For the CS 175 Final Project, I primarily worked on for this project were implementing the data pre processing steps, developing and testing the LeNet 1 Model, and developing and testing Neural Network model that utilized the the Batchnorm, Relu, Convolutional Network architecture.

For Data Pre Processing, my goal was to take the entirety of the data set (28 x 28 grayscale images), and implement certain data pre processing configurations that would help the Neural Networks models train and test on the data. This included splitting the data into into training, validation and testing segments, as well as normalizing and standardizing the data.

The LeNet 1 Model I developed was used as a baseline to measure the models that we would develop and test. I implemented the original LeNet 1 model using Keras, and tested the original LeNet 1 Model on my location machine. In addition to developing and testing the original LeNet 1 Model, I modified the original LeNet 1 Model because it was performing so poorly and developed a new model based on the LeNet 1 Model. I tested this model on Google Colab in order to reduce the time it took to train and test the models on my local machine. One minor project that I worked on, on my own at this point was to develop a framework that would allow my group to utilize Google Colab to develop and test our models. I implemented the python code that would allow our notebooks to read in the input data, as well as run our models on Google Colab.

The last part of the project that I worked on was developing and testing a Convolutional Neural Network that utilizes the Batchnorm, Relu, Convolutional Neural Network model. I implemented this neural network architecture utilizing Keras, and proceeded to run, and test the model on Google Colab as well.