

CS547 HW1

Bo Chen

September 03 2019

The test accuracy is 97.18%, which is achieved after 21,000 iterations. For the implementation, I wrote a class called *SingleLayerNN* to hold all variables related to the neural network. I implement *forward()* to do the forward step and *backprop()* to do the back propagation. The *SGD()* method implements the stochastic gradient descent process where it fetches the training data one line at a time, apply *forward()* and *backprop()* to it, and update parameters until the stopping criteria is met. In terms of the setting of variables, a single hidden layer of 100 units is used and the learning rate is set to 0.01.