Week 2: Graph Analysis

Introduction

Contents of the Week

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Topics

A. Creating data visualizations
B. Graphical analysis
C. Using Matplotlib
D. Best data visualization practices

Readings

Read the following:

- There are no textbook readings this week.

Supplemental Materials

All of the materials below are from external sources. Authorship and ownership are indicated within the sources themselves.

Readings | **Videos**

- Matplotlib
- Effective Data Visualization
- 8 Data Visualization Tips to Improve Data Stories
- 10 Data Visualization Tips
- The 25 Best Data Visualizations of 2020 [Examples]
- How to Choose the Right Data Visualization
- Text Data Visualization and Insights in Python

2.1 Discussion/Participation

Here are optional topics for discussion via Teams this week. Remember, these topics aren't required, but if you are struggling to know what to post about, these can be used to initiate discussion!

1. What are some of the common types of graphs used when creating data visualizations?
2. What types of graphs are most useful for numerical data? categorical data?
3. What are some characteristics of a poor data visualization?
4. What are some best practices when creating a data visualization?

2.2 Exercise: Graph Analysis with Matplotlib

Complete several of the Matplotlib tutorials at the following link until you feel comfortable: Matplotlib Tutorials.

1. Using a data set of your choice, write an introduction explaining the data set.
2. Identify a question or question(s) that you would like to explore in your data set.
3. Create at least three graphs that help answer these questions. Make sure your graphs are clearly readable and are labeled appropriately and professionally.
4. Explain what you have learned from each of your graphs.
5. Write a conclusion that summarizes your findings.

Here are some good websites to look for data sets.

- Kaggle
- UCI Machine Learning Repository
- US Government Open Data

Submission Instructions

Click the title above to submit your assignment.

This exercise is due by Sunday 11:59 PM.

Submit your code, output, and answers at the link above. Comment all your code and answer any questions that are asked in the instructions. It is perfectly fine to answer a question by displaying output from your code, but make sure you are displaying the appropriate output to answer the question. I would recommend using and submitting a Jupyter Notebook, but this is not required.

View the rubric for this Assignment by clicking on the link below:

Exercise Rubric