

VEDITHTECH

THE MASTERY COURSE:

Course Overview

Data Science is a data driven analytics and it plays a major role and helps to development process any business. The data science course knowledge will not only limit you to do just development of business but also it will help you in area like Retail industry, Banking sectors, Telecom Industry, E-Commerce sectors.

In the overwhelming demand for the certified and knowledge- oriented data science experts, we are here to deliver a quality training for data science course. This course will help you become full package of data science, Machine Learning and Artificial Intelligence knowledge -oriented certified professional. The entire course is prepared to have an insight on all concepts for students those are looking for brighter career path in data science, Machine Learning and Artificial Intelligence field.

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.

This course is best suited for the data science career desired candidates as well as professionals those who are working in related fields.

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.

Course Content

1. OVERVIEW

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

2. PYTHON 101

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

3. DATA ANALYSIS – AN OVERVIEW

- Exploratory Data Analysis
- Quantitative Technique
- Graphical Technique
- Data Analytics Predictions

4. PROBABILITY AND STATISTICS

- Statistical and Non-statistical analysis
- Descriptive Statistics
- Estimation Distributions
- Inferential Statistics
- Sampling Distributions
- Hypothesis Testing
- Probability Theory
- Conditional Probability

5. MATHEMATICAL COMPUTING WITH NUMPY

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

6. PANDAS

- About Pandas
- Series in Pandas
- DataFrames in Pandas
- Data Operations
- Pandas SQL Operations

7. SCIENTIFIC COMPUTING WITH SCIPY

- Introduction to SciPy
- SciPy Sub-packages
- Integration and Optimization
- Statistics, Weave and IO

8. DATA WRANGLING

- SQL Programming: Joins, aggregations and subqueries
- Accessing CSV and JSON data
- Data cleaning
- Data Transformations

9. DATA VISUALIZATION USING MATPLOTLIB AND SEABORN

- Introduction to Data Visualization
- Types of plots
- Plotting multiple graphs
- Legends, Annotations and Styles
- Working with 2D Arrays
- Statistical plots with Seaborn
- Visualizing time-series
- Histogram equalization in images

10. MACHINE LEARNING

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

11. SUPERVISED LEARNING

- Data Classification
- K-Nearest Neighbours
- Measuring model performance
- Overfitting and Underfitting
- Linear Regression
- Fit and Predict for Regression
- Cross-validation
- Regularized Regression
- Logistic Regression Model
- The ROC curve
- Fine tuning the model (Hyperparameter Tuning)
- Preprocessing Data
- Handling missing data
- Centering and Scaling

12. UNSUPERVISED LEARNING

- Data Clustering
- Feature Transformation
- **Demo: Clustering Stocks using KMeans**
- Hierarchical Clustering
- t-SNE for 2-dimensional maps

- **Demo: A t-SNE map of the stock market data**
- Principal Component Analysis
- Dimension Reduction with PCA
- Non-negative Matrix Factorization

13. DEEP LEARNING – TENSORFLOW AND NEURAL NETWORKS

- What is Deep Learning?
- Introduction to TensorFlow
- Data Exploration
- Data Visualization
- Feature Extraction
- Deep Learning with TensorFlow
- Introduction to Neural Networks
- Training Neural Networks
- Multi-class Neural Networks
- Data Dependencies

14. NATURAL LANGUAGE PROCESSING

- NLP Overview
- NLP Applications
- NLP Libraries
- Extraction Considerations
- Model Training and Grid Search

