SOC6707 Research Project

Due: 11:59pm, April 19 2021

What to hand in: .Rmd file and the compiled pdf

How to hand in: Submit files via Quercus

Overview

Your final assessment for SOC6707 is a research project based on a culmination of all the parts you have submitted so gar. The aim is to apply some of the methods covered in class to gain insight into your question of interest, and write up your analysis in the form of a short research paper.

Tips

- You should be aiming for your submission to read like a short research paper. This means using formal language, spell-checking, writing in complete paragraphs, etc.
- If it is appropriate, refer to and cite previous work.
- For readability, I would suggest hiding your code, and suppressing any warnings and messages in the pdf. All you really want to show are nicely formatted graphs, tables and results.
- Formatting is also important and helps readability.
- Write all your models using appropriate mathematical notation. We covered how to do this in Week 10.
- Note if you try and copy paste symbols or notation from pdfs into your Rmd you will using getting knitting errors (these are related to the errors that say something to do with "Unicode"). So try not to do this.
- Be logical. Clearly state the problem you are analyzing, what the data look like, how you are doing it, what the results are, and what could be done in future.
- There is no page limit or page minimum. Note that quantity does not always indicate quality.
- The PDF you submit must be able to be compiled from your .Rmd file.
- Always be knitting! A lot of people are still having last minute knitting issues. The best way to avoid this is to constantly be making sure your Rmd can knit without errors.

Below is a suggested outline of your paper. Note that this is meant to be useful as a guide only — you do not have to do this exact outline. To reiterate, your submission should read like a research paper.

Abstract

You may include an abstract that summarizes you aims, data, methods and findings. Note that in RMarkdown an abstract can be included in the YAML at the top of the file.

Introduction

Introduce the problem, clearly state your research question and motivation, mention previous work if relevant.

For this section and in general for the whole report, it should be written like a mini research paper. So instead of just stating your research question, try to introduce the topic in a conversational way.

Data

This section should build on what you did for your initial EDA. It should include things like

- A brief sentence explaining the data set you are using
- Whether you subsetted to only include certain respondents
- If values are missing, how are you dealing with this? Are they missing at random?
- The variables in the data set you are using
- Any other variables you created

This section should also include any summary statistics, graphs or tables that

- describe the characteristics of your dataset, and
- illustrate the relationship between variables that are related to your research question

Please don't include pages and pages of graphs here. The goal is to describe the key features of the dataset that motivates the subsequent analysis.

Methods

- Describe the statistical method you are using to answer your research question
- Write down the model and define any notation
- Why is this method appropriate for the research question?
- How are you fitting the model?
- How are you validating the model?

Results

Present your findings, including things like

- Key coefficient estimates and CIs/standard errors, with interpretation
- Graphs/Visualizations where appropriate
- Diagnostics
- If relevant, discussion of alternative models tried/ changes made / improvement in diagnostics

Discussion

- Discuss results as they relate to your research question
- Were results surprising or expected?
- Brief discussion about potential future work – what could you do differently if you had more data or more time?

References

- Any references you cited