

DATA VISUALISATION USING PYTHON PACKAGES

Number of days - 3

Number of DEMOs - 20

Highlight of Course :

- **Basic Python**
- **Numpy, Pandas**
- **Matplotlib**
- **Seaborn**
- **Plotly and Cufflinks**

Prerequisites:

Basic knowledge of Python.

Description of Course :

This program is well suited for both beginners or experienced developers looking to make the jump to Data Science or Machine Learning. In this course, you will learn

- how to program with Python
 - how to analyse data
 - How to visualise the data using Python packages.
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DAY 1

MODULE 1 :- NumPy package

- Introduction of NumPy
- Install Numpy
- Array Creation
- Array Reshaping
- Indexing
- Operation
- Sorting and Stacking
- Broadcasting
- Linear Algebra
- Saving and Loading

DEMO 1 :- Array Creation

DEMO 2 :- Array Reshaping

DEMO 3 :- Array Operations

DEMO 4 :- Maths Function

MODULE 2 :- Pandas

- Introduction
- Slicing Dataframe
- Filtering Dataframe
- Transforming Dataframe
- Advanced indexing
- Stack and unstack
- Groupby and aggregations

DEMO 5 :- Pandas Basic operations

DAY 2

MODULE 3 :- Matplotlib

INTRODUCTION

- Introduction to Matplotlib
- Exploring Data using Python
- Matplotlib with Jupyter
- Load data

ARCHITECTURE

- How to pyplot Works
- Troubleshooting issues

DIFFERENT PLOTS

- Line Chart
- Multi Line Plot
- Fill Plot
- Bar Chart
- Pie Chart
- Histogram
- Scatterplot

PLOTTING

- Themes
- Scatter
- Subplot
- 3d plot
- Grid
- Save Image
- Legend

CONFIGURE MATPLOTLIB

- Style Sheets
- Custom Style Sheets

INTERACTIVITY

- Handling Event
- Create An Interface With ipywidgets

MAPS

- Basemap
- Creating a Choropleth With Matplotlib

DEMO 6 :- Matplotlib Line Plot

DEMO 7 :- Plotting Histogram

DEMO 8 :- Bar Chart

DEMO 9 :- Pie Chart

DEMO 10 :- SubPlot

DEMO 11 :- Save Figure

DEMO 12 :- Matplotlib imshow

DAY 3

MODULE 4 :- Seaborn

INTRODUCTION

- Introduction to Seaborn
- Importing Dataset
- Seaborn Vs Matplotlib
- Using Seaborn with Matplotlib

LOAD DATA

- Loading a built-in Seaborn data
- Loading a Pandas Dataframe

PLOTS

- LinePlot
- Distplot
- BarGraph
- ScatterPlot
- JointPlot (KDE)
- StripPlot
- Box
- Point Plot
- FacetGrid
- Pair Grid
- CatPlot

Customising Seaborn Plots

- Changing Figure Aesthetic
- Removal of Spines
- Changing the figure Size
- Scaling the plots
- Setting the Style Temporarily

Creating Different Types of Plots

- Relational Plots
- Categorical Plots
- Distribution Plots
 - Regression Plots

Colour Palette

- Diverging Colour Palette
- Sequential Colour Palette
- Setting the default Colour Palette

DEMO 13 :- Seaborn- LinePlot, Distplot, BarGraph, Scatter

DEMO 14 :- KDE - jointplot() - PairPlot

DEMO 15 :- Distribution - BoxPlot

DEMO 16 :- Violin - Point Plots

MODULE 5 :- Plotly and Cufflinks

- **Installation and Setup**
- **Line Plot**
- **Scatter Plot**
- **Bar Plot**
- **Box Plot and Area Plot**
- **3D Plot**
- **Spread Plot and Hist Plot**
- **Bubble Plot and Heatmap**

DEMO 17 :- Chart Gallery

DEMO 18 :- Cufflinks - Colors

DEMO 19 :- Cufflinks - Offline

DEMO 20 :- Quantfig

PROJECT - CHURN ANALYSIS