



**Jarvees**  
ACADEMY  
*An Attempt to Achieve a Goal !!!*



## ❖ **Introduction to Data Science**

- What is Data Science
- What does data science involves?
- Life cycle of Data Science
- Tools of Data Science
- Introduction to Python

## ❖ **Python environment Setup and Essentials**

- Introduction to python
- Software installation
- Basic operators and functions
- Data types with python
- Conditional statement

## ❖ **Mathematical Computing with Python (Numpy)**

- Introduction to Numpy
- Introduction to numpy arrays
- How to Access Array Elements?
- Indexing, Slicing, Iteration, Indexing with Boolean Arrays
- Dealing with Flat files using numpy
- Mathematical functions
- Statistical functions (mean, median, average, standard deviation)
- Operations with arrays

## ❖ **Introduction to Scientific Computing (Scipy)**

- Save a search as a report
- Editing reports
- Creating reports with visualizations charts and tables

## ❖ **Data Manipulation with Pandas**

- Introduction to Pandas
- Defining data structures
- Understanding Dataframes
- Importing Data from various sources

- (Csv, txt, excel etc)
- Missing values
- Data Operations
- File read operations
- Descriptive statistics

#### ❖ **Data Visualization using Matplotlib**

- Create plots like scatter plot,
- histogram, bar graph, pie chart using Matplotlib
- Grids, axes, plots
- Markers, colour, fonts and styling.

#### ❖ **Machine learning using scikit-learn**

- Machine learning Process Flow
- Machine learning categories
- Feature selection and extraction in machine learning
- Supervised learning algorithms
- Regression
- Simple linear Regression
- Applications of linear regression
- Building regression models using python
- Process to implement linear regression
- Coefficient of determination (R- Squared)
- Accuracy of model
- Multiple linear Regression
- Classification
- Logistic Regression
- Building Logistic Regression Model
- Understanding standard model metrics
- Validation of Logistic Regression Models
- Standard Business Outputs
- Decision Tree
- Random Forest
- Support Vector
- Machines K – NN
- Naïve Bayes classifier

❖ **Model evaluation techniques**

- concepts of confusion matrix,
- threshold evaluation with ROCR
- Unsupervised machine learning algorithms
- K-Means Clustering
- Hierarchical Clustering

❖ **Introduction to Deep learning**

- ✓ Assignment and Live Examples:
- ✓ Resumes helping you to create your resume.
- ✓ Case study-based approach.
- ✓ Placement Assistance.

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