



Indian Institute Of
Technology, Guwahati

Centre For Career Development

Data Science
DSAI - EEE -
MA

Department
Brochure



About the Institute

Since 1994, when it was founded as the sixth Indian Institute of Technology, IIT Guwahati has become one of the world's most dynamic universities in technology, innovation, and research. The campus lies on a 285-hectare parcel of land on the northern bank of Brahmaputra 20km from the city centre. The curriculum and courses at IIT Guwahati are constantly changing to meet global needs and allow students to explore their interests.

The Institute offers B.Tech, B.Des, MA, M.Des, M.Tech, MS(R), MBA, M.Sc, and Ph.D programmes in 11 Departments, 9 Centres, and 5 Schools in all major engineering, science, and humanities areas. Our students can broaden their studies with a 'Minor' degree, open and interdepartmental electives, audit courses, and inter-disciplinary research.

The institute's state-of-the-art laboratories and National Centres of Research have made it a hub for research and technical education.

Apart from world-class research, the faculty prepares students for professional problems by teaching them their fields conceptually. It also helps students participate in worldwide projects, which helps them become pioneers and leaders.

IIT Guwahati has MoUs (Memoranda of Understanding) with top international institutes for semester-based student-exchange programmes and summer internships, boosting global integration and broadening our students' perspectives.

In their holidays, students intern in industrial, managerial, and research fields at top international corporations and research labs, contributing greatly. The institute provides excellent extracurricular opportunities to help students develop holistically.

About the Department

M.Tech Data Science was started in the year 2019 with the main focus of inculcating a good knowledge of both theoretical and practical aspects of Data Science and Machine Learning with course subjects, projects, and labs fulfilling the latest requirement of research areas and making students well equipped with the necessary technical skills.

Vision

- Data, often referred to as the "New Oil," possesses limited usefulness in its raw form. However, through refining and processing, it can transform into a tremendously valuable asset, capable of addressing a wide array of business problems. When combined with Machine Learning, with its extensive applications in Natural Language Processing (NLP), Deep Learning (DL), Speech, and Vision, a Data Scientist becomes an all-encompassing powerhouse within any team.
- To cultivate such expertise, the School of Data Science and Artificial Intelligence, Department of Electrical, and Electronics Engineering, Mathematics collaborated to offer a comprehensive coursework program complemented by a year-long Master's Thesis. This rigorous curriculum prepares students to tackle any challenge that arises in this dynamic industry.
- The diversity of students in this course, hailing from various disciplines, fosters a unique and enriching learning environment within the classroom. Consequently, these students cultivate remarkable adaptability and rapid learning skills, which are highly sought-after in today's fast-paced world, where new technologies emerge incessantly.



Dr. Tony Jacob

Department Faculty advisor
Department of Electronics and
Electrical Engineering

Recruiters,

First of all, I would like to thank you for opting Indian Institute of Technology, Guwahati as a potential campus for recruitment this year. I am pleased to write this testimonial on behalf of the post-graduating batch of our **M.Tech in Data Science** program. Data Science is a unique industry-standard program having basic and advanced machine learning courses which give a thorough background and understanding of the basics of domains like Image processing, Deep Learning, NLP, Computer Vision, and Speech. The students of this batch have been selected from a rigorous entrance exam, and are among the cream of the engineering graduates of our country.

I am sure that you will find our students most suitable for the current openings in your organization. But moreover, I believe that these graduates will exceed your expectations.

Academic Curriculum

Postgraduate Program – M.Tech

The M.Tech program in Data Science is a comprehensive four-semester curriculum tailored to the specialized field. This program adopts a well-rounded approach, combining theoretical and practical aspects of data science and machine learning. The curriculum is tailored to meet the latest research demands and industry needs, providing students with essential technical skills and a comprehensive understanding of the field. Moreover, students are actively involved in teaching assistantships, fostering their holistic development and enhancing their ability to tackle demanding tasks.

The program comprises a set of core courses fundamental to Data Science and Machine Learning:

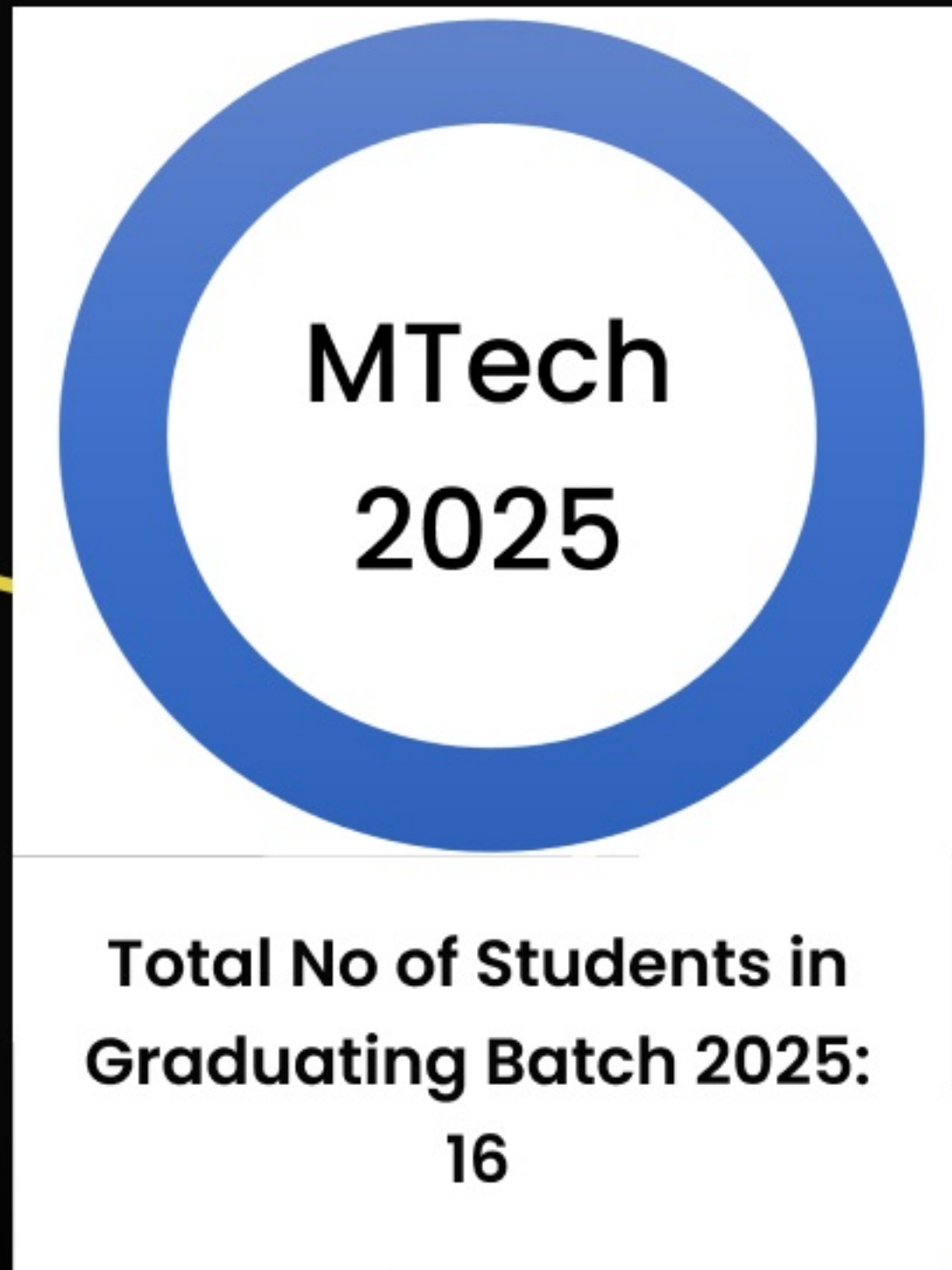
- Data Structures & Algorithms
- Statistical Foundations for Data Science
- Database Management System
- Machine Learning
- Matrix Computations
- Stochastic Models
- Optimization Techniques
- Scientific Computing

In addition to the core courses, students engage in hands-on learning through various laboratory sessions:

- Machine Learning Lab
- Data Structures & Databases Lab
- Python Programming Lab
- Data Visualization Lab
- R Programming Lab
- Numerical Computations Lab

Furthermore, the program offers a range of elective courses to enable students to specialize further in specific areas:

- Deep Learning
- Computer Vision
- Image Processing with Machine Learning
- Speech Processing



Research Facilities and Laboratories

M.Tech Data Science program is hosted by Department of Electronics & Electrical Engineering for batch of 2025. The Department facilitates students and researchers who share a passion for science and engineering. The department has separate PG Labs, which are available 24×7 to students. All the Laboratories are connected to the Gigabit Network of the department which in turn is connected to the Institute 10 Gigabit Network on optical fibre. The department presently has state-of-the-art research laboratories, viz. Signal Processing and Machine Learning, Multimedia Analytics Laboratory, System Simulation Laboratory.

Students are provided with individual work-spaces and computers consisting of Intel i7 processors. The department regularly upgrades these computers to stay abreast with the latest available technologies. The department also houses its very own server room, consisting of a mix of Intel Xeon and AMD Opteron based high end rack servers, which aims to provide uninterrupted File & Application Services to its researchers through a High Availability implementation on these servers.



Department Highlights

- **Innovative Curriculum:** Combines theoretical foundations with hands-on applications in Data Science and Machine Learning.
- **Research-Driven Approach:** Students participate in projects aligned with current research trends.
- **Industry-Ready Skills:** Courses prepare students with the expertise sought after in the technology sector.

Distinguished Faculty Honors

- **Prof. Manas Kamal Bhuyan:**
 - Recipient of the National Award for Best Applied Research, Fullbright-Nehru Fellowship, and BOYSCAST Fellowship.
- **Prof. Debanga Raj Neog:**
 - Recognized with the Young Scientist Award for contributions to the field.

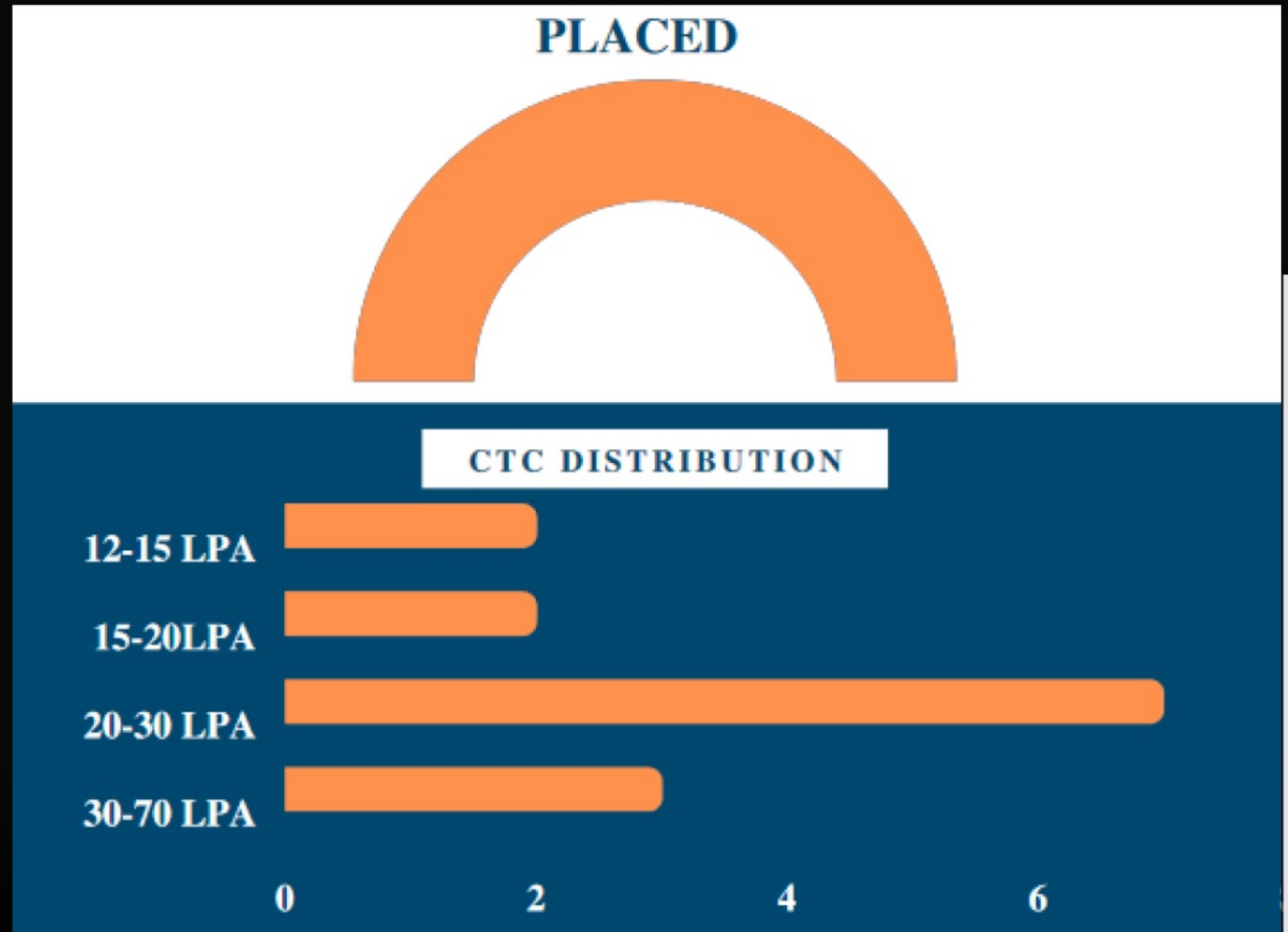
Key Projects and Grants

- **Smart Contactless Technology Development for Smart Fencing:** Collaborative project with multiple IITs, supported by DST under Indo-Czech collaboration.
- **Intel Center of Excellence on Electronics System Design:** Sponsored by Intel Technologies to foster innovation in electronic design.
- **Energy-Efficient IoT Processor:** Joint project with IIT Roorkee, focusing on IoT and energy efficiency, backed by IMPRINT.
- **IoT Network Scheduling with Reinforcement Learning:** Funded by the Science and Engineering Research Board, India, focusing on mobile edge computing systems.
- **Federated Learning for IoT Networks:** Sponsored by TIH Foundation for IoT and IoE, IIT Bombay, emphasizing communication efficiency.
- **Additional projects funded by NWO's Merian Fund India, SERB Startup Research Grant, and Research Concept Grand Challenge.**

Placement Statistics

The M.Tech Data Science batch of 2022, landed profiles in almost all upcoming areas of the Technology Sector including Software Development, Data Science, Machine Learning, Computer Vision and Natural Language Processing. 14 students registered for placements and the percentage of students receiving placement was 100% making Data Science one of the most successful programs at IIT Guwahati.

The highest package of placement season 2022 from Data Science was 70 LPA.

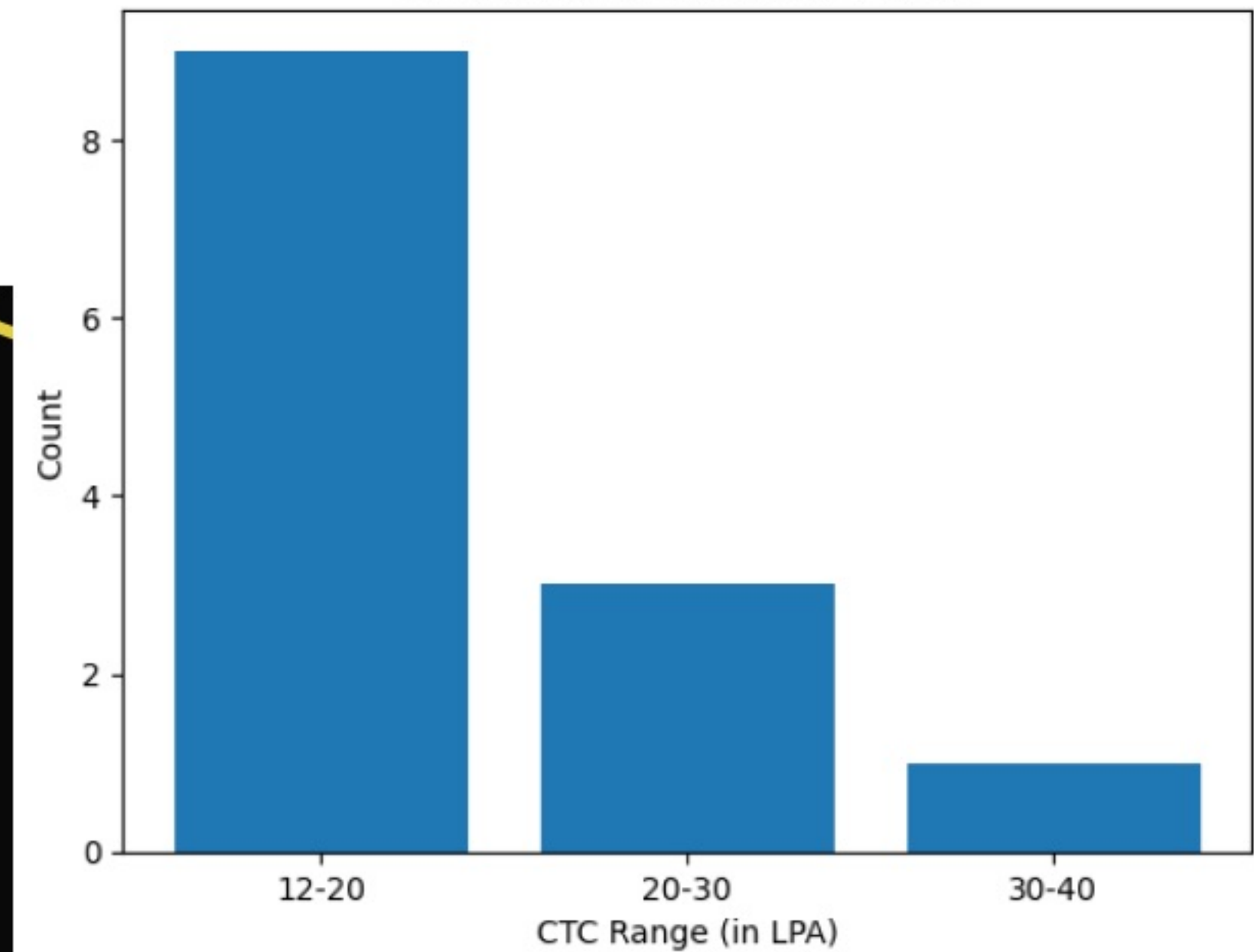


Placement Statistics

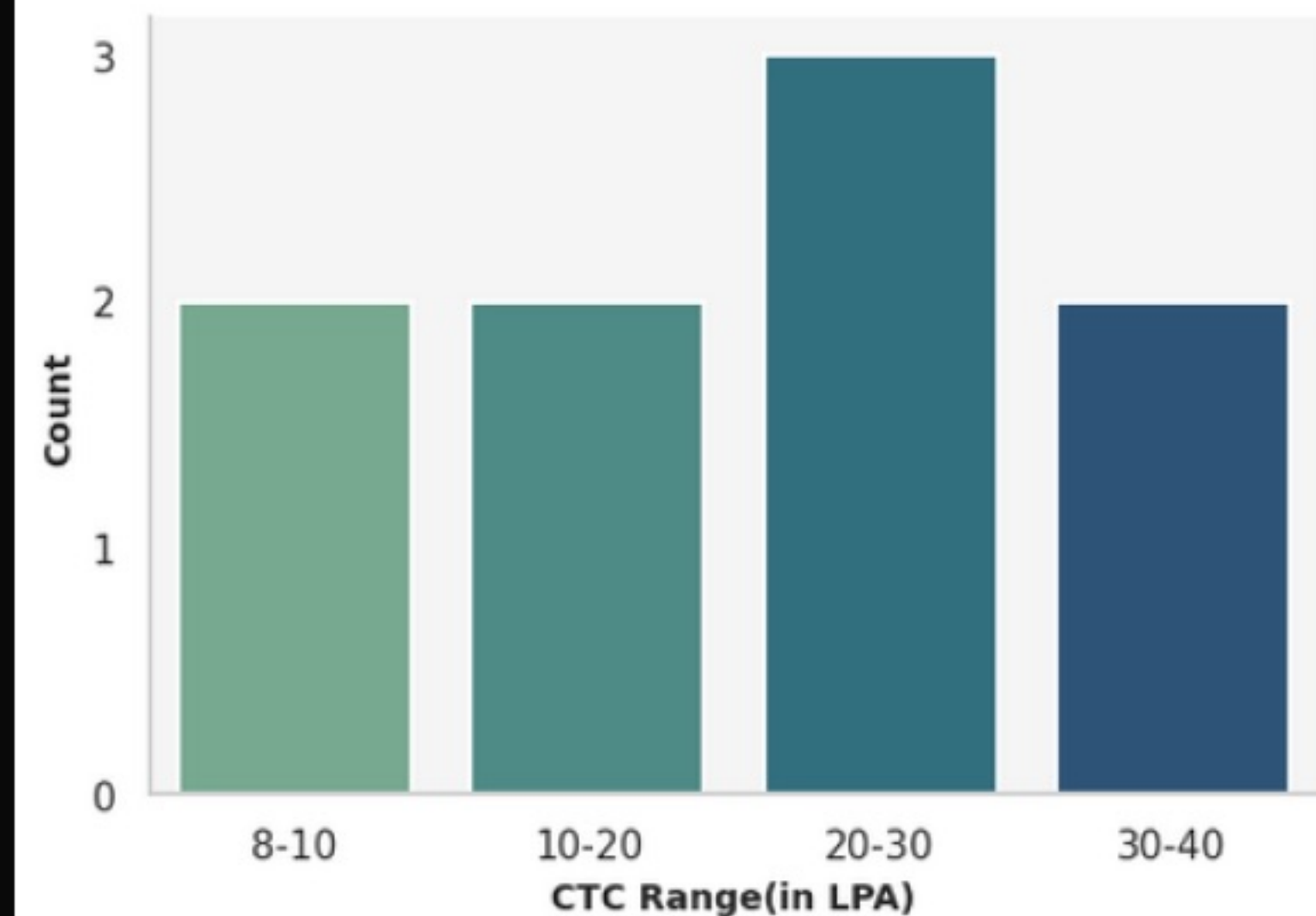
The **M.Tech Data Science** cohort of **2023** and **2024** from our prestigious institution has achieved exceptional academic results and attained notable placements with top-tier companies. Their stellar performance has translated into impressive placements with leading companies across multiple sectors. Graduates have successfully secured positions in emerging and high-demand fields such as Software Development, Data Science, Machine Learning, Computer Vision, and Natural Language Processing. This widespread success not only highlights their advanced technical skills but also their remarkable versatility and adaptability in the rapidly evolving technology landscape.



CTC Distribution Batch of 2023



Placement Statistics Batch - 2024



Previous Recruiters



Contact Us



Centre for Career
Development,
Indian Institute of Technology
Guwahati

**Department
Faculty advisor**



Dr. Tony Jacob

+91-361-258-2527

**Overall Placement
Coordinator**



Priyanshu Kumar

+91 70612 66042

**Overall Placement
Coordinator**



Sravya Vardhani

+91 8333041969

**Department Placement
Representative**



Prakhar Shankar

+91 72097 70928

Mail us at - placement@iitg.ac.in

Website: www.iitg.ac.in/ccd