

# VEDITHTECH

## Artificial intelligence:

### Course Overview

Machine Learning is a unique methodology of data analysis that helps to automate the analytical model building. Machine Learning is the branch of artificial intelligence completely based on the ideas that can be learnt from data as well as identifying work patterns.

Machine Learning is an ultimate leading analytical platform that helps to build a strong knowledge-based foundation to grow on analytical path. Our expert and experienced trainers will take you through all the concepts and lead you towards transforming you into strong analytical path that will help them very well capable for handling all real-time complex challenges in the Machine Learning

### Course Content

#### 1. OVERVIEW

- Introduction to Machine Learning, AI and Data Science
- Where does this world reside
- Machine Learning VS Artificial Intelligence
- Python for Data Science

#### 2. PYTHON 101

- Python Anatomy
- Conditionals
- Loops
- Functions
- Modules and Packages
- The Jupyter notebook

#### 3. DATA VISUALIZATION USING MATPLOTLIB

- Introduction to Data Visualization
- Types of plots
- Plotting multiple graphs
- Legends, Annotations and Styles
- Working with 2D Arrays

- PROJECT: Visualize the Company Stock Price Movements

#### **4. DATA WRANGLING**

- About Pandas
- Series and DataFrames in Pandas
- Data Operations
- Pandas SQL Operation
- Accessing CSV and JSON Data
- Data cleaning and transformation
- Exercises

#### **5. MATHEMATICAL COMPUTING WITH PYTHON (Optional)**

- NumPy Overview and NumPy Arrays
- Basic Operations and Mathematical functions of NumPy
- Calculus: Maximizing and minimizing algebraic equations

#### **6. DATA ANALYSIS**

- Exploratory Data Analysis
- Quantitative Technique
- Graphical Technique
- Data Analysis Predictions
- Statistical and Non-statistical Analysis
- Descriptive and Inferential Statistics
- Probability Theory
- Conditional Probability

#### **7. MACHINE LEARNING**

- Machine Learning Approach
- Supervised Learning
- Unsupervised Learning
- Generalization
- Regularization
- Classification
- Pipelines

#### **8. SUPERVISED AND UNSUPERVISED LEARNING USING SCIKIT LEARN**

- Data Classification
- kNN model
- Overfitting and Underfitting

- Linear Regression
- Cross-Validation
- Logistic Regression and the ROC curve

### **Key Benefits**

This course will derive the students towards gaining the knowledge of all enhanced applications of Data Science, Machine Learning and Artificial Intelligence and help them to get:

- This course will help you to improve your knowledge on data analysis.
- It will improve your decision-making ability with the concept of decision tree.
- To leverage the knowledge of the concepts like Data Visualisation.
- Provide Knowledge of the concepts like Data Mining and Data Collections.

It will help you to learn and hands on for real – time projects and case studies

### **Course Prerequisite**

There are no major Prerequisite are designed for this course program. Still having prior knowledge on below mentioned will help you on smooth completion of course with better understanding.

- Well Understanding on Computer Literacy.
- Well Understanding on the scientific discipline concepts.
- Basic knowledge on Programming concepts.

This course is best suited for the candidates and working professionals who are career oriented and intended to learn in depth knowledge on this field. We feel that this course is also best suited for working professionals like managers, Data Administrators, Business Analysts, Network Administrators and IT professionals.