# Mehta Family School of Data Science and Artificial Intelligence

Indian Institute of Technology Guwahati Assam, India

Placement Brochure 2025-26

BTech Data Science and AI Degree Program >>>





### About the Institute

Established in 1994, Indian Institute of Technology Guwahati is the sixth member of the IIT fraternity and one of India's premier institutions for higher education, research, and innovation. Within a short span, the Institute has emerged as a global centre of excellence in science, technology, and design.

The picturesque campus spans 285 hectares on the northern bank of the Brahmaputra River, approximately 15 kms from the Lokpriya Gopinath Bordoloi International Airport, in Guwahati. Boasting of scenic campus with synergistic co-existence of nature and civil infrastructure, it offers a perfect environment for learning, research, and holistic development.



IIT Guwahati offers a wide array of academic programmes including B.Tech., B.Des., Online BSc (Hons), M.Tech., M.Des., M.Sc., MBA, M.A., MS(R) and Ph.D. across 11 departments, 9 interdisciplinary centres, and 5 schools, covering major disciplines in engineering, science, humanities, healthcare, and management.

The Institute has built world-class infrastructure and houses state-of-the-art laboratories and National Centres of Research that support cutting-edge research. Students are encouraged to take up interdisciplinary coursework, pursue minor degrees, and choose from a rich variety of open and interdepartmental electives.

IIT Guwahati has signed MoUs with top international universities, facilitating semester exchanges and summer internships, thereby broadening students' global exposure. Our students regularly intern at leading global firms and research institutions, gaining invaluable real-world experience.

Ranked among the top 100 world universities under 50 years by Times Higher Education (THE), IIT Guwahati continues to excel globally. The Institute was ranked 42nd globally in 'Research Citations per Faculty' and 344th overall in QS World University Rankings.

# School in a snapshot

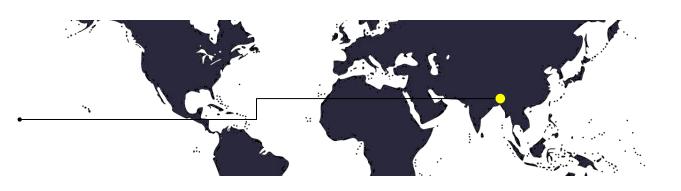


Mehta Family School of Data Science and Artificial Intelligence | Understanding, Building and Sharing Intelligence since 2021

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	Creating datasets, designing algorithms, implementing computationally efficient data processing and interpreting engineering pipelines, across domains of science and engineering, and demonstrating 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



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



### Shaping the Future of Data Science & AI

**In four years**, the School has built a robust faculty pool with over 20 members. Among them, 10 are core faculty members who have demonstrated exceptional research capabilities through their PhDs, post-doctoral work, and industry R&D experience in Data Science and AI (DS&AI) before joining the School. Additionally, the School benefits from 15 associate faculty members who primarily belong to other departments at IIT Guwahati, such as EEE, Mathematics, CSE, BSBE, Chemical Engineering and Physics. These associate faculty members add an interdisciplinary dimension to the courses taught and the R&D pursued by the School.

In its founding year, 2021, the School launched its visionary **BTech in Data Science and AI program**, making IIT Guwahati one of the few institutions in India and globally to offer an undergraduate engineering degree in DS&AI. This bold move attracted high-ranking JEE candidates eager to explore the exciting world of DS&AI. Concurrently, the School also launched its **PhD program**, establishing a strong foundation for R&D alongside undergraduate teaching. In 2023, the School began contributing to the interdisciplinary **MTech in Data Science program**, offered jointly with the Departments of Mathematics and EEE. This collaboration further enriched the School's academic offering.



In October 2023, the School added another feather to its cap with the launch of the online BSc (Hons.) in DS&Al program. This fully online degree program aims to make world-class DS&Al education accessible and affordable globally. The program features flexible course content designed by our faculty and caters to a diverse group of learners from different ages, geographies, and professional backgrounds. The program offers multi-entry as well as multi-exit options and campus immersion opportunity to the learners.

On the **R&D front**, the School conducts research on a wide range of topics, including capturing, modeling, and predicting data. Our goals span from understanding fundamental science to engineering practical solutions. Applications of our research include strength prediction in civil engineering structures, robust communication in mobile edge computing systems, ethical Al use in healthcare, human face and hand gesture recognition, spoken language recognition and understanding, real-world visual field processing and recognition, reliability testing using ML models, time-series data analysis, generative Al and more. We regularly engage in publishing our findings in journals and conferences, and also reach out to the public through our outreach interactions!

# 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.

Established in 2021 with the visionary support of the Mehta Family Foundation, our School has rapidly evolved into a place of excellence in DS&Al education and research. 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 Al. They are equipped to drive technological advancements, spearhead data-driven decision-making, and contribute significantly to your organization's growth in the Al 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 Al 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,
Dr. Neeraj Kumar Sharma
School Placement Coordinator,

Assistant Professor, Mehta Family School of Data Science and Al

IIT Guwahati



# Faculty Pool

**10** Core Faculty

**14** 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.





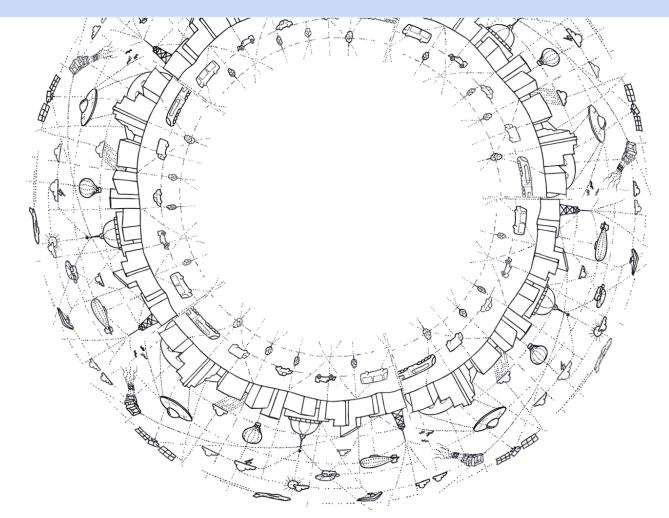
#### Signal Processing & Neuro-Inspired Al

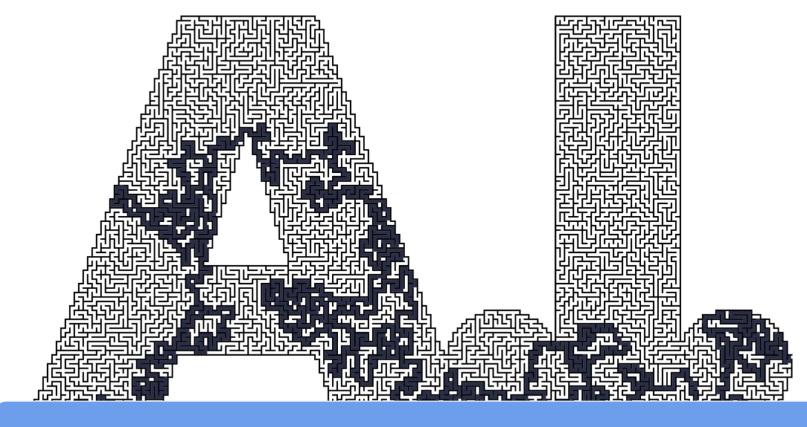
Focusing on speech, audio, biosignal, and neuro-AI, this area explores sophisticated signal representations and biologically inspired learning systems. Projects involve speech and EEG modeling, multimodal representation learning, computational neuroscience, and neuromorphic systems that mimic brain-like 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.





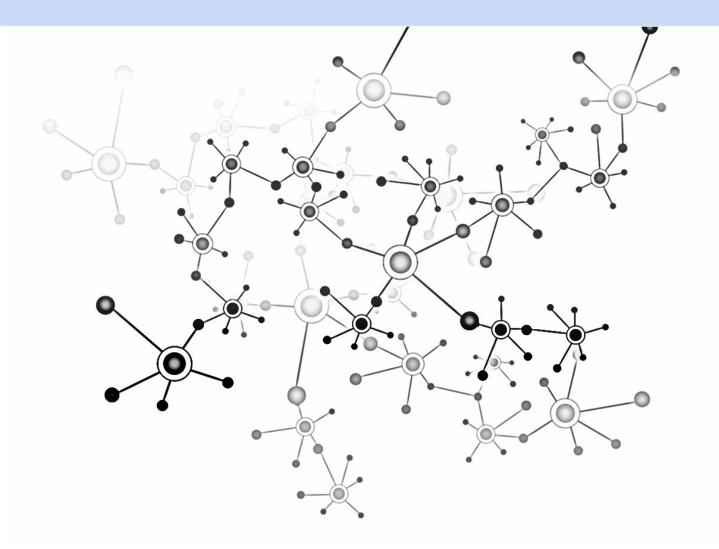
#### Reinforcement Learning & Optimization in Networks

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.

# School's 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.

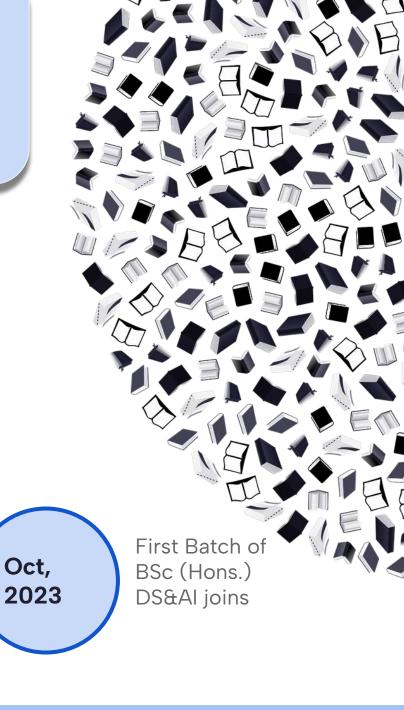
Our degree programs in Data Science & Al are visionary, and amongst the early ones not only in India but globally as well.

Apr, School Founded

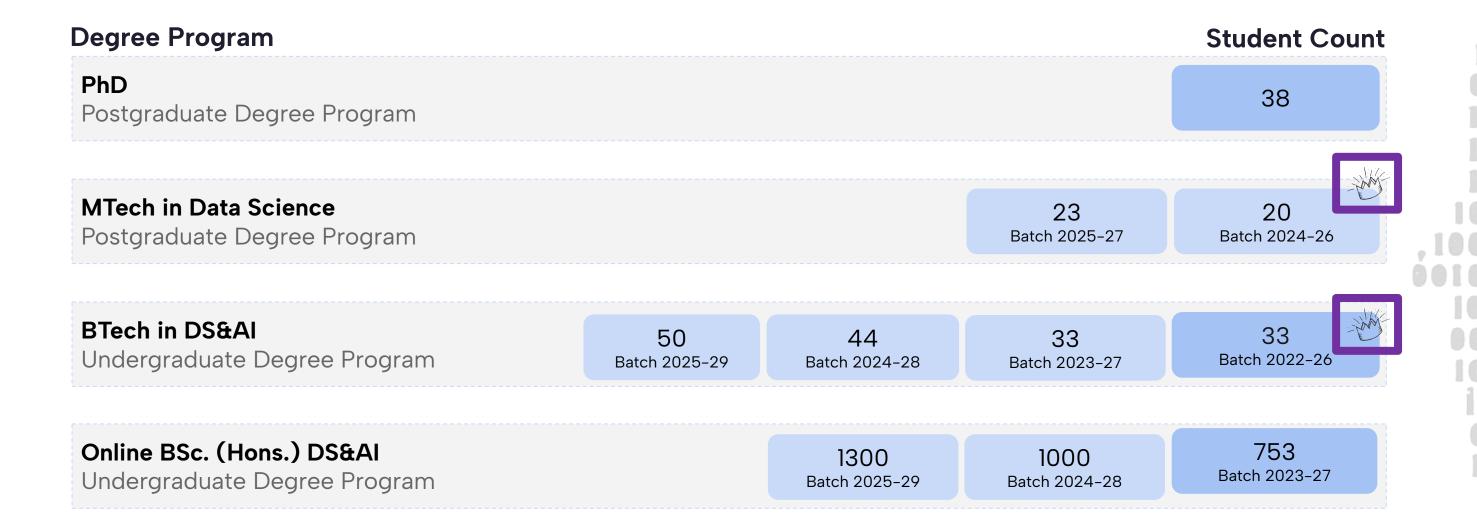
Oct, 2021 First Batch of BTech in DS&AI joins

Jan, 2022 First Batch of PhD Scholars joins Jul, 2023 Ma off

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



### Our Student Pool





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

#### About

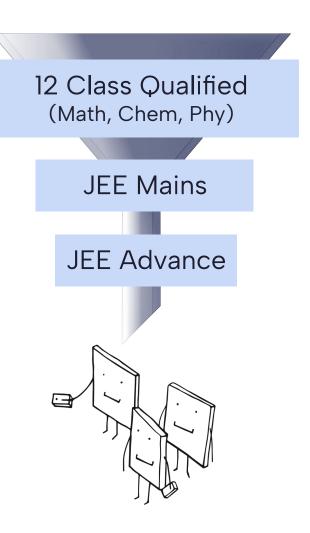
The launch of the BTech in Data Science and AI (DS&AI) program in 2021 exemplifies IITG's commitment, as it recognizes the rapid advancements in data science and AI, and the potential for the profound societal impact resulting from its progress. This program has been designed in collaboration with academic 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 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 AI across various industries and domains.

#### Admissions

The B.Tech in Data Science and Artificial Intelligence (DS&AI) at IIT Guwahati 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.

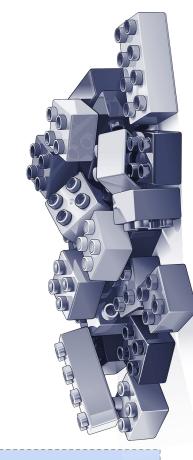
The rigorous selection process guarantees that students possess exceptional analytical and problem-solving skills, essential for success in the field. The program attracts some of the brightest minds, ensuring a strong foundation in data science, machine learning, and artificial intelligence.

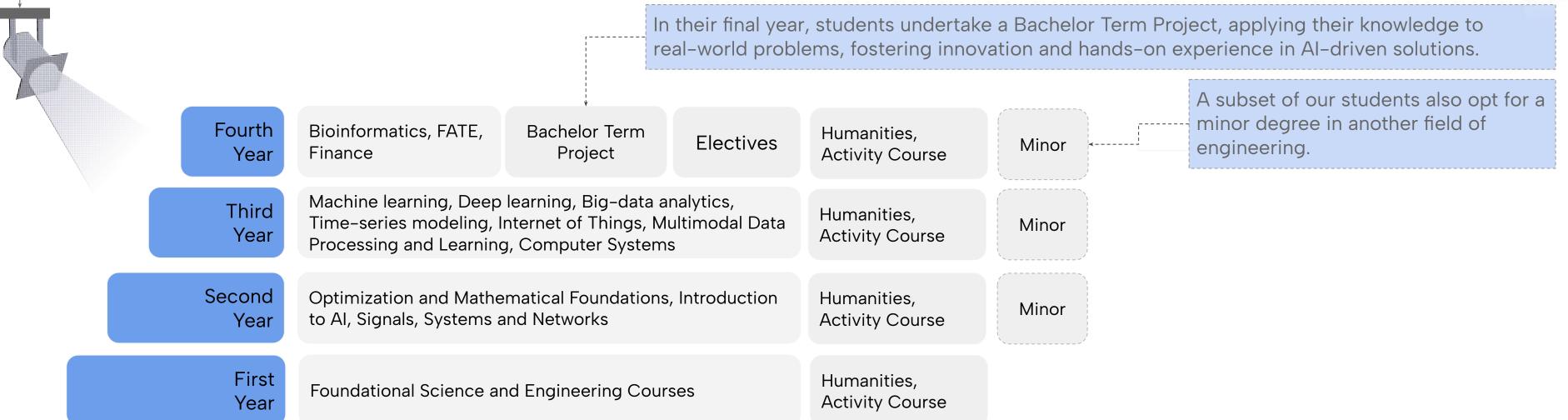


### Curriculum

Our BTech in Data Science & Artificial Intelligence (DS&AI) provides a comprehensive and interdisciplinary education, covering core subjects in computer science, mathematics, and engineering 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.





### 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

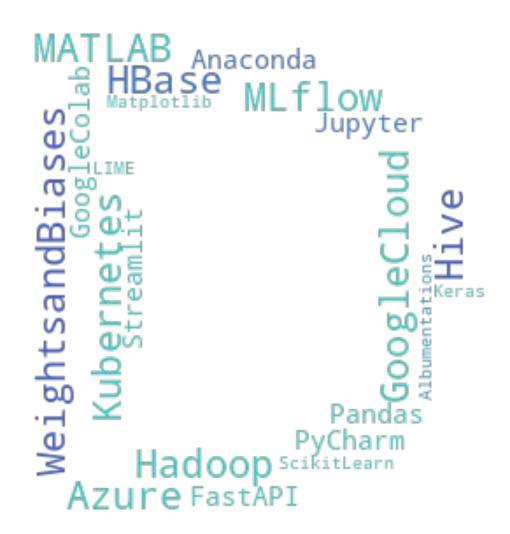
Multi-modal Data Processing & Learning - I Multi-modal Data Processing & Learning - II Computing with Signals Image Processing with Machine Learning Advanced topics in Reinforcement Learning Fuzzy systems and Applications Recommender System Design using DL Neuromorphic AI

#### Capstone Project

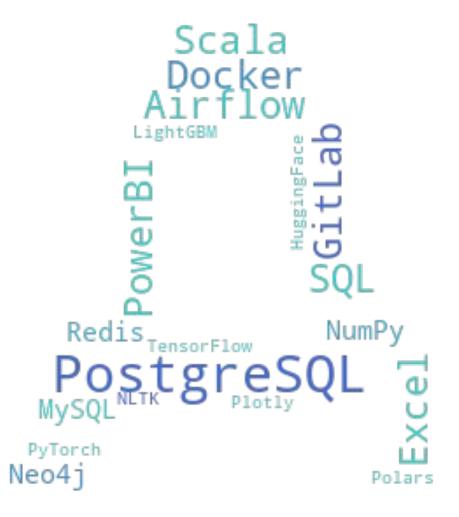
Bachelor Term Project (final year project)

# 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 capstone project, designed to bridge classroom learning with real-world problem solving. These projects allow students to apply theoretical knowledge from their coursework to practical challenges, deepening their understanding of advanced AI and data science concepts. Under 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 2022-25 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, signals) to improve healthcare predictions.

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

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.

Audio, Vision & Multimodal Al

Audio Source Separation – Deep learning for audio source separation

Multimodal Deepfake Detection – Detecting synthetic/manipulated media using joint analysis of audio and video signals.

Vision-Language Model for Image Segmentation – Applying text-guided multimodal models for accurate image segmentation.

Tiny Vision System - Designing lightweight and efficient vision models for resource-constrained devices.

# BTech Term Projects

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

**Robotics & NLP** 

Bionic Reflex Control of Underactuated Robotic Hand through Reinforcement Learning using Frequency-Enhanced Visuo-Tactile Sensing – Developing a robotic hand that mimics human-like reflexes using reinforcement learning with enhanced visual and tactile feedback.

Topics in NLP - Advancing text-based Al methods in areas like machine translation, summarization, and question answering.

**LLM for Indian Insurance Sector** – Applying large language models to streamline workflows in India's insurance industry.

Security,
Cryptography &
Privacy

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

Federated Learning under Additive Noise – Preserving privacy and robustness in federated learning under noisy conditions.

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

Communication & Networking Systems

Al Based Caching for Next-Gen Wireless Systems – Optimizing content caching strategies for efficient data delivery in 6G/5G.

Al Enabled Cognitive Radio Network - Enabling dynamic spectrum allocation and intelligent communication using Al.

Bandit Algorithms for Next-Generation WiFi – Applying multi-armed bandit learning to optimize WiFi channel access.

Neuro-Al, Cognitive Reasoning **Neuromorphic Local Learning** – Developing brain-inspired local learning rules for neuromorphic hardware.

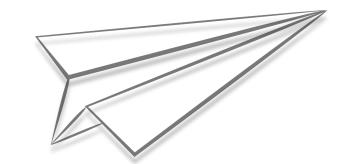
EEG Study on Action & Language Comprehension – Understanding neural dynamics of action perception and language comprehension using EEG signals.

Literary Applications of Large Language Models – Using LLMs to analyze literature, generate creative writing, and study narrative structures.

Approaches to Rising up to the ARC Challenge – Tackling the Abstraction and Reasoning Corpus, which tests an Al's ability to generalize and infer abstract rules from just a few demonstrations.

# 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 selection of internship projects undertaken by our students.

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 Al 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

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.







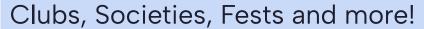


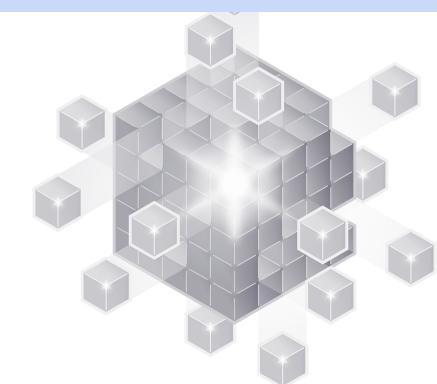














### Student Achievements

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.

Inter IIT Triumphs 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.

Leading the way

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.

Hackathon Achievements 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.

Research Internships

### 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 AI.



































































- 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 AI, IIT Guwahati

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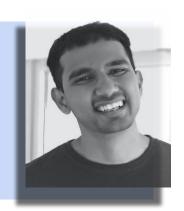


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#### **Raunit Patel**

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



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Website: <a href="https://iitg.ac.in/ccd/">https://iitg.ac.in/placements</a>

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