36-721 Fall 2015
Statistical Graphics and Visualization 6.0 units

Project 3: Research

Due Sat 10/17/15, 5pm

You will choose **an academic research paper or topic to read and report on** in the form of a short written document. For a Sophisticated grade, you should report on at least two related papers/presentations (proposing different solutions of the same visualization problem).

In your report, you will take the authors' proposed solution to a graphical problem and use it to plot a new dataset. So, the paper(s) you read should propose a concrete solution to a problem in data visualization: a specific way to display uncertainty, to visualize models, to interact with graphics, etc. (Do not choose a very abstract paper about, say, a new framework for classifying graphs, because there will be nothing specific for you to reproduce.)

[For paper/presentation and topic ideas, see `ProjectIdeas.pdf`.]

Tell us about the paper(s) you read: What problem in data visualization does this paper study? What other solutions have been proposed before? What is this paper's solution, and how does the paper justify/defend its solution?

Demonstrate that you can put the solution(s) into practice: Find the paper authors' code or write your own. Implement the method/tool/graphic form that they propose, and use it to graph a new dataset (different than the one in the paper).

I encourage you to write your report in R Markdown or LaTeX, but it is OK to use other software (including Word).

Please submit

- **your written report**, and
- **your code** for this method / tool / graphic form.

See rubric on next page.

Component	Sophisticated	Competent	Not yet competent
Literature Review	Clear review of two or more related papers on this topic. Shows strong understanding of the problem and proposed solutions.	Clear review of one paper. Adequate understanding of the problem and possible solutions.	No papers reviewed, or review is unclear, or shows no understanding of the problem or solutions.
Guidelines	Report shows strong understanding of the paper's justifications for the proposed solution, as well as guidelines for when it is / is not applicable.	Report covers paper's justifications for their solution, but may not give useful guidelines for its use.	Report shows no understanding of justifications or guidelines for use of the proposed solution.
Application	Proposed solution is implemented and demonstrated on several contrasting examples (either against other related methods, or on several datasets). Code for implementation is clear and reusable (e.g. a well-documented R function).	Proposed solution is implemented and demonstrated on at least one example. Code is functional, though may be hard to reuse on new data.	Proposed solution is not implemented or no demonstration is shown. Code is not given or does not work.
Other	Writing shows good craftsmanship, with no obvious spelling or grammar errors. Gives full citations for mentioned papers/presentations and data sources.	Writing shows decent craftsmanship, with minor errors or typos. Cites papers/presentations and data sources.	Poor craftsmanship with many errors or typos. Does not cite papers or data sources.