Final Project Guidelines

# Important Dates:

* Week 4 (9/17 – 9/23): Form groups for the project and let the instructor and grader know who the members of your group are. It is also OK if you want to do the project individually.
* Week 8 (10/15 – 10/21): Project proposal due on Sunday, October 21st by the end of the day (11:59 pm)***\*\*This will be your midterm exam***
* Week 12 (11/12 – 11/17): Progress report due. This will be 10 points of your final project grade.
* Week 16 (12/10 – 12/15): Final project presentation throughout the week. Final project paper due on Friday, September 14th by noon. ***\*\*This will be your final exam***

# General Details

You can work in this project individually or in groups. Groups should have maximum 3 students. Remember that the total work should scale roughly with the group size.

In your project, you should build at least one supervised or unsupervised model. If we do not cover that material before the proposal due date, you can add the questions/details regarding the model you choose in your progress report.

# Project Deliverables

All written reports (i.e., the proposal, progress report and final paper) should be submitted in PDF format. When the deadline approaches, I will make a link available for submission in the **Data Analysis Project** tab (right hand side menu) in our class CourseWeb site.

Your analysis should be submitted in the form of Jupyter notebooks. Note that for your Jupyter notebook to work, you need to also provide the datasets you will be using.

### Project Proposal

For your project proposal, you should submit a document that includes:

1. The project title and the team members
2. The problem you have chosen
3. Why is the problem interesting to you?
4. What kind of data will you use?
5. Where did you get this data from?
6. At least three (3) questions that you would like to answer through your data analysis.
7. Preliminary data manipulation

For the preliminary data manipulation section, you should create a Jupyter notebook where you show the following:

1. How you have imported your data
2. How you have cleaned your data (e.g., how you dealt with missing values)
3. A statistical summary of your data
4. An initial graphical summary of general aspects of your data.

### Progress Report

The **progress report** accounts for 10 points of your final project grade. It should follow the formatting guidelines of the final project paper (see the Final Project Paper section below).

Your report should include:

1. Project title and team members
2. The problem you chose
3. The questions that you plan to address (at least three)
4. What have you accomplished so far?
5. Problem report
6. Preliminary results

At this point, since you have already made some progress in your project, you may realize that the questions you initially proposed are no longer suitable for your analysis. In this way, it is OK to make adjustments/changes to these questions in your progress report.

The problem report should include any issues you have encountered while working with your data and what have you done, or plan to do, to address these issues.

The preliminary results should be related to the questions you want to answer. This includes tables, graphs, summary statistics, constructed models, etc.

### Final Project Presentation

Your final presentation accounts for 20 points of your final project grade. Since we are working on an online environment, you should prepare a 5-minute video (no more than 5 minutes and no less than 4 minutes) where you present the work you have done

To help you prepare your video, imagine that you are presenting this video to a potential employer, or as part of a job application. In this way, the video should emphasize on the work that you have done, why the analysis and results are interesting, and mainly, **what you learned while preparing this project.**

The videos should be posted by Monday, December 10th at 11:59 pm and from Tuesday 12/11 until Thursday 12/13 (by 11:59 pm) you should check at least two (2) videos from your classmates and let them know what you think of their project.

The link for submission will be provided as the deadline approaches.

### Final Project Paper

The last part of your final project is the final paper. This paper should be submitted by Friday, December 14th at noon via CourseWeb. All the specific details on what the final project paper should address are included in the “Final Project Paper Outline” document.