

First Assignment

Consider the The MNIST database of handwritten digits available at "<http://yann.lecun.com/exdb/mnist/>" and train various classifiers using the following methods to classify the given image sample into one of the 10 possible classes (0 to 9).

1. Logistic Regression
2. Multi Layer Perceptron
3. Deep Neural Network
4. Deep Convolutional Neural Network

Further,

- a) Exercise on various parameters (if applicable) such as number of hidden layers, type of activation functions, number of convolution kernels, size of convolution kernels. Also exercise on over-fitting problem with possible solutions.
- b) Write a report stating the detailed summary about this assignment with proper snapshots of training processes, testing processes and change in learning mechanism as you change the parameters. Report should contain appropriate justifications for each dynamics you find during the conduction of this assignment.