2016 Applied Statistics Qualifying Examination

Instructions

- The exam should be submitted by e-mail to Kaylee (kshelto@umich.edu) by 10am on Thursday, May 26th.
- During the examination period, you must not communicate with anyone other than Kerby, Liza, or Long about the exam, or about any topics or methods related to the exam.
- You are free to use any media resource during the exam including course notes, books, and web sites. You must cite all sources that you use, just as you would when writing a paper.
- You are free to use any computing resources or software tools.
- You should primarily make use of the data analysis methods covered in Statistics 600 and 601.
- Do not include any computer code in your main document. You may also provide an appendix with additional output and/or code but we are not obligated to consider the appendix when evaluating your exam. If you choose to provide an appendix please submit it as a separate PDF file.

The data consist of logs of taxi trips taken in New York City, available from this site:

`http://www.nyc.gov/html/tlc/html/about/trip_record_data.shtml`

Note that this web site contains both data files and codebooks describing the file contents.

You should prepare a written report that is 10-12 pages in length including all tables and figures. The report should be submitted as a single pdf file. You should focus on a limited scope of questions that you think an applied researcher would ask using these data.

The data files are large and there are many of them. There is no expectation that you will use all of the files. It should be possible to do an excellent job using only a single data file.

The evaluation criteria are: (i) that your report is clearly written, (ii) that it addresses a clearly stated and focused research question, (iii) that it reflects a deep understanding of some of the techniques covered in the 600/601 courses, and (iv) that all of your claims are supported by the data.

You should motivate any data analytic techniques that you use, and describe any limitations of your analysis.