Indian Institute of Information Technology Guwahati
CS360: Lab Experiment 7

Neural Networks

Date: 09.10.2019 Total Marks: 20
Deadline: 14.10.2019

Q.1) Implement backpropagation algorithm to train the network using the given digit dataset and evaluate the training accuracy. The dataset file contains matrix $\mathbf{X}$ which is a training data and size of the matrix is 5000×400. Each row represents a digit (ie. dimension of digit image is 20×20) and there are 5000 samples to train, corresponding labels are given in the vector $\mathbf{y}$.

This network contains inputs, hidden layer and output layer. Number of neurons in the input layer is 400+1, number of neurons in hidden layer is 25+1 and output layer contains 10 neurons. You can use sigmoid function for the activation.

20 marks