

Machine Learning (unsupervised learning)

Course Duration: 24 Hours (3 Days)

Overview

Machine Learning (Unsupervised learning) certification validates an individual's skills in Algorithm designs that can autonomously analyze and derive meaningful insights from untagged, unlabeled datasets. It's all about understanding and implementation of Unsupervised learning techniques, such as Clustering and Dimensionality reduction algorithms that learn hidden structures from data for Predictive modelling. Industries use this certification to authenticate professionals' capabilities to handle large, complex datasets and convert them into intelligent informatics systems. This helps in diverse sectors like banking, healthcare, retail, and more, assisting in decision-making processes, predicting customer behaviour, identifying patterns and anomalies, which maximizes efficiency and profitability.

Audience Profile

- Data scientists seeking advanced knowledge
- AI enthusiasts interested in machine learning
- Technology professionals aiming to enhance their skills
- Graduates and postgraduates in computer science
- Mathematicians and statisticians looking to advance their computational skills
- Business analysts seeking to apply machine learning for data analysis
- Researchers and data analysts in academic and scientific fields

Course Syllabus

- Clustering Techniques: Hierarchical Clustering, K-Means Clustering
- Proximity Measures in Machine Learning and DBSCAN (Density-Based Spatial Clustering of Applications with Noise)
- Anomaly Detection and Dimensionality Reduction – Importance of Dimensionality Reduction
- Principal Component Analysis (PCA), Singular Value Decomposition (SVD), and T-distributed Stochastic Neighbor Embedding (t-SNE)
- Association Rule Mining – FP-Growth Algorithm
- Apriori Algorithm Implementation in Python
- Hands-on: Clustering, Association Rule Mining
- Hands-on: Dimensionality Reduction, Anomaly Detection
- Recommender Systems
- Recommender Systems – Case Study 1