**Milestones for Deep Dive Project**

The goal of the Deep Dive Project is for you to think through how to implement Deep Learning in a real setting (similar to what you might do in a job). This means using your judgment in making decisions, and articulating why.

* Milestone 1: 10/30:
  + Construct Google Folder (and give TA’s, graders, and Sowers access and URL)
  + Download some data
    - Debugging dataset: small enough to test code with; reasonable code should run in 2 minutes
    - Working dataset: large enough to do the problem on (training should run no more than 40 minutes)
    - Convert these datasets to pandas
      * I suggest that you convert datetime to pandas timestamps (allows for time deltas and time manipulation)
      * Pickle (<https://pandas.pydata.org/docs/reference/api/pandas.DataFrame.to_pickle.html>) the data. That converts it to a binary file which can be loaded directly (must faster) into the correct datatypes
  + Make a README.md file
    - Listing the team members
    - Explaining the problem (as well as you understand at this point)
    - Stating a license
* Milestone 2: 11/20:
  + Colab notebook giving some visualization of the data and some descriptive statistics. Explain what you are doing in text cells.
  + For reference, carry out some sort of linear or logistic regression (to be used as a benchmark). Details left to you, but explain what you are doing in text cells in the notebook.
* Milestone 3: 11/29
  + Build a deep learning model for the dataset
  + Investigate effects of mini-batch learning
  + Investigate effects of different optimizers
  + Tune hyperparameters (training testing and validation)
* ~~Milestone 4:~~ 
  + ~~Feature Importance~~
  + ~~Conclusions~~
* Milestone 4: 12/9
  + Documentation and cleanup of files
  + Conversion to repo
  + Video summary of project.
    - Should be between 5 and 7 minutes long. Note: we won’t watch the video beyond 7 minutes.
    - **Each slide should be labelled with list of group members who contributed to that slide.**