1   Code

Please download the folder '556project' from canvas. The code is implemented in Matlab.

1.1   Requirements

Matlab 2020b (Other version may also work)
Deep Learning toolbox installed in Matlab.

1.2   Description

There are 4 files in the '556project' folder. 'data.mat' stores the MNIST training and test data, 'net.mat' stores the data and trained network. Using 'network.m', we can load the data and train a CNN. 'test.m' provides the code for getting network outputs, showing images, calculating accuracy.

1.3   MNIST dataset

In this project, the MNIST dataset is used, MNIST is a hand write digit dataset. There are 60000 images in the training set and 10000 images in the test set. The sizes of all the images are 28 * 28. the dataset is available in the following link:
http://yann.lecun.com/exdb/mnist/
However, we downloaded the dataset and processed it, so that we can easily use in Matlab. The processed dataset is stored in 'data.mat'.
4 variables are stored in 'data.mat': 'trainX'(training images), 'trainY'(training labels), 'testX'(test images), 'testY'(test labels).

1.4   Question

If you have any question about the code, please send an email to hzw81@psu.edu