

August 4th - Final Project

- I. For your final assignment in this course, create a poster that concisely summarizes the research you have conducted as part of your selected, applied machine learning final project. Your poster should include each of the following elements.¹
 - A. A **Problem Statement** that introduces your selected topic, identifies significant goals associated with the implementation of your applied machine learning method, demonstrates why your problem is important, and describes and analyzes the complex nature of your problem including any process oriented causes and effects. Conclude your problem statement with a stated central research question. You are welcome to articulate a central research question in broad and general terms, given the abbreviated time frame for this investigation.
 - B. A description of the **Data** that you are using as input for your applied machine learning methodology, including the source of the data, the different features (variables) and well as their data class (i.e. continuous or discrete). Be sure to include a description of your dataset size (number of rows / observations as well as number of columns / variables / features) and provide context on how the data was collected as well as the source organization, as it is relevant to your investigation.
 - C. Provide the specification for your applied machine learning **Method** that presented the most promise in providing a solution to your problem. Include the section from your tensorflow script that specifies your model architecture, layers, functional arguments and specifications for compiling and fitting. Provide a brief description of how you implemented your code in practice.
 - D. Conclude with a section that preliminarily assesses **Model Performance**. If you have results from your implementation, you are welcome to add those in this section. Compare your preliminary results with those from the literature on your topic for a comparative assessment. If you are not able to produce preliminary results, provide a cursory literature review that includes 2 sources that present and describes their validation. With more time and project support, estimate what an ideal outcome looks like in terms of model validation.
- II. On **Thursday, August 6th** during our last day of class, prepare to present your poster virtually via zoom. You will have 5-6 minutes to concisely present your applied machine learning project. You are welcome to use the poster you have created as the basis for your presentation or if you wish to create an additional powerpoint or story board that further illustrates your poster that is also perfectly acceptable.
- III. By 10PM on **Sunday, August 9th**, create a 1 to 2 page length GitHub website on your repository that presents your poster and describes your applied machine learning project. You are welcome to simply translate the contents of your poster to a webpage format, or further illustrate your investigation with analysis. Story board formats are also welcome. Please feel free to reflect on your investigation and elaborate on what an ideal outcome would look like in your estimation. Provide a brief project proposal (minimum one paragraph) of how you would proceed with your investigation given more time and resources.

¹ See <https://guides.nyu.edu/posters> for a helpful guide from NYU Libraries on how to create a research poster. You are also welcome to review some of the posters from the 2017 Stanford machine learning course <http://cs229.stanford.edu/proj2017/>.