**PORTFOLIO EXERCISE 4**

**Instructions**

1. Upload your final portfolio visualization and text description. For visualizations made in Rmarkdown documents, upload both the .Rmd file and a knitted PDF or HTML. For visualizations made in Shiny, share a .R or .zip file from which the app can be launched.
2. Upload a PDF or DOCX document including both your personal reflection (at most 500 words) and blurb (2 - 3 sentences) describing the visualization.
3. Upload a .png or .jpeg file to be used a thumbnail for your submission.
4. There is no need to upload this submission to Piazza.

**Description**

In this portfolio assignment, you will polish one of your previous three portfolio submissions. Then, you will prepare material that allows your final visualization to be hosted it in an online gallery for the course.

*Personal Reflection*: We ask you to first revise or extend your earlier portfolio submission’s visualization, code, and accompanying text write-up. Then, prepare a personal reflection on the changes that were made. What was your motivation for these changes? What decisions did you have to make about the visualization’s implementation, functionality, or style? In what ways do you believe your visualization, text description, or code has improved? To provide evidence for your claims, consider including code snippets, text quotes, or screenshots of contrasting versions of your work.

*Finalized visualization*: Next, share your final version of the visualization. If you generated all figures with Rmarkdown, it is enough to share a PDF or HTML document. If you created a Shiny app, you can either (i) host the app on your own link (e.g., via [shinyapps.io](https://www.shinyapps.io/)) or (ii) share the code necessary to reproduce the application. No matter the implementation technique you used, we ask that you upload your original code for us to review.

*Short Description*: Finally, prepare a thumbnail and 2 - 3 sentence description briefly describing the content or aims of your portfolio project. These blurbs will be visible on the main gallery page; their purpose is to guide visitors towards visualizations of personal interest.

**Rubric**

1. Substantive Improvements [5 points]: The code, visualization, and accompanying text have been critically reviewed or extended from previous submissions.
2. Final visual design choices [4 points]: The visualization is usable and refined. The design supports graphical queries relevant to the essential question. Data are not unnecessarily summarized, and the views have high information density.
3. Thumbnail / blurb quality [3 points]: The shared image is high-quality and the blurb is written in a professional, engaging tone, with no grammatical errors.
4. Code Useability [3 points]: The code to generate the figures is readable and can be run easily.