

Osho Agyeya

VIT University Chennai Campus

Documentation:

Here, the idea of deep neural network has been used.

Implementation has been carried out using keras.

Initially a random seed of 7 is set. Initially, the train data is modified so that the popularity variable gets transformed into dummy_y as follows:

1	1	0	0	0
2	0	1	0	0
3	0	0	1	0
4	0	0	0	1

This step is known as 1-hot encoding.

Then a neural network is created as follows:

Input layer: 6 neurons

Hidden layer 1: 600 neurons | activation=relu

Hidden layer 2: 300 neurons | activation=relu

Hidden layer 2: 400 neurons | activation=relu

Output layer: 4 neurons | activation=softmax

Loss function is categorical crossentropy. Optimiser is Adam.

Initially, a single hidden layer was chosen and it was found that increasing the no. of layers increased the accuracy but after 3 hidden layers, the accuracy becomes constant.

Same concept was applied to the no. of neurons in hidden layers. Increasing them from 2 digits to 3 digits increased the accuracy but after a maximum value of 600, the accuracy becomes constant.

Finally after hit and trial, the eventual values for hyperparameter were obtained. Epochs(iterations) are set to 200. Final accuracy turned out to be 99.75.

In the end, the probabilities values are obtained for each class concerning each input. The class which is having maximum probability is taken as the answer class.