AI Boot Camp

Exploring Data through Visualizations

Module 7 Day 1

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Class Objectives

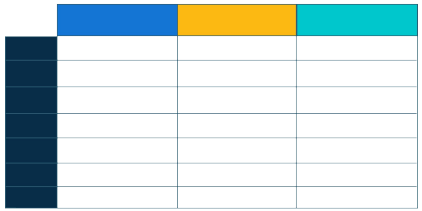
By the end of class, you will be able to:

1. Explain why it is important to explore data before using it for machine learning.
2. Create line plots, bar charts, and scatter plots by using Matplotlib.
3. Customize the appearance of Matplotlib charts.

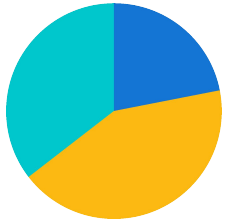
Instructor **Demonstration**

Introduction to Data Exploration with Visualizations

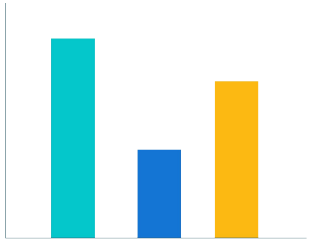
Examples of Data Visualizations



Table

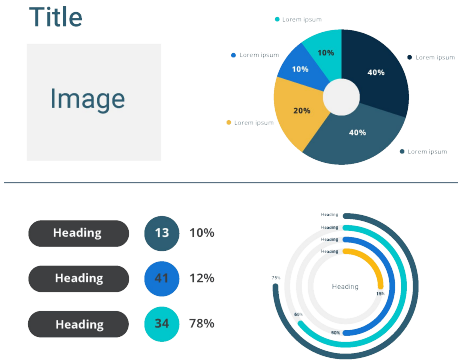


Chart



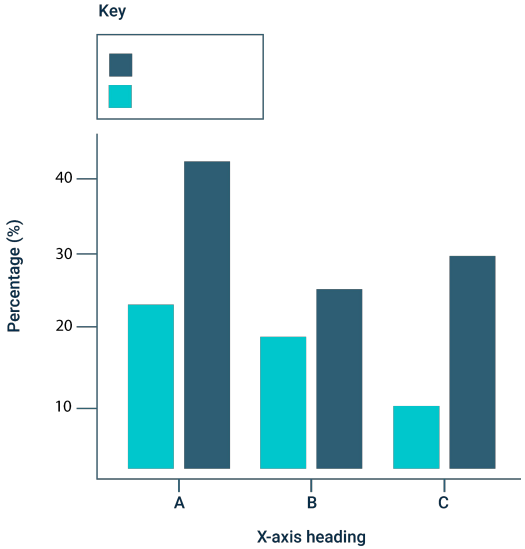
Graph

Map

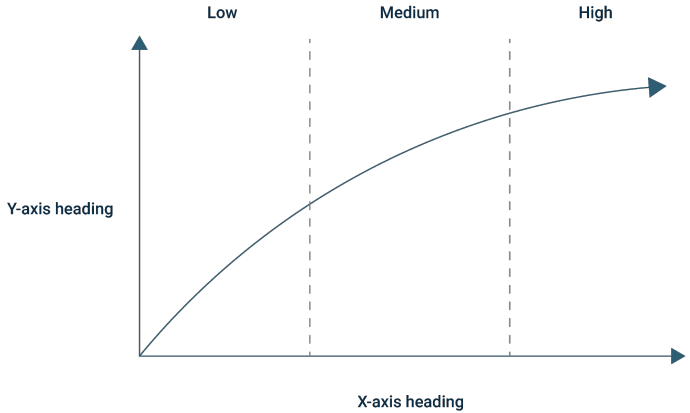


Infographic

Since communication is the primary purpose of data visualizations, it's important that they be **easy to read**, **easy to interpret**, and **aesthetically pleasing**.



Explanatory visualizations are data visualizations that are primarily intended for communication. They are intended to explain your findings to people who may not be familiar with it.



Exploratory visualizations are data visualizations that are created to explore patterns. These are generated at the beginning of a project in the early stages of data analysis, or even before any has happened.

This week, we'll focus on exploratory visualizations.

Activity:

Explore Relationships in Data

Identify patterns in data by using visualizations.

Suggested Time:
15 Minutes

Time’s up!

Let’s review

Questions?

Instructor **Demonstration**

Introduction to Pyplot and Line Plots

Activity:

Make a Line Plot

Create a line plot using Pyplot.

Suggested Time:
15 Minutes

Time’s up!

Let’s review

Break

15 mins

Instructor **Demonstration**

Configuring Line Plots

Activity:

Legendary Temperature

Use keyword arguments to customize Pyplot visualizations.

Suggested Time:
10 Minutes

Time’s up!

Let’s review

Instructor **Demonstration**

Bar Charts

Activity:

Cars Bar Chart

Construct and customize a bar chart representing the density of commuting cars per 1,000 population aged 16 and over in major US cities

Suggested Time:
10 Minutes

Time’s up!

Let’s review

Instructor **Demonstration**

Scatter Plots

Activity:

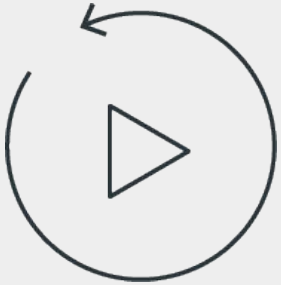
Scatter Py

Create a scatter plot.

Suggested Time:
10 Minutes

Time’s up!

Let’s review



Let’s **recap**

Recap

In this lesson you learned how to:

1. Explain why it is important to explore data before using it for machine learning.
2. Create line plots, bar charts, and scatter plots by using Matplotlib.
3. Customize the appearance of Matplotlib charts.

Next

In the next lesson, we will move onto using the Pandas library and DataFrames to generate visualizations.

Questions?

The End