Python for Data Science

Course description

Our Data Science with Python training course is aimed at analysts and software developers who need to create analysis and data visualization solutions using the key functions and libraries available in and around Python. You will benefit from extensive hands-on labs, delivered by an expert Data Science practitioner who can guide you from the basics of data wrangling with Python to using sophisticated libraries to visualize and make predictions based on your data. The Data Science with Python training course comprises two modules - Data Analysis with Python, and Machine Learning with Python, which can be taken individually - let us know if you would like to split your attendance of each module

Student Take away

- Study Material
- Learning stuff
- Sample project for practice

Python for Data Science online training curriculum

Introduction to Data science

- Basics of Data Science
- What is data science?
- AI vs DS vs Machine learning
- Fields of data science
- Applications of Data Science

Big Data

- Definition of Big data
- Applications of Big data
- Hadoop and Spark

Hadoop

- Map reduce
- HDFS

Spark

- Tools and language

Natural Language Processing

- Definition of NLP
- Application of NLP
- Tools and Language

Machine learning

- Definition of Machine learning
- Types of Machine Learning
- Applications of Machine learning
- Tools and Languages

NoSQL Data bases

- Definition
- SQL vs NoSQL Databases
- NoSQL databases tools
- Search Engine technologies

Python Basics

- Python Installation
- Anaconda
- Environment creation
- Pycharm

➢ **Interpreter**

➢ **Data types in Python**

➢ **String data types**

➢ **List**

➢ **Dictionary**

➢ **Tuple**

➢ **Set**

➢ **Functions**

➢ **Classes**

OOPS

➢ Inheritance
➢ Encapsulation

Abstraction

- Exceptional handling

Numpy, Pandas

- Numpy Tutorial
- Pandas Tutorial

Natural Language Processing

- Basics of NLP
- Applications of NLP
- Tokenization
- Stop words
- Stemming and lemmatization
- Part of Speech tagging
- Named entity recognition
- Custom NER system using Open NLP (java)
- Phrase Handling Application
- Sentiment Analysis Application

Feature Extraction process

- True/False model
- Count Vectorized
- TF-IDF Vectorized

Creating Model using NLTK Naïve Bayes algorithm

- **Recommendation System Application**

Web Crawling

- Scrappy Introduction
- X-path Introduction
- Crawling Application

Machine learning

- Basics of Machine Learning
- Types of Machine Learning Algorithms

- **Supervised**

- Classification
- Logistic Regression
- K Nearest Neighbours
- SVM
- Decision Tree
- Random Forest
- Gradient Boosting
- Naïve Bayes

Regression

- Linear Regression
- Polynomial Regression
- SVR
- Decision Tree Regressor
- Random Forest Regressor

➢ **Unsupervised**

Clustering

- K Means Clustering
- Hierarchical Clustering

Machine Learning Model Evaluation

- Backward elimination Process
- P value
- R Squared