

Joint M.Tech Program in Machine Learning by CS and EE

(Tentative Details)

Eligibility Criteria:

- A 4-year B.Tech./B.E. degree in any engineering discipline or an MSc/MS/MCA degree in CS/IT/Maths, and have an excellent academic record. Candidates having professional qualifications recognized by AICTE, like AMIE, are also eligible to apply.
- The candidate should have a valid GATE score in CS, EC or IT
- Students having GATE score in CS/IT will be awarded MTech degree from the Dept. of CS, and those with GATE score in EC will be awarded MTech degree from the Dept. of EE.

Proposed Curriculum:

Course No.	Semester I	Credits
EE5310	Probability and Random Processes	3
MA4020	Linear Algebra	3
CS6010	Advanced Data Structures	3
EE7390	Pattern Recognition & Machine Learning	3
EE/CSxxxx	Core Elective - 1	3
	Total Semester Credits	15
	Cumulative Credits	15

Course No.	Semester II	Credits
EE/CSxxxx	Core Electives	12
EE/CS5305	Thesis Stage 0	3
	Total Semester Credits	15
	Cumulative Credits	30

Course No.	Semester III	Credits
EE/CSxxxx	Core Elective	3
EE/CS5315	Thesis Stage - 1	12
	Total Semester Credits	15
	Cumulative Credits	45

Course No.	Semester IV	Credits
EE/CS5325	Thesis Stage 2	15
	Total Semester Credits	15
	Cumulative Credits	60

Suggested List of Electives:

CS6510	Applied Machine Learning
CS6230	Optimization Methods in Machine Learning
CS6360	Advanced Topics in Machine Learning
CS5290	Computer Vision
CS5270	Numerical Linear Algebra for Data Analysis
CS5230	Visual Recognition
CS5350	Bayesian Data Analysis
CS5330	Introduction to Statistical Natural Language Processing
CS6370	Information Retrieval
CS6660	Mathematical Foundations for Data Science
CS6520	Data Intelligence and Analytics
CS	Linear optimization
CS5370	Deep Learning for Vision
CS6420	Topics in Deep Learning
CS6540	Image and Video Analytics
CS	Neural Networks
CS	Soft Computing
EE6380	Deep Learning
EE7380	Monte Carlo Inference on Bayesian Networks
EE5420	Introduction to compressed sensing
EE5430	Compressed Sensing
EE7320	Immersive Multimedia and Telepresence
EE6300	Speech Signal Processing
EE5360	Practical challenges in image analysis
EE6310	Image and Video Processing
EE	Machine Learning for Signal Processing
EE5330	Information Theory and Coding
MA6100	Mathematics behind Machine Learning
MA6080	Measure Theoretic probability
MA5020	Functional analysis
MA6040	Fuzzy Logic Connectives: Theory And Applications
MA	Approximate Reasoning
MA	Compressed Sensing
MA	Convex Optimization