

NIELIT VIRTUAL ACADEMY

AI11 Advanced Machine Learning for AI Applications

Course Objectives

- ✓ Provide basic theoretical concepts underlying advanced machine learning concepts for AI applications.
- ✓ Provide a comprehensive understanding of dimensionality reduction techniques.
- ✓ Provide deep understanding with an effective algorithmic perspective of AI & ML concepts.
- ✓ Provide hands-on to solve real-life AI & ML problems.

Eligibility Any Graduates

Prerequisites

- ✓ Basic Mathematics and programming skills
- ✓ Candidate must have the latest computer/laptop with preferably 4 GB RAM or higher
- ✓ Internet connection with good speed (preferably 10Mbps or higher)

Program Highlights

- ❖ One monthly program for working professionals & students can be pursued online (NVA Classrooms).
- ❖ Intensive program covers the key concepts of artificial intelligence and machine learning.
- ❖ Mastering concepts of artificial intelligence and machine learning via Practical implementation using Python with capstone projects.
- ❖ Program content can be accessed through LMS portal 24x7.
- ❖ State of art Online/Blended practical sessions and downloadable resources.
- ❖ Access to course instructors through online live lectures, Q & A support, and discussion forums.
- ❖ Certificate will be provided after successful completion of the course.

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Registration Link: www.nva.nielit.gov.in

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COURSE CONTENT

AI11 Advanced Machine Learning for AI Applications (30 Hours)

Module 1 - Introduction

- Objectives - Types of Machine learning Day 1
- Data Pre-Processing, Bias Variance trade-off, overfitting & underfitting Day 2
- Python libraries for Machine learning Day 3
- Classification vs Regression Day 4
- Linear regression Day 5

Module 2 - Machine Learning I

- Logistic regression algorithm Day 6
- KNN algorithm Day 7
- Decision tree algorithm Day 8
- Support vector machine algorithm Day 9
- Case study Day 10

Module 3 - Machine Learning II

- Naïve Bayes Classifier Day 11
- Random forest algorithm Day 12
- Ensemble Learning methods Day 13
- Regularization Day 14
- Case study Day 15

Module 4 - Clustering & Dimensionality Reduction Techniques

- Clustering- K-means Day 16
- Density-Based Clustering Day 17
- Linear discriminant analysis Day 18
- Principle component analysis Day 19
- Case study Day 20

Module 5 - Deep Learning

- Simple neural network Day 21
- Training a single perceptron Day 22
- Back Propagation Algorithm Day 23
- CNN Day 24
- Case study Day 25
- Capstone Project Day 26- 30
- Project Report Submission & Examination Day 31