**NITEESH KUMAR**

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**ASSIGNMENT 6**

**NEURAL NETWORKS AND DEEP LEARNING**

**https://github.com/niteesh0301/Assignment-6.git**

1.Use the use case in the class: a. Add more Dense layers to the existing code and check how the accuracy changes.

A screenshot of a computer program

Description automatically generated

A computer code with text

Description automatically generated with medium confidence

**Output:**

**A screenshot of a computer screen

Description automatically generated**

**A screenshot of a computer

Description automatically generated**

**A screenshot of a computer program

Description automatically generated**

**A screenshot of a computer

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A screenshot of a computer code

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A table of numbers and lines

Description automatically generated with medium confidence

A screenshot of a computer

Description automatically generated

1. Change the data source to Breast Cancer dataset \* available in the source code folder and make required changes. Report accuracy of the modelA screenshot of a computer code

   Description automatically generated

A computer code with many colorful text

Description automatically generated with medium confidence

**OUTPUT:**

**A screenshot of a computer

Description automatically generatedA screenshot of a computer

Description automatically generated**

**A screenshot of a computer

Description automatically generated**

**A table of text with numbers

Description automatically generated with medium confidence**

**A screenshot of a computer

Description automatically generated**

**A table of numbers and lines

Description automatically generated**

**A screenshot of a computer

Description automatically generated**

1. Normalize the data before feeding the data to the model and check how the normalization change your accuracy (code given below). from sklearn.preprocessing import StandardScaler sc = StandardScaler() Breast Cancer dataset is designated to predict if a patient has Malignant (M) or Benign = B cancer

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**OUTPUT:**

**A screenshot of a computer code

Description automatically generated**

**A table of numbers and lines

Description automatically generated with medium confidence**

**A screenshot of a computer program

Description automatically generated**

**A screenshot of a computer code

Description automatically generated**

**A table of numbers and lines

Description automatically generated**

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**A white background with black text

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**4.** NORMALIZING THE DATA USING STANDARD SCALER

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**OUTPUT:-**

**A table of numbers and lines

Description automatically generated**

**A table of numbers and lines

Description automatically generated**

**A screenshot of a computer program

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**A table of numbers and lines

Description automatically generatedA screenshot of a computer code

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**5.** PROBLEM 2 SOURCE CODE

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**OUTPUT:-**

**A screenshot of a computer

Description automatically generated**

**6.** Plotting the loss and accuracy for both training data and validation data using the history object in the source code:

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**OUTPUT:-**

**A screenshot of a computer code

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**A graph of loss and model loss

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**7.** plotting one of the images in the test data, and then do inference to check what is the prediction of the model on that single image:

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**A computer screen shot of a program

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**A computer code with black and green text

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**OUTPUT:-**

**A screenshot of a computer

Description automatically generated**

A black and white image of a number

Description automatically generated

**8.** Changing the number of hidden layers and the activation function to tanh:

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A computer screen shot of a code

Description automatically generated

**OUTPUT:-**

**A screenshot of a computer

Description automatically generated**

**9.** Running the code without scaling the image:

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**A screen shot of a computer code

Description automatically generated**

**OUTPUT:-**

A screenshot of a computer screen

Description automatically generated