



భారతీయ సాంకేతిక విజ్ఞాన సంస్థ హైదరాబాద్
भारतीय प्रौद्योगिकी संस्थान हैदराबाद
Indian Institute of Technology Hyderabad

Department of Artificial Intelligence

Placement Brochure 2024-25



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Message from HOD

Dear Recruiters,

I am pleased to introduce the Department of Artificial Intelligence at IIT Hyderabad, the first of its kind in India, established in 2019. Our department offers BTech, Masters (2-year and 3-year), and PhD programs, with a strong focus on programming, mathematical foundations, and AI applications across various domains such as autonomous navigation, healthcare, NLP, computer vision, and more.

We offer unique opportunities for real-world industry experience through our 6-month semester-long internships for B.Tech students, summer internships for BTech/MTech, and joint MTech positions with industry partners. These initiatives ensure our students are well-equipped with practical expertise and professional skills.

We invite you to participate in our placement drives and internships to engage with our talented students, fostering innovation and growth for both your organization and our department.

We look forward to a fruitful partnership.

Best regards,

Dr. Ganesh Ghalme
Head of the Department of Artificial Intelligence
IIT Hyderabad

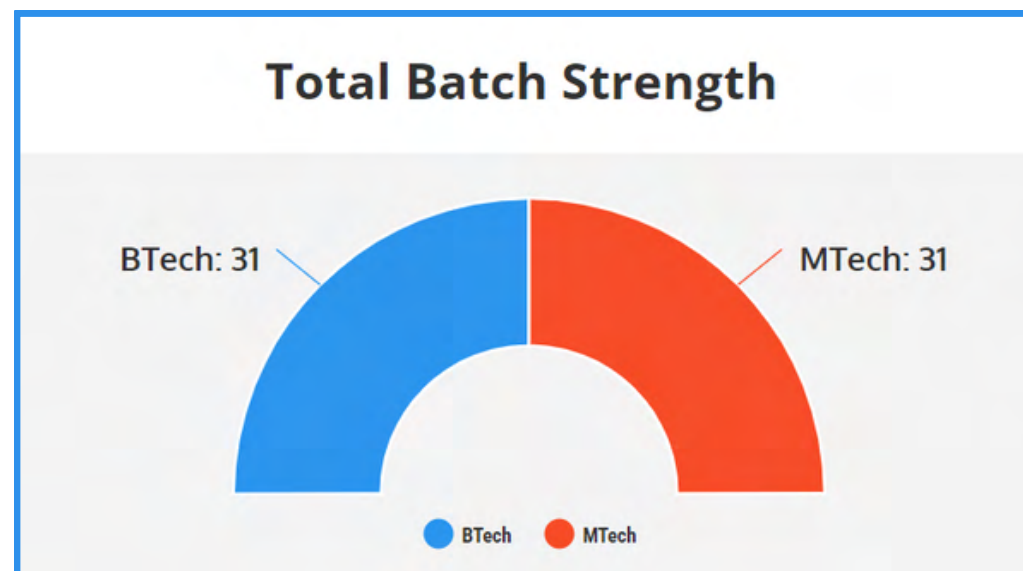


Dr. Ganesh Ghalme
Head of AI Department

The AI Department

The Department of Artificial Intelligence (AI) at IIT Hyderabad, established in 2019, provides comprehensive academic programs to cultivate leaders in AI. The department addresses both national and international AI needs across various subareas and applications.

The mission of the department is to “Enable and facilitate students to become leaders in the AI industry and academia nationally and internationally; as well as to meet the pressing demands of the country in the various subareas and applications of AI”.



Scholarship Count 12

Fellowship Count 3



The AI department at IITH launched the BTech in AI program in 2019, making it the first of its kind in India and only the third globally, following similar initiatives at MIT and CMU.

Publications in A/A* venues, including ICML, NeurIPS, CVPR, ICCV, ACL, AAAI, IJCAI, ICASSP, ICIP, etc.

NIRF Ranking 3rd in Innovation Category.

NIRF Ranking 8th in Engineering Institutes.

NIRF Ranking 14th in Research and Overall Category.

Attracts Top 600 JEE Advanced/GATE Rank Holders

Recent Key Highlights

- Dr. Ganesh Sambhaji Ghalme has received a grant from the **Bill & Melinda Gates Foundation**.
- Prof. P. Rajalakshmi has been selected for the 3rd batch of the **INSA-NCGG Leadership in Science & Technology (LEADS)** Programme.
- Prof. Vineeth N. Balasubramanian has been honored as an **INSA Associate Fellow-2024**.
- Prof. Vineeth and Prof. Maunendra presented their work and viewpoints at the **BINDI (Biases in NLP Models and Data for the Indian Context) Summit organized by Google**.
- Prof. Sumohana and Prof. Maunendra presented their work at the Royal Society Yusuf Hamied Workshop for India and the UK, organized by the **Royal Society, UK, and the Indian National Science Academy**.
- The **Center for Geospatial AI and Digital Twins** has been established at IIT Hyderabad.
- Prof. Vineeth N. Balasubramanian has been selected as a **Senior Member of AAAI** (one of 15 globally in the Class of 2023).
- Dr. Konda Reddy organized a tutorial on **Data-Free Knowledge Extraction from Deep Neural Networks as part of the NCVPRIPG-2023** conference.
- Prof. CK Mohan was awarded the prestigious **Fulbright-Nehru International Education Administrators Seminar fellowship -2023/24**.

BILL & MELINDA
GATES *foundation*

Academic Programs

B.Tech (4 years)

- Unique Feature: **Fractal academic** structure
- Opportunities:
 - Courses offered at varying depths
 - Freedom to pursue courses from other departments such as CSE, EE and Mathematics, etc.
 - Option for **semester-long internships**

PhD

- Duration: 1 year coursework + few years of research
- Structure:
 - Work on cutting-edge research projects with faculty and industry partners
 - Assist faculty as Teaching Assistants in UG and PG courses

M.Tech Teaching Assistantship (2 years)

- Duration: 2 years
- Structure:
 - 1 year of coursework
 - 1 year of faculty-mentored research work

M.Tech Research Assistantship (3 years)

- Duration: 3 years
- Structure:
 - 1 year of coursework
 - 2 years of faculty-mentored and **industry-guided research work.**

Curriculum

Electrical (Foundation)

- Linear Algebra
- Probability and Random Variables
- Matrix Theory
- Convex Optimization
- Mobile Robotics
- Information Theory and Coding

Speech and Vision

- Speech and Vision
- Computer Vision
- Speech Systems
- Image and Video Processing
- Surveillance Video Analytics
- Video Content Analysis

Core AI and ML

- Foundations of Machine Learning
- Deep Learning
- Reinforcement Learning
- Advanced Data Structures Algorithms
- Applied Statistics
- Sequence Models
- Advanced Topics in ML (Online Learning)
- Explainable AI
- AI in Humanity
- Game Theory & Mechanism Design
- Kernel Methods
- Bayesian Data Analysis
- Intro to Statistical Learning Theory
- Stochastic Processes for Machine Learning
- Introduction to Submodular Functions

Computer Science

- Introduction to Programming
- Discrete Mathematics
- Database Management Systems
- Compilers
- Computer Architecture
- Operating Systems
- Parallel & Concurrent Programming
- Distributed Computing

Language Processing

- Natural Language Processing
- Information Retrieval
- Text Processing
- Data Mining

Research Labs

Bayesian Reasoning And INference (BRAIN)

- The BRAIN research group, led by **Prof. Srijith P K**, specialises in probabilistic ML, DL, Bayesian learning, Continual Learning, Domain Generalization, Causality and NLP.
- **Funding Agencies:** Sony, JICA, Intel, Accenture, SERB
- **Recent Achievement:** Prof. Srijith received the Young Researchers Scientist Award from Sony Research 2023

Game Theory Lab(GT)

- The GT research group led by **Dr. Ganesh Sambhaji Ghalme**, focuses on Fairness in ML, Fair Division, Multi-Armed Bandits, Persuasion, Strategic Classification and Machine Learning
- **Recent Achievement:** Dr. Ganesh received a grant of 750,000 USD from Bill & Melinda Gates Foundation.

Data-driven Intelligence & learning lab(DiL)

- The DiL research group led by **Dr. Konda Reddy Mopuri**, broadly focuses on Data Science & Engineering, ML, DL, Computer Vision, and Image/Signal Processing.
- **Funding:** TiHAN, Science and Engineering Research Board (SERB)



BRAIN

Research Labs

Lab for Video and Image Analysis (LFOVIA)

- The LFOVIA research group at IIT Hyderabad, led by **Prof. Sumohana**, focuses on image and video quality assessment, multimedia communication, and biomedical imaging.
- **Funding Agencies:** DRDO, Grand Challenges Canada, Honeywell, Intel, Invecas, LVPEI, MathWorks, MHRD, Qualcomm, and TCS.



Visual Learning and Intelligence Lab (VIGIL)

- VIGIL lab research group led by **Prof. C. Krishna Mohan** works in the research areas of video content analysis, computer vision, machine learning, deep learning.

Robotics

- Robotics research group led by **Dr. Rekha Raja** works in the research areas of Robotics Agricultural Robotics, Robot Learning, Motion Planning, Computer Vision, and AI Algorithms

- The **Department of Science and Technology (DST)** under the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS), Govt. of India, has sanctioned the prestigious Technology Innovation Hub in Autonomous Navigation led by **Prof. Rajalakshmi**.
- **Vision:** To become a global leader in next-generation smart mobility technologies utilizing reliable and efficient autonomous navigation and data acquisition systems.
- **Mission:** To accelerate the adoption of autonomous navigation and next-generation smart mobility technologies for intelligent transportation and agricultural applications both in India and globally.
- **Research Areas:** System sensors & control, real-time edge computing, AI/ML, security, simulators (virtual, physical, dummies), safety, testing & validation for UAVs and UGVs.



AIS(w)ARYAM (Center of Excellence)



Academia

- **Technology** : IIT Bombay, IIT Delhi, IIT Dharwad, IIT Bhilai, IIT Mandi, IIIT Delhi, University of Hyderabad
- **Domain Policy** : ISB, IIHS, CEPT - Ahmedabad, SPA



Industry

- Greenko
- Ubuntu
- Google
- Suzuki R&D
- Kreayotoo
- Cyeint
- Honewell
- ReSustainability
- ZF Mobility
- SiliconLabs



Government

- State Govt of Telangana
- National Smart Cities Mission
- RICH Telangana
- National Remote Sensing Centre



NGO

- Wadhvani AI
- eGov Foundation ICLEI South Asia
- India Smart Grid Forum
- MARI-India
- United Way



International

- Texas A&M University
- University of Michigan
- Nihon University
- Swinburne University
- University of Agder
- TU Delft



Internships*

TECHNICAL UNIVERSITY



Nature of work: Research

INDUSTRY/COMPANY

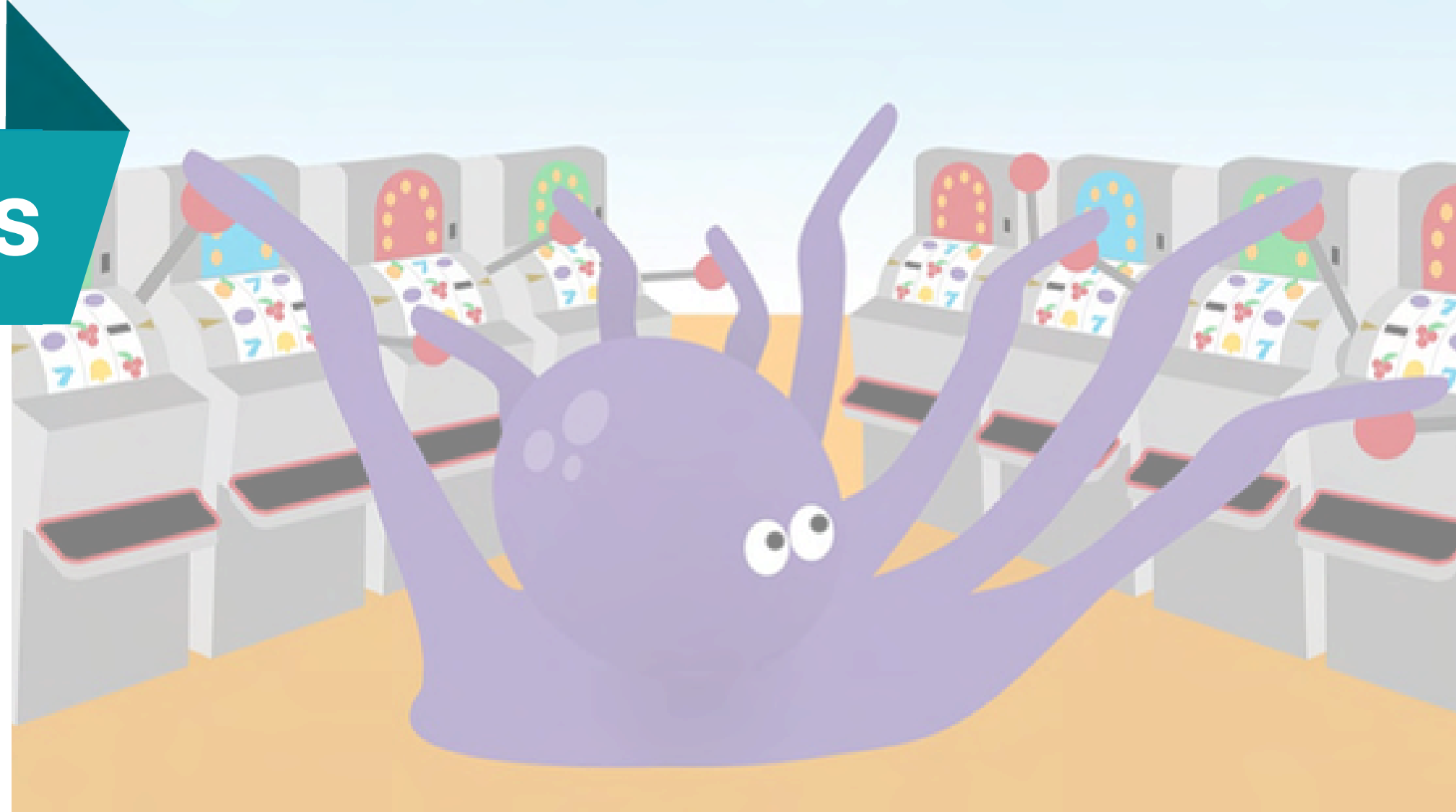


Nature of work: Software Development Intern, AI/ML intern

*BTech Graduating batch

Ongoing Research Projects

- Weakly supervised object detection from aerial imagery for digital addressing
- Explainability of Vision Transformers
- Facial scanning



- Multi-Arm Bandits, Strategic Classification, Bayesian Persuasion
- Fairness in Multi-Agent Multi-Arm Bandits, Best Arm Identification
- Development of Real-Time Audio and Speech Modules for Robot Audition
- NLP for doctor-patient conversations
- Machine Translation and LLMs
- Domain Adaptation

A hand is shown moving a black chess piece on a dark board. The board is overlaid with a white network diagram consisting of nodes and connecting lines. A path of nodes is highlighted in yellow. The background is a blurred image of the same scene.

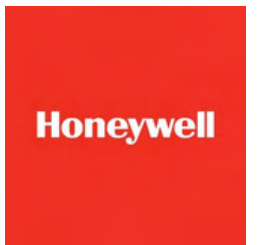
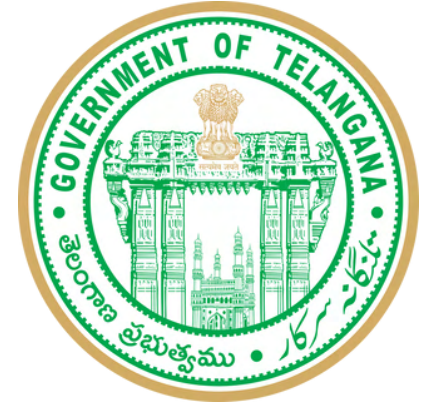
Ongoing Research Projects

- Bayesian Causal Discovery
- Strategic Classification
- Modeling Latent Space as GMM for Generative Models
- Machine Unlearning in LLMs (Knowledge Unlearning)
- Continual Learning for NLP, LLMs for Misinformation Generation and Detection, RAG
- Continual Learning based on Neuro-Inspired Architectures
- How incentives influence customer load reduction in smart grid using multi arm bandits.
- Framework and Algorithms for RAN Intelligence Controllers

Ongoing Research Projects

- Multi Model Object detection model for autonomous navigation
- Adversarial Attacks and robustness in Autonomous Vehicles.
- Simulation for Autonomous Vehicles
- GPS Denied Indoor UAV Navigation using Reinforcement Learning
- Autonomous vehicles
- AI Algorithms for Arm Manipulator Robot (TAMP)

Collaborations



Past Recruiters

Microsoft Google NVIDIA amazon SAMSUNG BOSCH

NPCI ZS intel labs Flipkart ORACLE PHILIPS JPMORGAN CHASE & CO. Razorpay

accenture Qualcomm Goldman Sachs MathWorks Morgan Stanley airtel Rakuten

publicis sapient kore.ai TEXAS INSTRUMENTS DELL salesforce oppo SUZUKI

servicenow Mercedes-Benz sahaj XILINX YOKOGAWA

DE Shaw & Co sprinklr eClerx FUJITSU NTT DATA TCS TATA CONSULTANCY SERVICES

media.net Perceptive Analytics BLEND360 FOURTH FRONTIER GAMES 24 SEVEN AIRA MATRIX

KLA Tencor Legato netradyne VERINT MITSUBISHI ELECTRIC AMERICAN EXPRESS

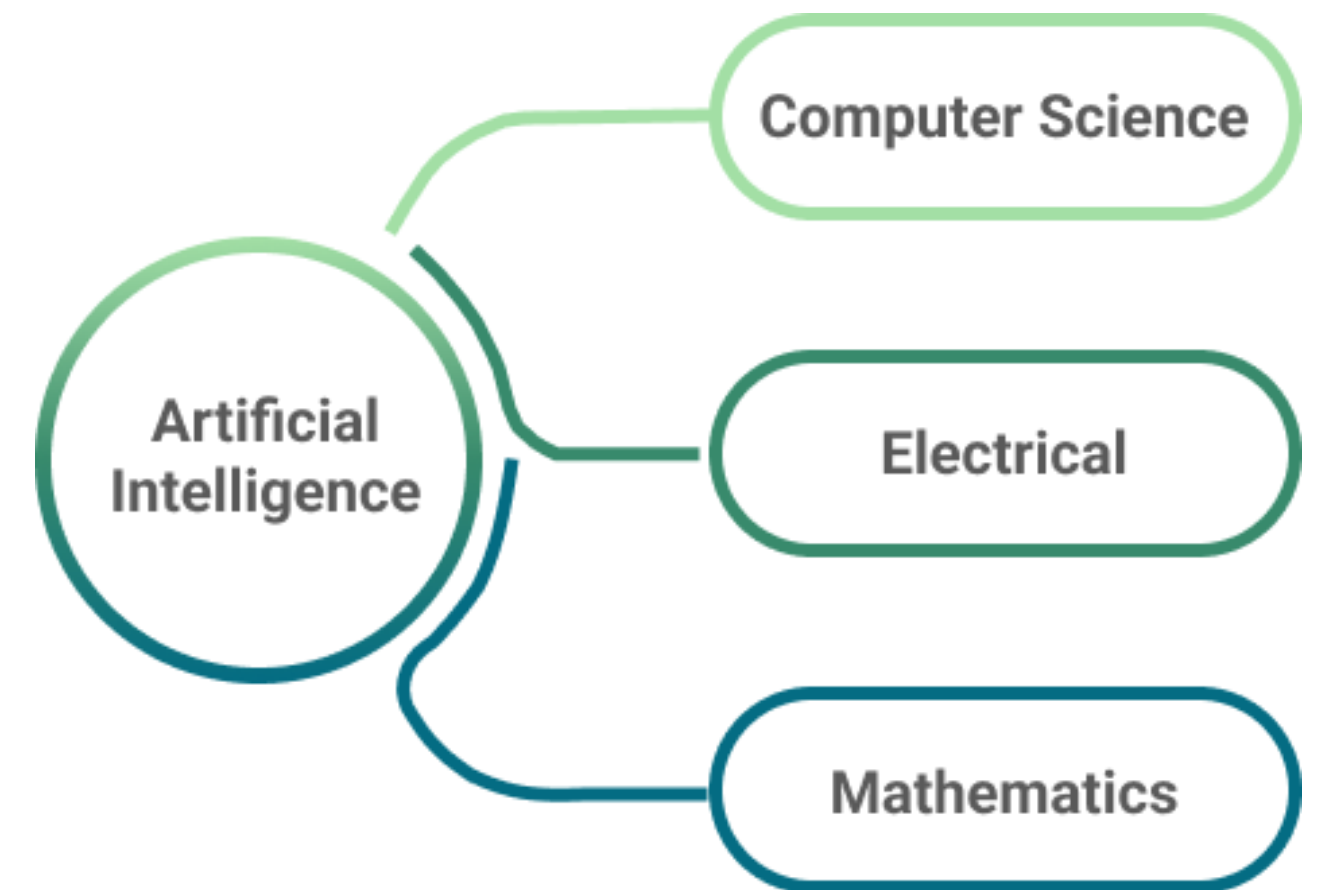
Honeywell Providence DOLAT CAPITAL tsmc PayPal TOSHIBA

Why hire Data Science Roles from the AI Department ?

Strong Mathematical Foundation: Courses in Matrix Theory, Random Variables, Stochastic Processes, Convex Optimization, and Bayesian Data Analysis provide a rigorous mathematical foundation essential for machine learning.

Specialized Focus: The AI department specifically emphasizes AI and ML principles, algorithms, and applications, giving students an edge over their peers in computer science (CSE) and electrical engineering (EE) departments.

Data Handling Expertise: AI engineers are adept at managing and analyzing large-scale data, enabling companies to derive insightful information about clients and customers from vast datasets.

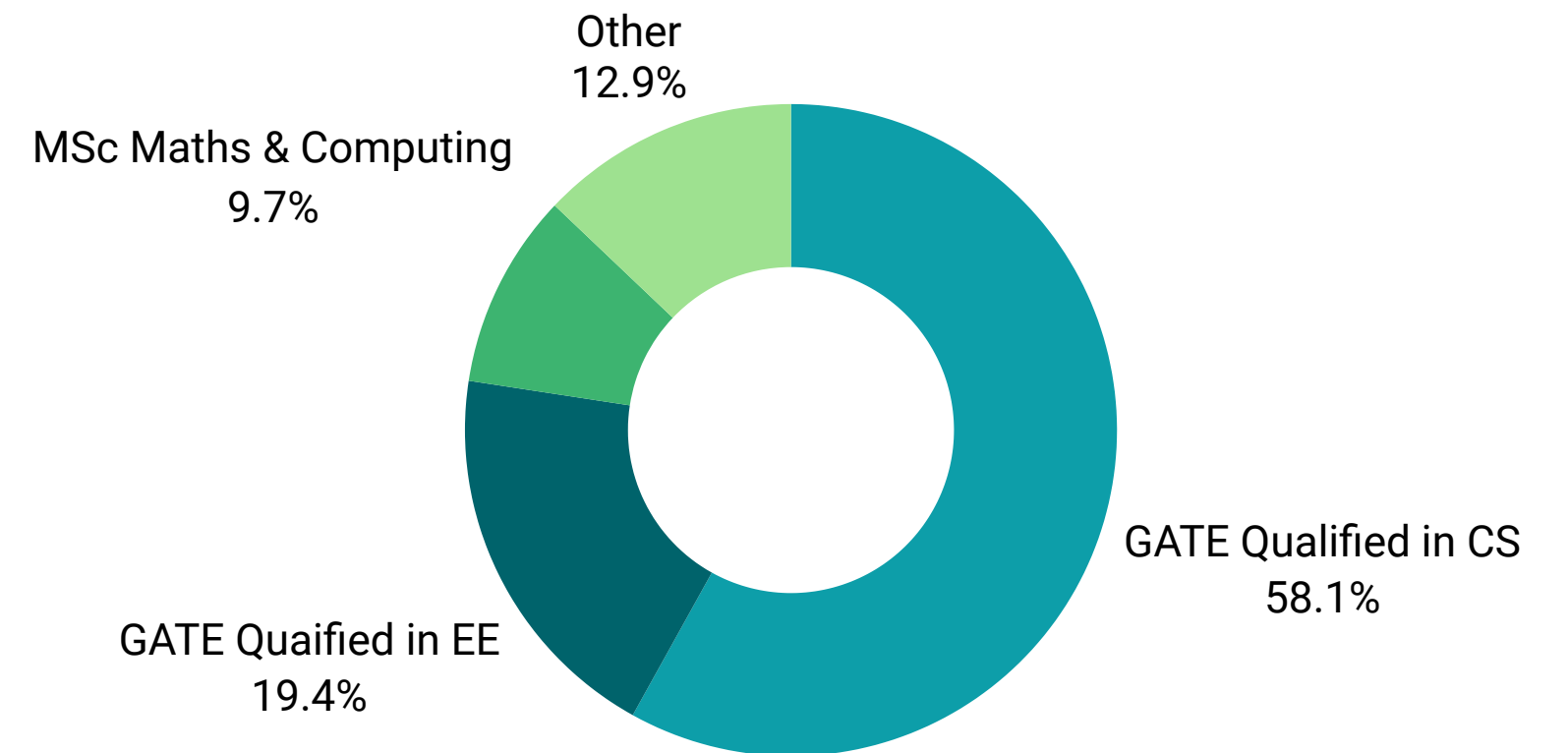


Why hire software developers from the AI department ?

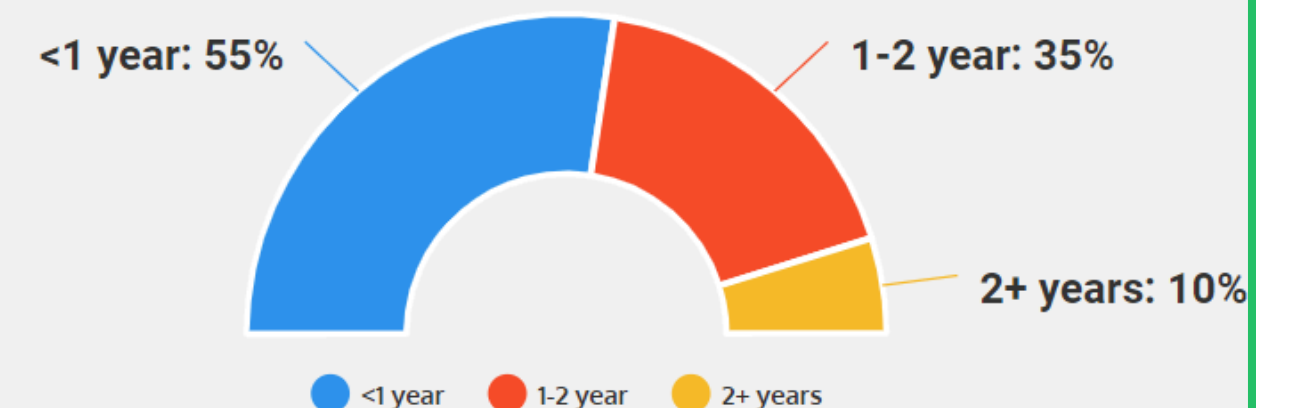
Future-Proof Talent: Access to highly skilled professionals adept in AI and machine learning, ensuring your team is equipped for evolving industry demands.

Integrated Skillset: AI engineers combine expertise in software development and data engineering, enabling seamless data-driven application development.

Dual Competency: Proficient in building AI-driven applications and managing the necessary data, making them invaluable assets to any team.



Industry Experience of MTech



Placement Team

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Thank You

Created by the students
Department of Artificial Intelligence

For Further Information
<https://ai.iith.ac.in/>



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