

Faculty Development Program on

AI and Machine Learning

(Course offered by IIT faculty with NIT Raipur as Remote Center)

About Winter Courses

Faculty Development Programmes in core areas of Electronics and Information & Communication Technology (ICT) streams have been planned by academies for delivery during winter. This course will be delivered at **NIT Raipur** as remote centres through NKN infrastructure/video conferencing from IIT.

Course Name	Principal Coordinating - Academy	Co-principal Coordinating - Academy	From date	To date
AI and Machine Learning	IIT Roorkee	IIITDM Jabalpur	17.12.2018	21.12.2018

Target Beneficiaries:

Interested faculty of engineering/technical institutions are eligible to attend these winter course.

Course duration:

This winter course is designed for 40 hours (Theory Lectures: 20-25 hours, Hands-on/Design orientation/Activity linked problems/Assignments Problem Solving/Case Studies sessions/Quiz Tests: 15-20 hours)

Travel:

No Travel Allowance will be paid to the participants.

Registration Fee for each Winter Course:

No Registration fee is charged for attending this programme planned at any designated academies/Remote centres. However, candidate should submit a **refundable Demand Draft** of Rs.1000/- along with application form and the same will be handed over to the participant on the last day of the training. Satisfactory Certificate will be given to the participants subject to fulfilment of attending all sessions, submission of assignments and clearing the test(s).

Mode of Payment:

Academy Name	Payment through DD
IIT Roorkee	Demand Draft in favour of " Dean SRIC IIT Roorkee " payable at Roorkee

How to apply:

- Please keep the following scan documents ready before registering (maximum size of file up to 1 MB):
 - 1) Scan copy of institutional ID (file name as "full name_id.pdf")
 - 2) Scan copy of Demand Draft if applicable (file name as "full name_dd.pdf")

For Registration of the course go to the following link:

Under <http://eict.iitg.ac.in/UpcomingWinterCourses18.html>, in **AI and Machine Learning** course there is a link of Application Form(On-line), it would take you to google doc where you can make necessary entries and upload the scanned documents.

- Address of Local coordinator:
Dr. S. Majumder, Assistant Professor, Dept of Electronics & Telecommunication, NIT Raipur.
E-mail: smajumder.etc@nitrr.ac.in, Mobile:9424200516

Important Dates:

Course Name	AI and Machine Learning
Last Date for Submission of Application form	10th December, 2018
Selection list Intimation by E-mail/Display in web site	12th December, 2018
Course dates at NIT Raipur	17-21 December, 2018

Module Details of AI and Machine Learning

S.No	Module Name	Topics
1.	AI Fundamentals	Fundamental Concepts of AI: Agents, environments, general model; Problem Solving techniques.
2.	Search Techniques	Uninformed search, heuristic search, adversarial search and game trees; Solution of constraint satisfaction problems using Search.
3.	Knowledge Representation	Propositional and predicate calculus, semantics for predicate calculus, inference rules.
4.	Machine Learning Structures	Supervised and unsupervised learning. Artificial Neural Network (Multi-Layer Perception), Radial Basis Function, Functional Link ANN, Self-Organizing Map, Clustering Adaptive FIR and IIR structures.
5.	Machine Learning Algorithms	Least Mean Square algorithm, Back Propagation, Genetic algorithm, Differential Evolution, Particle Swarm Optimization and Other Nature Inspired Optimization.