



Data Science certification Training

Course description

In this course you will learn data analytics, data exploration, data visualization, predictive analytics and descriptive analytics techniques. Hands-on practice by implementing various real-life industry experiences in various domains. Learn more about why data science and machine learning are revolutionizing the world. In this course, you will get complete overview what the data science is today

Student Take away

- Study Material
- Learning stuff
- Sample project for practice

Data Science certification Training online training curriculum

Introduction to Data Science

- What is Data Science?
- Data Scientists
- Examples of Data Science
- Python for Data Science

Data Analytics Overview

- Data Visualization
- Processes in Data Science
- Data Wrangling, Data Exploration, and Model Selection
- Exploratory Data Analysis or EDA
- Data Visualization
- Plotting
- Hypothesis Building and Testing

Statistical Analysis and Business Applications

- Introduction to Statistics
- Statistical and Non-Statistical Analysis
- Some Common Terms Used in Statistics
- Data Distribution: Central Tendency, Percentiles, Dispersion
- Histogram
- Bell Curve
- Hypothesis Testing
- Chi-Square Test
- Correlation Matrix
- Inferential Statistics

Python: Environment Setup and Essentials

- Introduction to Anaconda
- Installation of Anaconda Python Distribution - For Windows, Mac OS, and Linux
- Jupyter Notebook Installation
- Jupyter Notebook Introduction
- Variable Assignment
- Basic Data Types: Integer, Float, String, None, and Boolean; Typecasting
- Creating, accessing, and slicing tuples
- Creating, accessing, and slicing lists
- Creating, viewing, accessing, and modifying dicts
- Creating and using operations on sets
- Basic Operators: 'in', '+', '*'
- Functions
- Control Flow

Mathematical Computing with Python (NumPy)

- NumPy Overview
- Properties, Purpose, and Types of ndarray
- Class and Attributes of ndarray Object
- Basic Operations: Concept and Examples
- Accessing Array Elements: Indexing, Slicing, Iteration, Indexing with Boolean Arrays
- Copy and Views
- Universal Functions (ufunc)
- Shape Manipulation
- Broadcasting
- Linear Algebra

Scientific computing with Python (Scipy)

- SciPy and its Characteristics
- SciPy sub-packages
- SciPy sub-packages – Integration
- SciPy sub-packages – Optimize
- Linear Algebra
- SciPy sub-packages – Statistics
- SciPy sub-packages – Weave
- SciPy sub-packages - 10

Data Manipulation with Python (Pandas)

- Introduction to Pandas
- Data Structures
- Series
- Data Frame
- Missing Values
- Data Operations
- Data Standardization
- Pandas File Read and Write Support
- SQL Operation

Machine Learning with Python (Scikit-Learn)

- Introduction to Machine Learning
- Machine Learning Approach
- How Supervised and Unsupervised Learning Models Work
- Scikit-Learn
- Supervised Learning Models - Linear Regression
- Supervised Learning Models: Logistic Regression
- K Nearest Neighbours (K-NN) Model
- Unsupervised Learning Models: Clustering
- Unsupervised Learning Models: Dimensionality Reduction
- Pipeline
- Model Persistence
- Model Evaluation - Metric Functions

Natural Language Processing with Scikit-Learn

- NLP Overview
- NLP Approach for Text Data
- NLP Environment Setup
- NLP Sentence analysis
- NLP Applications
- Major NLP Libraries
- Scikit-Learn Approach
- Scikit - Learn Approach Built - in Modules
- Scikit - Learn Approach Feature Extraction
- Bag of Words
- Extraction Considerations
- Scikit - Learn Approach Model Training
- Scikit - Learn Grid Search and Multiple Parameters
- Pipeline

Data Visualization in Python using Chart JS

- Introduction to Data Visualization

ChartJS

- Libraries
- Chart JS Features
- Labels
- Data
- Datasets
- Controlling Line Patterns and Colours
- Set Axis, Labels, and Legend Properties
- Annotation
- Different Types of Charts

Data Science with Python Web Scraping

- Web Scraping
- Common Data/Page Formats on The Web
- The Parser
- Importance of Objects
- Understanding the Tree
- Searching the Tree
- Navigating options
- Modifying the Tree
- Parsing Only Part of the Document
- Printing and Formatting
- Encoding

BISP