Final Project Guideline

Timeline:

- 4/19 : Midway Presentations Day 1
- 4/26 : Midway Presentations Day 2
- 5/1 ~ 5/5 : Exam week, nothing project related.
- Finals week: Final report and final presentation video **due May 18th at 2:00pm**.

Summary:

The above timeline shows the respective deadlines for all final project components. There will be 3 milestones: the initial proposals, a midway presentation check-in, and a final report and presentation. Collectively, this will account for 15% of your final grade.

The break down will be as follows:

• Initial proposal: 1.5%, grading only on effort

• Midway presentation : 1.5%, grading only on effort

• Final report: 7.5%, see section for details

• Final presentation video: 4.5%, see section for details

Final Report:

For the final report, you will create an R Markdown document, and submit **data, Rmd file, and PDF documents** to Canvas of your report. Groups will be created for you on Canvas, and only one person from each group will need to submit.

1) Description and motivation behind the research question(s). Background of the data sets.

2) Discussion of generalization, association vs. causation and uncertainty in the context of your problem.

3) Exploratory analysis: For each research question, identify the right type of analyses (univariate, bivariate or multivariate) and the type of variable. Use the right set of techniques covered in part I of the course to summarize, visualize and comment on your findings.

4) Quantify uncertainty: Using the techniques covered in part II of the course, assess uncertainty around your conclusion.

5) Advanced analyses: Use techniques from part III of the course to improve or expand on your analyses in (2) and (3). For example, use advanced graphics with ggplot(), additional uncertainty quantification using classical methods, or advanced exploration of time series or text-based data.

6) Summary: Prepare a comprehensive summary of your results that is accessible to someone with little to no background in data science. Highlight major findings and their importance, potential caveats and limitations of your data or analysis methods.

Final Presentation:

In addition to the final report, you will need to prepare a final presentation of your finals. You should prepare slides, and make a video recording of your team going through the slides. Professor Basu will discuss in lecture

how to prepare a good presentation. In order the make the video, we suggest having a Zoom meeting with your team and recording the session. You will upload your presentation to a Canvas discussion board, by posting the video on YouTube and putting a link in the Canvas discussion.