MTech (Artificial Intelligence)
Indian Institute of Science

Jointly offered by the EECS Division Comprising Computer Science and Automation (CSA), Electrical Communication Engineering (ECE), Electrical Engineering (EE), Electronic Systems Engineering (ESE) Departments, and Robert Bosch Centre for Cyber-Physical Systems (RBC-CPS)

Vision: Produce world leaders in Artificial Intelligence and lead India's march towards excellence in AI.

Mission: Realise this vision by imparting rigorous training in the foundations and the deep technologies of AI and by conducting high impact research to generate new knowledge.

Artificial Intelligence (AI) refers to our ambitious goal of understanding and reproducing human cognition. AI today outperforms humans in games like Chess and Go, enables translation at scale, and enables object recognition and tracking at scale. We anticipate that AI will further help us provide better transportation, better and personalised delivery of healthcare, better control of processes that affect our environment, better delivery of citizen services, and in general enablement of data-driven and informed decision making.

Given the anticipated wide impact, the stake holders are many – government bodies, journalists, businesses and entrepreneurs, scientists working in the sciences and the humanities alike, doctors, and educators. The scope is so wide that AI is now not just a research topic, but a universal phenomenon that's on 'everyone's lips'. It is dominating the scientific, economic, and social discussion.
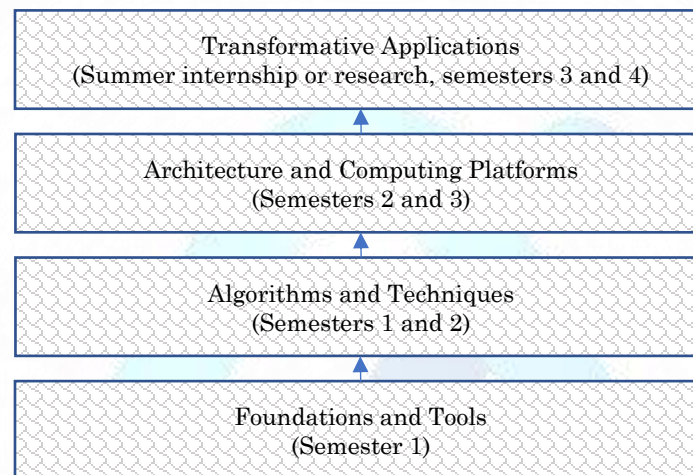
With many countries taking big strides in the domain, there is a need for AI capacity building in India so that we can become an intellectual force in this emerging domain. The MTech (AI) programme at IISc has been created to address this need.

A variety of fields have to come together to help us make progress in this field – computer science, signal processing, information theory, system theory, cognitive science, learning theory and epistemology, mathematics, statistics, game theory, optimisation, algorithms, etc. The application domains pull the field in various directions, and this is as it should be. But the countless approaches call to attention the immediate need for a systematic study of this field. The MTech (AI) programme at IISc has been designed to impart training to systemise the study. It deals with both the foundations and the technologies that drive AI.

The programme has been designed in the belief that AI should not be an end in itself, but rather a driving force for transformative applications. The development of the tools of AI must be guided by the very applications it will impact – healthcare, transportation and mobility, education, environment, etc.

In keeping with the above aims, the MTech (AI) programme has been designed to impart rigorous training in Foundations and Tools, Algorithms and Techniques, Architecture and Computing Platforms, and Transformative Applications. We want you, the first generation of AI engineers, to be trained in all these aspects so that you are ready to adapt to the transformations that this field will bring about.

Course plan

Highlights of the programme

1. Joint programme offered by the Electrical, Electronics and Computer Sciences (EECS) Division (Computer Science and Automation (CSA), Electrical Communication Engineering (ECE), Electrical Engineering (EE), Electronic Systems Engineering (ESE) Departments) and Robert Bosch Centre for Cyber-Physical Systems (RBC-CPS).
2. Curriculum tailored to bring students to the forefront of AI research and development.
3. Programme designed and administered by more than 30 faculty members working in leading edge topics in AI (https://ai.iisc.ac.in/).
4. One year research and development project to make our students the creators of futuristic applications of AI.
5. Development of soft skills of students.
6. Emphasis on publications, patents, products, and software.
7. State-of-the-art computational and experimental facilities at one of the top institutions in the country.
8. Excellent placement opportunities in reputed companies and industrial research labs pursuing high end, deep technology aspects of AI.