**Choose one of the following two assignments. The due date is two weeks later before class starts.**

1. **Building a CNN Classifier**
   - Develop a CNN classifier for the CIFAR10 dataset based on the template codes for MNIST in class
   - Explore transfer learning (such as resnet52 or other architectures) to boost the training process
   - Plot training and test loss curves as a function of training epoch
   - Experiment with different architectures and hyperparameters

2. **Predicting Stock Prices with Neural Network**
   - Download historical stock price data for free from Yahoo Finance and choose the "Close" column
   - Define a simple feed-forward neural network. Your network should take as input the closing prices for a certain number of previous days (for example, the previous 5 days), and output a single value representing the predicted closing price for the next day.
   - Set proper error metric and optimizer.
   - Analyze performance via training and test sets.