Senior Experience Guidelines

September 8, 2022

1 Tentative Timeline

1.1 Weeks 1-2

Identify, define, and understand the problem you are planning to address. Make sure you highlight/describe the importance of the problem. This could involve exploring the literature.

1.2 Weeks 3-4

Explore, wrangle, visualize, and understand the data you will work with.

1.3 Weeks 5-6

Create and analyze the modeling strategy of interest. Assemble the outputs obtained and focus on drawing meaningful conclusions.

1.4 Weeks 7-8

Buffer week. Could use this time to explore other aspects of the problem you are addressing, explore and possibly implement comparable modeling strategies, build on/debug existing code etc.

1.5 Weeks 9-10

Work on the final report to be submitted.

2 Deliverables

You will be required to submit a final report (preferably written with LaTeX/RMarkdown) at the end of the term. Your audience is a student who has taken introductory statistical modeling and programming classes, but is not a expert on the specific topic (one you have addressed). Below are some guidelines.

- The body of the report (excluding the title page, references, and appendices) must be no more than 20 pages (single-spaced, 11pt or 12pt font, with standard 1 inch margins).
- The title page should be separate and include: the title of your project/study, and a one-paragraph abstract of the entire project (about 200 words is common).
- References should be listed at the end of the report.
- You can have appendices listing additional material such as supplementary information on datasets used, information on simulation studies if any, and so on.
- It's not necessary to share codes in the report, but it is always a good idea to keep them in one place (such as GitHub) and mention its location in the report. Also, your codes should be properly commented so that anyone else using it understands it.
- The main content can be outlined as follows.
  - The preview/introduction of the study.
  - Background/significance of the study.
  - Details of your work, including the problems you ran into, and how you overcame them.
  - Your findings (tables, charts, graphs, and text describing your output/results).
  - Discussion/summary of the study, limitations, assumptions, possibilities for future work etc. This is similar to a section on conclusion.