

INFOSOFT IT SOLUTIONS

Training | Projects | Placements

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Machine Learning with Python

Introduction to Python Programming

- Python core packages
- Introduction to Jupyter Notebook
- Introduction to Numpy and Pandas
- Data filtering and selecting
- Find duplicates and treating missing values
- Concatenate and transform data

Introduction to various packages and related functions

- Numpy,Pandas and Matplotlib
- Pandas Module
- Series
- Data Frames
- Numpy Module
- Numpy arrays
- Numpy operations
- Matplotlib module
- Plotting information
- Bar Charts and Histogram

- Box and Whisker Plots
- Heatmap
- Scatter Plots

Data Wrangling using python

- NumPy – Arrays
- Data Operations (selection , append , concat , joins)
- Univariate Analysis
- Multivariate Analysis
- Handling Missing Values
- Handling Outliers

Introduction to machine learning with python

- What is Machine Learning?
- Introduction to Machine Learning
- Types of Machine Learning
- Basic Probability required for Machine Learning
- Linear Algebra required for Machine Learning

Supervised Learning-Regression

- Simple Linear Regression
- Multiple Linear Regression
- Assumptions of Linear Regression
- Polynomial Regression
- R² and RMSE

Supervised Learning-Classification

- Logistic Regression
- Decision Trees

- Random Forests
- SVM
- Naïve Bayes
- Confusion Matrix

Dimensionality Reduction

- PCA
- Factor Analysis
- LDA

Unsupervised Learning-Clustering

- Types of Clustering
- K-means Clustering
- Agglomerative Clustering

Additional Performance Evaluation and Model Selection

- AUC / ROC
- Silhouette coefficient
- Cross Validation
- Bagging
- Boosting
- Bias v/s Variance

Recommendation Engines

- Need of recommendation engines
- Types of Recommendation Engines
- Content Based
- Collaborative Filtering

Association Rules Mining

- What are Association Rules?
- Association Rule Parameters
- Apriori Algorithm
- Market Basket Analysis

Time Series Analysis

- What is Time Series Analysis?
- Importance of TSA
- Understanding Time Series Data
- ARIMA analysis

Reinforcement Learning

- Understanding Reinforcement Learning
- Algorithms associated with RL
- Q-Learning Model
- Introduction to Artificial Intelligence

Artificial Neural Network and Introduction to Deep Learning

- History of Neural Network
- Perceptron
- Forward Propagation
- Introduction to Deep Learning