Report on Neural Network

Danish Amin (ee17btech11013) and Raja Asiwal (ee17btech11034)

30th March 2019

1 Voice Recognition using Neural Network

The Voice Recognition program, which we have made, uses Artificial Neural Network Model.
In our program we have one Input Layer consisting of 4043 nodes as input to Neural Network Model, next is Hidden Layer which has 2 sub-hidden layers. First sub-hidden Layer consists of 10 nodes and Second sub-hidden Layer consists of 7 nodes.Final layer is Output Layer consisting of 5 nodes.

This Artificial Neural-Network consists of total 4 Layers so corresponding to 4 Layers there will be 3 weights and 3-biases. These are named as "abcdB1.out", "abcdB2.out", "abcdB3.out", "abcdW1.out", "abcdW2.out", "abcdW3.out".

We have implemented sigmoid-function and mean-square error function and used them for feed-forward and back-propagation and our program currently uses these functions.

We have also implemented RELU-function(a substitute to sigmoid function) and softmax function(a substitute to mean-square error function) but we have not used them in our program as it was working well with above implemented functions.