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Multilayer Perceptron Project Report

Here is a multilayer perceptron backpropagation neural network. The dataset is split into a training (80%), valid (10%), and test (10%) set. The input layer takes in 10 inputs from the feature vector. The feature vector consists of only discrete numerical variables from 0 to 96. Also, each column of the feature vector is normalized. The hidden layer consists of ten sigmoid neurons. The output layer uses a SoftMax regression activation function which uses a probability distribution for each class that are being assumed in contrast with the inputs. There are only eight possible classes that the output layer can classify and predict from. The weights are carefully adjusted by me and there is no bias for both the hidden and output layers. There are no third-party library or dependencies, every code came from the standard library or the language itself. I reference the lecture note that you provided.