SFU Statistics 350 Project Description 2015-10-15

Projects are to be done in groups of 2 or 3 – you may select your partners. It may be done individually with instructor permission. The project is completely optional. The final exam is currently worth 50% of your total grade. If you choose to do a project, it will take over half of your final exam grade, so the project will be worth 25% of your final grade, and the final exam worth 25%.

Project Overview

The basic idea of the project is that you go searching for an interesting regression dataset ($n > 30, p > 3$), propose a question to be asked with that data, and carry through a full analysis of it.

Step 1: Project Proposal (Due Nov 5)

Submit a 1-page project proposal. It will have the following sections:

- Introduction and Motivation (what is the question you're trying to answer?)
- Description of Data (including a snapshot of first several rows, and other summary statistics of the data)
- Methods (the regression methods you intend to use to answer your question)

Though the project proposal is not part of the grade, it is a necessary step to be able to do the project.

Step 2: Project Report (Due Nov 26)

Submit a 4-page project report. It will have the following sections:

- Introduction and Motivation (what is the question you're trying to answer?)
- Exploratory Analysis (summarize and visualize data, check for outliers, etc.)
- Methods (describe methods used)
- Results (what did you find?)
- Conclusion (what do you conclude?)

Grading

Grades will be based on

- thoughtfulness of the motivating question
- clarity of data analysis and exposition
- correct use of regression methods
- proper interpretation of results
- use of figures, tables and summary statistics to support findings
- quality of figures

Starting places to find data

- `http://flowingdata.com/2009/10/01/30-resources-to-find-the-data-you-need/`
- `http://data.worldbank.org/indicator`
- `http://ec.europa.eu/agriculture/agrista/2009/table_en/index.htm`

Give yourself lots of time to find data! It can be a very time-intensive task!