Overview

Project Guidelines

Final Project

Data Visualization (STAT 302)

Overview

The main goal of the final project is for students to produce visualizations that efficiently and effectively communicate core concepts and insights into a dataset of their choosing. Ideally the finished product will be something that could be included in a resume/CV or data science portfolio (i.e. a portfolio demonstrating data science skills).

Project Guidelines

Format

Students are expected to tell a story about a dataset of their choosing through visualization which can be completed with a series of static graphics, animated graphics (`gganimate`), interactive graphics (`shiny` app or `flexdashboard`), or some combination of formats.

No matter the format the student chooses, the graphics should faithfully display the information contained in the data. Improper or misleading visualization of the data is not acceptable and will result in a significant grade reduction for the project.

Static and/or Animation Option

Students opting to use static and or animated graphics should have **at least three** graphics that clearly and coherently communicate core concepts and insights about the dataset. Put another way, the graphics should come together to tell a story about the dataset. These graphics should be **thoughtfully themed and annotated** so that (1) a clear message con be gleamed from them and (2) they could stand alone with little to no explanation. Students should use a variety of geometric types. That is, the graphics should not be all of the same type (i.e. all bar charts/plots.

Students are welcome to be as creative with the layout of the graphics as they want to be. Some examples: (1) poster that includes the graphics and maybe some text to contextualize or provide background, (2) a fake news article/blg post that embeds the graphics, or (3) any format that you can think of that includes the graphics. **At minimum** students should create an html report that displays the graphics and provides a citation for the data — **this report should display no code**.

Interactive and/or Dashboard Option

Make sure there are enough functionalities.

Students opting to create interactive or dashboard graphics do not have a minimum number of graphics (other than one), but should include various interactive elements to allow users to effectively explore key aspects of the dataset. The graphics should be **thoughtfully themed and annotated** so that a clear message con be gleamed from them.

Students are welcome to be as creative with the layout as they wish to be. There should likely be some short helper text that provides a quick overview and a citation for the data source. No code should be displayed in the app or dashboard.

Additional Document (Memo)

Student **must include** an additional document which provides an answer to the following question about each of their visualizations:

> What is the core concept(s) or insight(s) into the data that you believe the visualization communicates?

If you choose to include animation then explain why animation helps. If you build an app then explain your choice of widgets and what about the data it help users understand.

This document should be well organized and it should be clear which visualization the comments are referring to — the reader shouldn't have to guess which belongs to which. This needs to be a **separate document** and not included with the visualizations. We want to investigate the visualizations first so we are able to compare what we think the visualization's message is with what you believe it was communicating.

Dataset

Students must find a dataset or construct a dataset from various data sources to visualize. Students are free to pick any topic, but must ensure that their data is sufficiently complex to build useful visualizations. Remember that you should provide a data citation and that we expect students to turn in their dataset(s) as part of their project.

Submission

The final projects should be in their own RStudio project file. This should allow students to simply zip up the R project directory/file and submit the entire project. The project directory/file should be well organized and easy to navigate. That is, it should be easy to find your final product, whether it is an app or a report with static graphics.