DEEP LEARNING PRACTICAL 1

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J018

BTech Data Science 3rd year

Code :- https://github.com/visheshtechie/DL/blob/master/Lab1_Simple_Keras_J018.ipynb

Aim :-

Learn the basics of Keras package.

Observations :-

Create a sequential model and adding layers to it. The first layer is the input layer and the final layer is the output layer. The layers in between these two are called hidden layers. The activation function are very important in creating neural networks. They map the input to the output through a function. A dense layer connects every input parameter to the neurons and the output of these neurons is further connected to the neurons of next layer. Once the layers are added to the model, it is compiled. The parameters to be considered while compilation are loss, optimizer and metrics. The data is then fitted on the model created. Here we specify the number of epochs and the batch size of the dataset. The output layer can have 1 neuron for continuous variables or multiple neurons in case of categorical data.

We worked on datasets like MNIST, CIFAR10, Iris.

Accuracies :-

Simple Sequential Model with 2 Layers

Training Accuracy : 0.496
Validation Accuracy : 0.496

Exercise 1

Training Accuracy : 0.598
Validation Accuracy : 0.582

Exercise 2

Training Accuracy : 0.991
Validation Accuracy : 0.98

CIFAR10

Training Accuracy : 0.536
Validation Accuracy : 0.505

Iris

Training Accuracy : 0.83
Validation Accuracy : 0.82

Conclusion :-

We successfully understood the basics of Keras package. Learnt to build sequential models and run it.