Joseph Haaga
Group 6
Final Project Proposal

The selected problem is classifying digits from the Street View House Numbers (SVHN) dataset (http://ufldl.stanford.edu/housenumbers/). There are 10 classes, one for each digit. There are 73,257 digits for training and 26,032 digits for testing. It is similar to the MNIST dataset but larger and comes from house numbers in Google Street View images.

Because there are over 73,000 training digits it is large enough to train a deep network. We will train several deep networks and compare their performance in terms of classifying the images in the test set. This includes a multi-layer perceptron and a convolution network. These will be implemented using Torch and Caffe frameworks and also compare performance between the two. The primary metrics used to evaluate performance will be accuracy of prediction in the test set, but additional measures, such as F1 score, might also be used. In addition to materials provided in the course, online materials and tutorials and python documentation will be used to obtain sufficient information for applying the chosen method to the problem.

The project will be completed over the next 3 weeks in time to submit by April 24th. A tentative timeline would be that the majority of the data analyses and model training/evaluation would be completed in the first 2 weeks and the report would be written in the 3rd week.