CAIS 380: Intro Machine Learning

Spring 2024

# In-class Activity 05: Linear Model Regularization Methods

Activity is DUE as indicated on the course schedule.

This is a group activity! Work with 1-2 other people on it and submit as a group.

**Goals:**

* **Code:**
  + **Subset selection**
  + **Shrinkage methods**
  + **PCR and PLS**

## Part 1

Start at chapter 6.5 in your textbook. Work through section 6.5.3 in the lab.

All of your work should be recorded in a Markdown or Jupyter file that you collaborate on with your partner(s) [it’s probably a good idea to set up a GitHub repo to share code!]. All group members should work together and participate on every section of the lab; do not break it up and each individual work on a section.

It is okay if you do not finish the entire lab. You will be graded on showing an honest effort and working collaboratively with your group.

## Part 2

Find a large dataset that is of interest to you. Perform EDA on the dataset to understand the variables in it. Use your exploration to come up with 3 research questions you might ask and answer with your dataset.

## Submission

At the end of class, submit the PDF report of your work (showing code and output) on Gradescope. Be sure to tag your group members.