Jointly Organized by
Electronics & ICT Academies

IITR,NITP, IITK, MNIT Jaipur
http://www.mnit.ac.in/eict

Online Programme on AI and Machine Learning: Foundations to Frontier Applications

23 Feb-09 Mar 2026

Faculty Development Programme
Electronics & ICT Academy under aegis of

Ministry of Electronics and Information Technology
Government of India

meity.gov.in/content/schemes-projects

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Objective (Electronics & ICT Academy-Phase II)
1)To conduct specialized FDPs for faculty/mentor training in line with the vision of MeitY by promoting emerging areas of technology and other high-priority areas that are pillars of both the "Make in India" and the "Digital India" programs.
2) To promote synergy and collaboration with industry, academia, universities and other institutions of learning, especially in emerging technology areas.
3) To support the National Policy on Electronics 2019 (NPE 2019) which envisions positioning India as a global hub for ESDM sector, including MeitY Schemes/policies such as Programme for Semiconductors and Display Fab Ecosystem; India AI; National Programme on AI, Production Linked Incentive Scheme for IT Hardware & Large-Scale Electronics Manufacturing; EMC; SPECS; Chips to System (C2S); etc.
4) To promote standardization of FDPs through Joint Faculty Development Programmes.
5) To support the vision of the National Education Policy (NEP 2020), which mandates that Indian educators go through at least 50 hours in professional development programmes per year.
6) To design, develop & deliver specialised FDPs on emerging technologies/ niche areas/ specialised modules for specific research areas for Faculty in Higher Education Institutions (HEI), besides FDPs on multi-disciplinary areas connected with ICT tools and technologies and other digital hybrid domains, covering a wide spectrum of engineering and non-engineering colleges, polytechnics, ITIs, and PGT educators.

An intensive 40 Hours Training Programme in online mode is being organized for faculty and doctoral students of engineering and technological institutions. It is also open to working professionals from industry/organizations. The main theme of training program will be oriented around exploring the state of the art methods for AI and Machine Learning: Foundations to Frontier Applications.

Experts/Speakers- A blend of academic excellence from IITs, NITs, and IIITs, together with practical perspectives from industrial leaders.

Programme Modules:

Module 1: Mathematical Foundations & Data Engineering: The Math of Intelligence: Linear Algebra (tensors/matrices), Calculus (gradients/backpropagation), and Probability (Bayesian inference), Advanced Feature Engineering: Automated data cleaning, handling high-dimensional data, and embedding generation, Vector Databases: Implementing Pinecone or Milvus for semantic search and Retrieval-Augmented Generation (RAG).
Module 2: Core Machine Learning & Deep Learning: Supervised & Unsupervised Learning: Beyond Basics—Ensemble methods (XGBoost, LightGBM) and sophisticated clustering for anomaly detection, Neural Architecture: Building and tuning Feedforward, Convolutional (CNN), and Recurrent (RNN) networks, The Transformer Revolution: Deep dive into Self-Attention mechanisms and the architecture that powers GPT and Gemini.
Module 3: The Frontier—Generative & Agentic AI, Large Language Models (LLMs): Fine-tuning strategies (LoRA/QLoRA) and prompt engineering for complex reasoning, Agentic Workflows: Designing AI Agents that can use tools (browsers, APIs, code interpreters) to complete multi-step autonomous tasks, Multimodal Applications: Training and deploying models that process text, image, audio, and video simultaneously
Module 4: MLOps, Security, and Ethics: MLOps Lifecycle: Versioning models with MLflow, containerization (Docker/Kubernetes), and continuous monitoring for "data drift, Adversarial AI & Security: Protecting against prompt injection, model inversion attacks, and data poisoning, Responsible AI: Frameworks for bias detection, explainability (SHAP/LIME), and complying with the 2026 Global AI Act standards

Programme Coordinator:

Prof. Ashish Tripathi, MNIT Jaipur, Jt-PC	fdp.academy@mnit.ac.in	99998 65120 (M)
Dr. Mukesh Kumar, NIT Patna, Jt-PC	Dr. Arks Srinivas, IIT Kanpur, PC	

Registration:
Registration is open to faculty, working professionals, industry persons, doctoral, postgraduate and graduate students from India and rest of the world. Participants will be admitted on first-come first-served basis. Register online at-(http://online.mnit.ac.in/eict/)

Registration Fee:

Mode of programme	Academia (faculty/Students): India/SAARC/Africa	Others: India/SAARC/Africa	Rest of the world
Online	Rs. 500/-	Rs. 1000/-	US $ 60/-

(A) Fee once paid will not be refunded back.
(B) The fee covers online participation in the programme, tutorial notes and examination, certification charges etc.
(C) The registration amount may be paid through online mode - NEFT / UPI / Cards / SWIFT, provided at the registration portal.
(D) Detailed schedule will be shared after receiving registration form.
→ For queries, **email us at** fdp.academy@mnit.ac.in

MNIT Jaipur one of the oldest NITs, the institute has a rich heritage of sixty years producing world class engineers, managers, architects and scientists. Ranked 43rd nationally in the NIRF ranking-2024 (Engineering), the institute offers learning opportunities for undergraduate, postgraduate students, and researchers in various domains. Having a lush green campus of over 317 acres within the heart of the pink city, close to Jaipur International Airport, the campus offers a safe and lively environment. A world class teaching infrastructure, state-of-art laboratories welcome you at the campus. The institute has a vision to impart education of international standards and conduct research at the cutting edge of technology.