Machine Learning for Data Science Spring 2022

ASSIGNMENT 3

Due: Friday, 29th April 11:00 PM

You can do this in a group of two people.

PROBLEM

In this assignment you need to implement the Feedforward ANN. You should be able to create a feedforward ANN (FFANN) for any data set.

Structure:

Input Layer: Number of perceptrons depend on the data set.

Hidden Layer: 16 perceptrons

Output Layer: Number of perceptrons depend on the data set.

The weight vectors should be dynamically created and randomly initialized. The dimensions of the weight vectors depending on the number of nodes in each layer.

You will test your FFANN on the iris data set and MNIST digit data set. Calculate the cost of each data set using the **mean squared error**. The ½ factor that was introduced as a convenience for the squared error discussed in class, is not needed for **mean squared error**. Document your result and submit.

You only need to implement the feedforward part of ANN and not the backpropagation algorithm.