

NIELIT Virtual Academy

AI12 Certificate course in Artificial Intelligence and Machine Learning with Python

Course Objective:

- Provide basic theoretical concepts underlying machine learning.
- Provide a comprehensive understanding of artificial and machine learning concepts.
- Provide deep understanding with an effective algorithmic Perspective of AI & ML concepts.
- Provide hands-on to solve real-life AI & ML problems.

Eligibility: Any Graduate

Methodology:

- ✓ Online Mode
- ✓ 24x7 Content Access through e-learning portal
- ✓ Covers both Theory & Practical
- ✓ Assessment and Certification

Registration Link: <http://nva.nielit.gov.in>

Contact Number: 7598730125

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Module 1 : Introduction to Machine Learning & Data pre-processing

- Objectives, Applications and types of Machine Learning Day 1
- Python libraries suitable for Machine Learning Day 2
- Dimensionality reduction-Principal Components Analysis Day 3
- **Practical Implementation using Python** Day 4
- **Assignment-1 & Discussion Forum** Day 5

Module 2 : Machine Learning I

- Building linear regression & KNN classifier Day 6
- Support Vector Machines Day 7
- Decision Tree Day 8
- **Practical Implementation using Python** Day 9
- **Assignment-2 & Discussion Forum** Day 10

Module 3 : Machine Learning II

- Unsupervised Learning – Introduction, K-Means Algorithm Day 11
- Fuzzy clustering Day 12
- Density Based Clustering Day 13
- **Practical Implementation using Python** Day 14
- **Assignment-3 & Discussion Forum** Day 15

Module 4 : Artificial Neural Network

- Introduction- Building Neural Network, Activation functions and Loss functions Day 16
- Training a single perceptron Day 17
- Back Propagation Algorithm Day 18
- **Practical Implementation using Python** Day 19
- **Assignment - 4 & Discussion Forum** Day 20

Module 5 : Deep Learning

- Introduction, CNN with Deep learning Day 21
- RNN- Architecture and Training Day 22
- LSTM and its application Day 23
- **Practical Implementation using Python** Day 24
- **Assignment-5 & Discussion Forum** Day 25

Module 6 : Capstone project

Day 26- 30

Project Report Submission & Test

Day 31