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**Neural Networks and Deep Learning - ICP-3**

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**Github Link:** <https://github.com/RishikaMadireddy/neural_network_icp3>

1. Add more Dense layers to the existing code and check how the accuracy changes.

A screenshot of a computer program

Description automatically generated

A white screen with text

Description automatically generated

A screenshot of a computer

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

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A comparison of a graph

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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A comparison of a graph

Description automatically generated

Use Image Classification on the hand written digits data set (mnist)

1. Plot the loss and accuracy for both training data and validation data using the history object in the source code.

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A screenshot of a computer

Description automatically generated

A screenshot of a graph

Description automatically generated

1. Plot one of the images in the test data, and then do inferencing to check what is the prediction of the model on that single image.

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A screenshot of a computer

Description automatically generated

3.We had used 2 hidden layers and Relu activation. Try to change the number of hidden layer and the activation to tanh or sigmoid and see what happens.

A screenshot of a computer

Description automatically generated

A computer screen shot of text

Description automatically generated

A screen shot of a graph

Description automatically generated

A graph with lines and text

Description automatically generated with medium confidence

A graph of a number of layers

Description automatically generated

A graph of a graph

Description automatically generated with medium confidence

1. Run the same code without scaling the images and check the performance?

A screenshot of a computer program

Description automatically generated

A screenshot of a computer

Description automatically generated

A graph of a number of different colored lines

Description automatically generated

A graph of a graph

Description automatically generated with medium confidence

A graph of a graph

Description automatically generated with medium confidence

A graph of a graph

Description automatically generated with medium confidence