M.Tech Brochure (Jan 2023)

Department of Artificial Intelligence

IIT Hyderabad

Web: http://ai.iith.ac.in   **Contact:** AI M.Tech admissions

Overview

The Department of AI is a recently launched department at IIT Hyderabad. Considering the interdisciplinary nature of AI, a separate department helps in creating a complete ecosystem for AI Academics and Research at IIT Hyderabad. The department offers B.Tech. and M.Tech. programs, and a variety of Minor Programs in AI. The emergence of the department is the consequence of the heavy demand from the industry on data analytics, and the need to tackle the many fundamental and foundational research problems arising in a rapidly evolving field. The department's mission is to

- Train students to have a sound understanding of the fundamentals of the theory and practise of Artificial Intelligence and Machine Learning.
- Enable students to become leaders in the industry and academia nationally and internationally.
- Meet the pressing demands of the nation in the areas of Artificial Intelligence and Machine Learning.

The Department of Artificial Intelligence has a sizeable number of highly dedicated and dynamic faculty members, with a wide variety of expertise. Currently there are 29 faculty members affiliated with the AI department. Candidates can discover the profiles and teaching/research areas of different faculty members by visiting the department web page.

The Department of AI seeks talented and dedicated M-Tech students to develop highly skilled human resources who can contribute to modern and cutting edge research and industrial demand in AI. The M-Tech students will provided with excellent laboratory facilities that they can access at any time. The laboratories are equipped with state-of-the-art facilities including software and hardware. All the laboratories are provided with internet connectivity.

Research areas	
Deep Learning	Fair and Explainable Machine Learning
Autonomous vehicles	Computer vision
Generative Models	Video quality assessment
Speech systems	AI for agriculture
Bayesian learning	Social media and text analysis
Robotics	Recommendation systems and data mining
ML in astronomy	Inference algorithms
Graphical models	Big data analysis
Game Theory and Mechanism Design	AI and Internet of Things
Computer Architectures for AI	Natural Language Processing
AI and High Performance Computing	

The Department of AI accepts applications for the following the following MTech programs in the coming academic year:

• Mtech (3 year)

Please see the subsequent sections for details.

MTech (3 yr) program

The 3 year MTech program at IITH has the same number of credits as the 2 year program (See the department website for more details), but more spread out to enable the student to focus more on research.

The program has the following two components in the course curriculum.

• Coursework (24+2 credits)

The AI curriculum is designed to be a well rounded and holistic introduction to both the theory and practice of machine learning. Students can do a wide variety of courses, ranging from fundamental theoretical courses to more advanced application based courses. A course on English communication is also included, in addition to industry lectures.

• MTech thesis (24 credits)

Students will work with supervisor(s) to contribute to high quality research in AI.

Students who join the 3-year program will be assigned a supervisor at the time of joining. Students admitted to the regular M-Tech 3-years program are responsible to provide research

and teaching assistance to the supervisor. The advantage of the regular 3-years MTech program is that the students can get better exposure to research under the particular program. Students may be paid a stipend similar to (or higher) than the 2-yr MTech students.

Eligibility Criteria for Application

The applicant must have already earned BTech/BE/MSc in any discipline or, at least, should be in the final year of the respective studies. In the latter case, it would be assumed that the candidate will be able to complete the degree by the time of M-Tech admission. There are three modes of admission to the MTech (3 yr, RA) program.

- Mode RA1: In addition to the degree requirement, the candidate must have a valid GATE score in CS/EC/EE/MA/ST.
- Mode RA2: Candidate must have a B-Tech / MSc (Math/Applied Math) degree from any IIT.
- Mode RA3: In addition to the degree requirement, the candidate must have 6 months project experience in IITH.

Selection Process

For admission to the program through any of the modes, there will be a preliminary shortlisting depending upon the academic background and/or GATE score. Candidates who satisfy the shortlisting cutoff may need to appear for a written test and/or an interview. The decision to hold the test/interview will be taken based on the number of applications and will be communicated to the candidates at appropriate time. In addition, the department reserves the right to set any cutoff for the shortlisting of M-Tech applications. The department has the right not to select anybody if no appropriate candidates are found. Note that mere eligibility does not imply that the candidate will be shortlisted or called for the written test/interview.

Application Process

IIT Hyderabad has a centralised online application portal for the M-Tech admission. Candidates are requested to visit https://iith.ac.in/mtechadmissions/home.jsp for the application format and the submission link. Applications will be accepted through this portal only.

For up-to-date information, please visit https://ai.iith.ac.in/mtech-admissions.html

For any query, kindly write to ai_grad_admissions@iith.ac.in