RA2311047010005



SUB .: Deep learning NAME: Kuberan STD.: A1 SEC.: A ROLL NO.: Page No. Date Title S. No. 24/7 Exploring Deep leaving Paton si for Imperient a classifier wing Open source dataset 108 study of the classifiers with nespect to statistical-parameter 14/08 Build a single feed forward neural network to register uc 22 08 study of Activation function and its role

14/08/25 Ex.no:4 4. Build a Simple feed forward neural newsork to register handwritten charad

Aim: To build a simple fead forward neural network to recognize handwitten character

dojective

1. To load and preprocess the MNRST dataset for neural network input

2. To build feed forward neural network with hidden layers

3. To train the model using stochastic gradient descent optimizer and sparge Categorical cross - entropy bas

test data and measure its accuracy

5. To predict the class of given handwitten image

Pseudocode

TART
Load MVUT dataset (training and
testing data)

Platten each image from 25/28 to 784
feature

Normalize pilel value to range (9,1)

Greate a sequental neural network
Layon: Dense (128 neurons; Relu
actuation)

Layon 2: Dense (64 neurons, Relu
actuation)

Output layon: Dense (10 neurons, softmas
activation)

compute model:

optimizer - stochastic graduate descent

loss - sparsa categorical Gumentropy

Metric - accuracy

Train model an training data for 5 epails

Evaluate model on testing data

Print test occuracy

END

Observation

The Loss decreases with each, showing that the model is learning of Accuracy improves steadily during training

Training

Epoch	Accuracy	loss
1	0.9929	0.0232
2	0.9968	0-0128
3	0.9916	0.0099
4	10.9976	D. 008 B
5	0.9987	10.0058

Testing

overall accuracy of the model on the

Successfully built a simple feed forward neural network to recognize hardwritten thoracter