engineering

Chemistry
Basic Electronics
Physics-I
Introduction to Biology
Physics-II
Engineering Mechanics
Engineering Drawing
Basic Electronics Lab
Workshop/Physics Lab
Chemistry Lab

#### Programming and Computing Skills

Introduction to Computing
Python Programming Lab
Computing Lab
Algorithms & Data Structures
Algorithms and Data Structures Lab
Machine Learning Laboratory
Advanced Machine Learning Laboratory
Database Management Systems
Database Management Systems Lab
Computer Systems

## Artificial Intelligence and Machine Learning

Introduction to Artificial Intelligence Machine Learning Deep Learning (DL) FATE in Al Models

#### Mathematical Foundations

Linear Algebra
Real Analysis
Multivariate Calculus
Partial Differential Equations
Discrete Mathematics
Introduction to Optimization
Applied Probability & Random Processes
Statistical Foundations for Data Science

### Signals and Systems

Signals, Systems & Networks Internet of Things Privacy and Information Security

#### Data Science and Analytics

Introduction to Data Science
Big Data Analytics: Tools & Techniques
Data Mining
Data Analytics for Finance
Data Visualization
Applied Time Series Analysis
Bioinformatics

### Applied ML

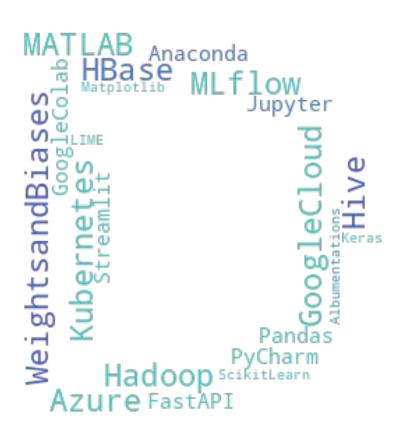
Multi-modal Data Processing & Learning - I Multi-modal Data Processing & Learning - II Computing with Signals Image Processing with Machine Learning Advanced topics in Reinforcement Learning Fuzzy systems and Applications Recommender System Design using DL Neuromorphic AI

### Capstone Project

Bachelor Term Project (final year project)

# Hands-on Competencies

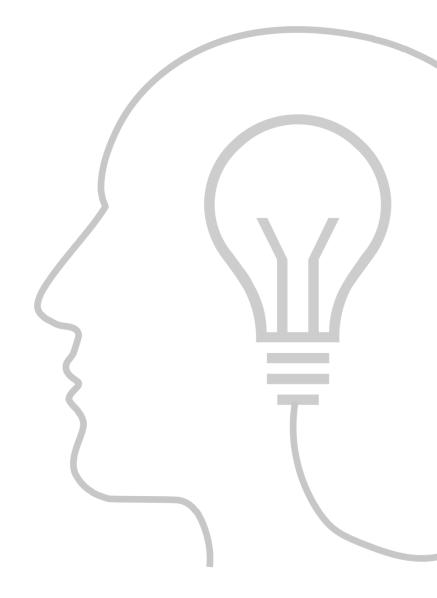
Our students are familiar with diverse programming languages, IDEs, software libraries, and operating systems. This ensures they are well-equipped for real-world applications in data science and AI.











# BTech Term Projects

Every BTech student undertakes a year-long thesis capstone project, designed to bridge classroom learning with real-world problem solving.

Below is a listing of the BTech projects being pursued by the 2022-25 batch, scheduled to graduate in 2026.

Biomedical Healthcare Medical Image Analysis using Transfer Learning - Leveraging pretrained models to improve disease detection and classification from medical scans.

Modelling Physical Cell Characteristics for Cancer Treatment – Simulating cellular structures with AI to mimic in-vitro systems for cancer research.

Building Multimodal Models for Healthcare – Combining diverse data (images, text, audio) to improve healthcare predictions.

Mapping Drug-Target Interactions and Immunomodulators – Using AI to predict drug-target binding and discover effective drug synergies.

Equitable Precision Medicine: Transfer learning, Meta-learning, Few-shot learning – Personalized treatment prediction with limited patient data.

Climate & Environmental Al

Climate Change Forecasting using Deep Time Series Models – Using deep learning on long-term temporal data to model and forecast climate trends.

All-in-one Weather Degraded Video Visibility Improvement – Improving visibility in videos affected by fog, haze, rain, and low-light conditions.

Natural Language Processing (NLP) **Topics in NLP** – Broad research directions in natural language processing.

Literary applications of Large Language Models - Applying LLMs in literature, poetry, and creative writing.

**LLM for Indian Insurance Sector** – Domain-specific LLM applications in financial/insurance services.

# BTech Term Projects

These projects allow students to apply theoretical knowledge from their coursework to practical challenges, deepening their understanding of advanced AI and data science concepts.

Below is a listing of the BTech projects being pursued by the 2022-25 batch, scheduled to graduate in 2026.

Computer Vision Computer Vision: Object detection, Classification, Identification, Recognition, Image enhancement, Image matching - Broad applications of Al in visual understanding.

Multimodal Deepfake Detection – Detecting Al-generated forgeries using multimodal signals.

Computer Vision using Agentic AI – Vision models with reasoning and action-driven intelligence.

**Zero-Shot Learning for Rare Object Recognition** – Identifying unseen objects without prior training examples.

Vision Language Model for Image Segmentation – Using vision-language alignment for precise image segmentation.

Robust estimation of grayscale textures in noise – Enhancing texture recognition in noisy images.

Tiny Vision System - Developing lightweight computer vision systems for resource-constrained devices.

Neuroscience & Cognitive Al

Neuromorphic Local Learning – Brain-inspired local learning algorithms for neuromorphic chips.

Understanding Neural Dynamics of Affordance-driven Action and Action Language Comprehension: An EEG study – Studying brain activity for action-language coupling.

Modelling and comparison of human cognition and Al behavior – Comparative analysis of human vs. Al decision-making.

Bionic Reflex Control of Underactuated Robotic Hand through Reinforcement Learning using Frequency-Enhanced Visuo-Tactile Sensing – Al-driven robotic hand control mimicking human reflexes.

# BTech Term Projects

Pursued with the guidance of faculty supervisors, students engage in experimentation, and development—sharpening their problem-solving, and technical skills.

Below is a listing of the BTech projects being pursued by the 2022-26 batch, scheduled to graduate in 2026.

Communication
Systems &
Networking

Al based caching for next generation wireless communication systems – Intelligent caching strategies to improve 6G networks.

Federated Learning for IoT Networks - Enabling distributed learning across IoT devices.

Bandit algorithms for next-generation WiFi system - Optimizing WiFi access using multi-armed bandit algorithms.

Al enabled cognitive radio network - Adaptive spectrum allocation using Al in cognitive radio systems.

Machine
Learning &
General Al
Methods

On remaining useful lifetime prediction using machine learning techniques – Predictive maintenance using ML-based lifetime forecasting.

**Topics in Recommendation System** – Localizing Events in Videos with Multimodal Queries.

**Model selection in signal processing problems** – Optimizing ML models for signal analysis tasks.

Source Separation using Deep Learning - Audio source separation for Spoken Languages in the Indian Context.

**Approaches to rising up to the ARC Challenge** – Methods to tackle ARC's few-shot, compositional abstraction tasks—e.g., program synthesis, neuro-symbolic search, and meta-learning—to achieve human-like generalization.

Security,
Cryptography &
Privacy

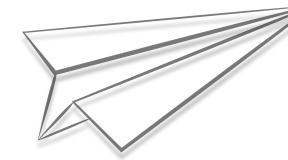
Al Enabled Post-Quantum Cryptography Algorithms – Designing cryptography schemes resistant to attacks from quantum computers.

Design of AI enabled Secret Sharing Schemes – Enhancing data security using AI-driven cryptographic sharing.

Federated Learning for IoT Networks – Applying decentralized learning across IoT devices with limited resources.

# Summer Internship Projects

Internships provide our students with valuable opportunities to apply classroom learning in professional settings. By working on diverse projects with industry and research partners, they gain hands-on experience, practical insights, and skills that prepare them for future careers.



Below is a listing of a few of the internship projects undertaken by the 2022-26 batch, scheduled to graduate in 2026.

Multimodal
Search &
Content

Automated generation of structured JSON for Al-powered Google Chat cards, reducing manual work, minimizing errors, and improving content publishing efficiency. Designed an adaptable system prompt using Few-shot + CoT prompting to handle future data field changes.

Worked on automating information extraction from scanned delivery challans to reduce manual data entry and errors. Developed a chromatic extraction pipeline using computer vision techniques like HSV-based color segmentation, adaptive grid partitioning, and background-foreground separation to enhance OCR accuracy.

Machine Learning & Al Designed and deployed an LLM-powered agent capable of classifying documents and extracting structured data with high accuracy, enabling seamless transformation of unstructured content into actionable insights.

Developed scalable 1:1 face verification and 1:N identification pipelines with robust bias evaluation and mitigation. Benchmarked OCI facial recognition models against state-of-the-art (SOTA) systems performing in-depth comparative analysis to improve performance and reliability.

Worked on a patent which explored novel approaches to present design document context and perform targeted text formatting via MCP servers hooked to AI agents.

Built an Al-agent workflow to detect transaction breaks in financial data and automatically submit key details, replacing a manual process with an end-to-end intelligent automation solution.

Software Development Worked on State-of-the-Art Deepfake Detection and Generation methods in Passive Liveness Detection for Biometric Authentication.

Development of a Mixed-Integer Programming (MIP) based optimization system in Python using Gurobi to jointly optimize production scheduling, warehouse allocation, and transportation under real-world constraints to maximize profit.

Built an MCP server that connects Oracle Fusion with Slack. The idea was to make it easier for teams to get quick answers and updates without jumping between platforms.

# Beyond Academics

Clubs, Societies, Fests and more!

IIT Guwahati's motto of achieving excellence through the amalgamation of mind, body, heart and soul is exhibited through a myriad of extra-curricular activities that range from sports, club activities, hostel events, college fests and other entrepreneurial endeavors.





















## Student Achievements

## Inter IIT Triumphs

Our students have proven their exceptional skills at the Inter IIT Tech Meets, earning one gold and two bronze medals in 2022 and one gold and one silver in 2023, and in 2024 contributing to IIT Guwahati's overall bronze finish, with two of our student achieving 4<sup>th</sup> place in multiple events.

## Leading the way

Our students participate and lead as secretaries and heads in the Coding Club, Al Club, and E-Cell of IITG. Through these activities, students equip with teamwork spirit, and also harness technical skills enabling execution of impactful projects on campus.

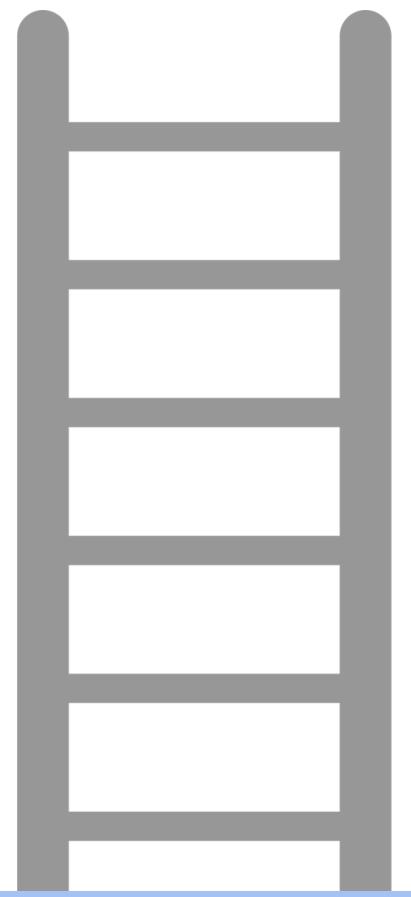
## **Hackathon Achievements**

Beyond the classroom, our students excel in hackathons and competitions, consistently earning recognition for their innovative solutions. These include Kaggle Masters, JPMC Quant Challenge, Nobias Finance Investment Challenge, Amazon ML, Adobe Gensolve, and Citadel Terminal to list a few.

## Research Internships

Our students actively engage in industry and research internships, applying their knowledge to solve real-world problems while building a solid foundation for their future careers.

# Careers >>>



## **Our Recruiters**

Driven by passion, powered by knowledge, our students step confidently into the world's leading companies, driving innovation in application of data science and Al.

Contact us if interested

This can be your company!



























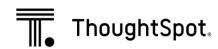






































- Adobe
- **ASEC Engineers**
- Ample Technologies
- **American Express**
- Arisinfra
- BNY Mellon
- Brahmaputra Techno Pharmaceuticals
- DevRev
- FN Mathlogic

- Flynt.social
- Google
- **HSBC**
- IITG
- Info Edge
- Infosys
- Jaguar Land Rover
- JP Morgan Chase

- **KLA Tencor**
- Microsoft
- OLA
- Oracle
- Quadeye
- Recruit
- Salesforce
- Samsung Research

- Schlumberger
- Sprinklr
- Tata Electronics
- ThoughtSpot
- Warner Bros Discovery
- Wells Fargo
- Zepto
- Unify Apps



## Contact Us

#### Co-ordinators from the Mehta Family School of Data Science and Al, IIT Guwahati

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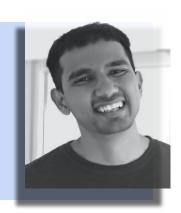
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#### Co-ordinators from the Centre for Career Development (CCD), IIT Guwahati



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#### Office of the Centre for Career Development (CCD)

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