

CSI 5138 Homework Exercise 2

MNIST and CIFAR-10 dataset are popular datasets for image classification. You can download the datasets respectively from

<http://yann.lecun.com/exdb/mnist/>

and

<https://www.cs.toronto.edu/~kriz/cifar.html>.

In this exercise, you will need to design and train image classifiers for these two datasets respectively. For each dataset, you will need to develop three classifiers for this dataset using three different models: soft-max regression, MLP, and CNN.

You may freely explore any design freedom in each model (e.g., width/depth of MLP, kernel size/number of kernels/depth in CNN). You may also consider applying some regularization schemes.

You need to submit your code together with a report documenting your observations. In your report, you may feel free to include anything interesting you observe and remark on the lessons learned.