

## **Data Visualization with Python**

Data visualization is the graphical representation of data in order to interactively and efficiently convey insights to clients, customers, and stakeholders in general. It is a way to summarize your findings and display it in a form that facilitates interpretation and can help in identifying patterns or trends. In this course you will learn how to create interesting graphics and charts and customize them to make them more effective and more pleasing to your audience.

### **About This Course**

"A picture is worth a thousand words". We are all familiar with this expression. It especially applies when trying to explain the insight obtained from the analysis of increasingly large data sets. Data visualization plays an essential role in the representation of both small and large scale data. One of the key skills of a data scientist is the ability to tell a compelling story, visualizing data and findings in an approachable and stimulating way. Learning how to leverage a software tool to visualize data will also enable you to extract information, better understand the data, and make more effective decisions. The main goal of this course is to teach you how to take data that at first glance has little meaning and present that data in a form that makes sense to people. Various techniques have been developed for presenting data visually but in this course, we will be using several data visualization libraries in Python, namely Matplotlib, seaborn, and Folium.

### **Course Syllabus**

#### **Module 1 - Introduction to Visualization Tools**

- Introduction to Data Visualization
- Introduction to Matplotlib
- Basic Plotting with Matplotlib
- Dataset on Immigration to Canada
- Line Plots

#### **Module 2 - Basic Visualization Tools**

- Area Plots
- Histograms

- Bar Charts

### **Module 3 - Specialized Visualization Tools**

- Pie Charts
- Box Plots
- Scatter Plots
- Bubble Plots

### **Module 4 - Advanced Visualization Tools**

- Waffle Charts
- Word Clouds
- Seaborn and Regression Plots

### **Module 5 - Creating Maps and Visualizing Geospatial Data**

- Introduction to Folium
- Maps with Markers
- Choropleth Maps

### **General Information**

- This course is self-paced.
- It can be taken at any time.
- It can be audited as many times as you wish.