COMS 4030A

Adaptive Computation and Machine Learning

LAB EXERCISE 4

(1) Continue implementing the backpropagation algorithm as described in Lab 3.
Use a validation set method to determine the stopping time of the training algorithm.

For additional datasets, try the Rice (Cammeo and Osmancik) dataset, or Raisin dataset, from the UCI Machine learning repository.

(2) Change your neural network training algorithm to use the cross entropy loss (which means you need to use $softmax$ activation and a one-hot encoding of the data.

(3) Start to familiarise yourself with a python library for neural networks (e.g., Keras, PyTorch, Tensorflow). See if you can implement the 3-layer network of Lab 3.