



Indian Institute of Information
Technology Vadodara (IIIT Vadodara)

M.Tech AI & ML

Type

Pg Program

Mode

Online

Duration

2 Years

Total fees

₹ 370,100

Indian Institute of Information Technology Vadodara (IIIT Vadodara)

Established in 2013 by the Ministry of Education, Government of India, IIIT Vadodara is an Institute of National Importance committed to advancing education, research and innovation in information technology. Founded through a Public-Private Partnership, the institute brings together government and industry expertise to develop globally competent technology professionals. Its academic environment emphasises interdisciplinary learning, technical excellence, practical problem-solving and the application of emerging technologies to real-world challenges.

M.Tech AI & ML

Highlights

- ◆ Earn an M.Tech degree in Artificial Intelligence & Machine Learning from IIIT Vadodara.
- ◆ Build advanced expertise in Machine Learning, Deep Learning, NLP, Computer Vision, Generative AI and MLOps.
- ◆ Gain practical exposure to tools such as Python, TensorFlow, PyTorch, Scikit-learn, Hugging Face and Hadoop.
- ◆ Apply learning through research-driven coursework, specialised electives and a guided project or dissertation.
- ◆ Participate in a mandatory five-day campus immersion and gain IIIT Vadodara alumni status upon successful completion.

Learning outcomes

- ◆ Apply mathematical, statistical and engineering principles to analyse and optimise AI and Machine Learning systems.
- ◆ Design and implement scalable Machine Learning, Deep Learning and intelligent data-processing solutions.
- ◆ Conduct structured experiments, analyse complex datasets and interpret results for practical AI applications.
- ◆ Develop responsible AI solutions while considering ethical, social, economic, safety and sustainability factors.
- ◆ Collaborate effectively across multidisciplinary teams and communicate technical AI concepts to diverse stakeholders.

Eligibility Criteria

Applicants must hold a B.E./B.Tech. in Engineering or an MCA/MSc (in Physics, Mathematics, Statistics, CS, IT, DS, or related fields) or an equivalent degree.

A minimum of 60% or a 6.0 CPI on a 10-point scale (or equivalent) in the qualifying degree is required.

The program is designed for working professionals, and while specific work experience requirements may vary, a background in the IT industry is highly recommended.

Marks will be relaxed by 2.5% or 0.5 CGPA or CPI against each additional year of experience.



Curriculum Overview (continued)

Semester I (32 subjects)

- ◆ Big Data Platforms for AI & ML
- ◆ Distributed data-processing platforms
- ◆ Big data storage and computing frameworks
- ◆ Data pipelines for Artificial Intelligence and Machine Learning
- ◆ Large-scale data processing
- ◆ Platforms supporting scalable AI applications
- ◆ Advanced Data Structures & Algorithms
- ◆ Advanced data structures
- ◆ Algorithm design and analysis
- ◆ Graph and tree-based algorithms
- ◆ Computational complexity
- ◆ Efficient problem-solving techniques
- ◆ Mathematical Foundations for AI
- ◆ Linear Algebra
- ◆ Probability
- ◆ Statistics
- ◆ Optimisation
- ◆ Mathematical modelling for AI and Machine Learning
- ◆ Programming for AI & Data Science
- ◆ Python Programming
- ◆ NumPy
- ◆ Pandas
- ◆ Data preprocessing and manipulation
- ◆ Scikit-learn
- ◆ Programming workflows for AI and Data Science
- ◆ Foundations of Machine Learning
- ◆ Introduction to Machine Learning
- ◆ Supervised Learning
- ◆ Unsupervised Learning
- ◆ Model training and validation
- ◆ Performance evaluation
- ◆ Machine Learning applications



Curriculum Overview (continued)

Semester II (35 subjects)

- ◆ Deep Learning
- ◆ Artificial Neural Networks
- ◆ Deep feedforward networks
- ◆ Convolutional Neural Networks
- ◆ Recurrent and sequence models
- ◆ Model training and optimisation
- ◆ Deep Learning applications
- ◆ Natural Language Processing
- ◆ Text preprocessing and representation
- ◆ Language modelling
- ◆ Text classification
- ◆ Sequence-based language models
- ◆ Transformer architectures
- ◆ NLP applications
- ◆ Research Methodology & AI Ethics
- ◆ Research-problem identification
- ◆ Literature review
- ◆ Research design and experimentation
- ◆ Data interpretation
- ◆ Academic writing and reporting
- ◆ Ethical and responsible AI practices
- ◆ Computer Vision
- ◆ Digital image fundamentals
- ◆ Image preprocessing
- ◆ Feature extraction
- ◆ Image classification
- ◆ Object detection and segmentation
- ◆ Deep Learning for Computer Vision
- ◆ AI/ML Strategy and Business Value Creation
- ◆ AI strategy development
- ◆ Identification of AI-enabled opportunities
- ◆ Business-value assessment
- ◆ AI adoption and implementation
- ◆ Organisational transformation using AI
- ◆ Measuring the impact of AI initiatives



Curriculum Overview (continued)

Semester III (3 subjects)

- ◆ Elective-1
 - ◆ Elective-2
 - ◆ Project Work / Research + Dissertation
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Semester IV (3 subjects)

- ◆ Elective-3
- ◆ Elective-4
- ◆ Project Work / Research + Dissertation



Curriculum Overview (continued)

Elective Pool (19 subjects)

- ◆ Advanced AI / ML Engineering & Deployment
- ◆ Scalable Deep Learning and Distributed Training
- ◆ MLOps Automation and Orchestration
- ◆ Generative AI: Customization and Deployment of LLMs
- ◆ High-Performance Computing for AI/ML
- ◆ Embedded AI and Edge Machine Learning
- ◆ Emerging Trends in AI/ML and Future of AI
- ◆ Probabilistic Graphical Models
- ◆ Scalable Model Serving and Inference Optimization
- ◆ AI for Business Transformation & Strategy
- ◆ AI-Driven Business Model Innovation
- ◆ Digital Transformation with AI/ML
- ◆ AI for Competitive Advantage and Market Intelligence
- ◆ AI in Supply Chain and Operations Optimisation
- ◆ AI in Finance and FinTech
- ◆ AI Governance
- ◆ Policy and Compliance
- ◆ AI in Retail and E-Commerce
- ◆ Crisis Management and Business Continuity in ICT

Fee Structure

Fee heads	Year 1	Year 2	Total
Institute Registration Fees	₹ 2,000	₹ 2,000	₹ 4,000
Tuition Fee	₹ 170,000	₹ 170,000	₹ 340,000
Caution Deposit (Refundable)	₹ 10,000	—	₹ 10,000
Academic Charges Inc (Convocation Fee, Alumni Fee, Insurance, ID card Fee)	₹ 5,600	₹ 5,500	₹ 11,100
Campus Immersion Fee	₹ 5,000	—	₹ 5,000
Total	₹ 192,600	₹ 177,500	₹ 370,100