Electronics & ICT Academy IIT Roorkee

An Initiative of
Ministry of Electronics & Information Technology (MeitY) Government of India

A Faculty Development Program

on

Real-Time Application using Machine Learning and Artificial Intelligence

In association with
Poornima College of Engineering, Jaipur
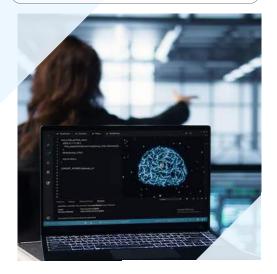
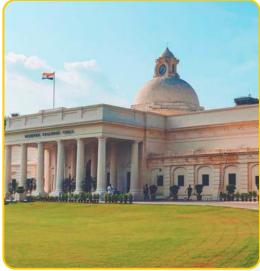### Apr 21 – May 01, 2025

Register Before: Apr 20, 2025

Venue: Hybrid Mode at Computer Engineering Department , Poornima College of Engineering, Jaipur

Objectives of the Course

- To introduce the fundamentals and advanced concepts of Machine Learning and Artificial Intelligence.
- To demonstrate practical use cases of AI/ML in healthcare, surveillance, agriculture, and intelligent systems.
- To expose participants to modern tools and frameworks used in image processing, graph learning, and explainable AI.
- To offer hands-on sessions that reinforce theoretical learning through practical implementation.
- To facilitate discussion on the ethical and transparent use of AI through the lens of Explainable AI.

Why this course ?

Artificial Intelligence (AI) and Machine Learning (ML) have revolutionized real-time systems in diverse domains such as healthcare, surveillance, agriculture, and smart environments. With the exponential growth of data and computational capabilities, the demand for intelligent, explainable, and adaptive systems is increasing rapidly. This course is designed to equip faculty, researchers, and professionals with the latest AI/ML applications, tools, and techniques, with a focus on real-time decision making, predictive analytics, human-like intelligence, and edge computing.

Prerequisites

No experience is required, but fundamental knowledge of any programming language would be helpful.

Experts from Academia/Industry

Who Should Register?

Any Interested Faculty/PhD-Scholars UG/PG/ & Industry Persons can register

Registration Fee

Fees: ₹ 250/- Faculty/Research Scholar/ Students
₹ 500/- Industry/Others
Note: Refund will be done in case of course cancellation only, with in 20 working days

FDP Kits & Refreshment will be provided

How to make Payment

Please make the payment first using the below link upload the payment receipt when filling out the Google registration form

https://eict.iitr.ac.in/instruction-for-payment/

EICT Course Code: EICTITR-FDP-25-38

Registration Link

https://forms.gle/YVYk9KuYFaG5xKHf6

Scan QR for registration

Register before: Apr 20, 2025

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Course Outcomes

- Understand and implement AI/ML techniques for real-time systems across domains.
- Analyze and apply different machine learning models including supervised, unsupervised, and graph-based learning.
- Apply deep learning for medical imaging and surveillance systems.
- Utilize Explainable AI (XAI) tools for making AI systems transparent and understandable.
- Develop edge AI solutions for intelligent caching and low-latency inference.
- Apply AI in agriculture for predictive analytics and early diagnosis.

Focus Areas

- AI for real-time healthcare monitoring and diagnostics
- Real-time image and video processing using AI
- Web robot detection using machine learning techniques
- Introduction to machine learning and its diverse applications
- Interactive modeling of human intelligence
- Recommender systems using AI
- Intelligent edge caching with ML and DL
- Deep learning for medical image segmentation
- Explainable AI (XAI) – LIME, CAM, Saliency Maps, GradCAM etc.

Course Features

- 40 Hours of Lectures, hands-on, and Pedagogy/Industry sessions.
- Lectures from Expert Speakers, Hands-on from industry/Academia experts.
- Access to learning material and video lectures
- Certificate by E&ICT Academy IIT Roorkee

Who may benifits

- Academic Faculty and Students(UG/PG)
- Government Officials.
- Working Professionals in the Industry and Startups.
- Reasearch Scientists and Technical Staff.

This certificate can be considered in alignment with other Quality Improvement Programs (QIP) as well as NBA and NAAC for recognition/credit.

Principal Investigator

Prof. Sanjeev Manhas
ECE Department, IIT Roorkee

Course Coordinators

- Prof. Sanjeev Manhas, IIT Roorkee
- Mr. Manish Dubey
- Ms. Upma Kumari
- Mr. Amit Kumar

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