**Spring 2024: CS5720 Neural Networks & Deep Learning - ICP-6**

**Praneeth kumar (700747594)**

GitHub Link: https://github.com/praneethk0910/Neural-Networks-Deep-Learning---ICP-6.git

**Use Case Description:** Predicting the diabetes disease.

**Programming elements**: Keras Basics

**In class programming:**

1. Use the use case in the class:

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

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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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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()

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Note :Breast Cancer dataset is designated to predict if a patient has Malignant (M) or Benign = B cancer

**In class programming:**

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

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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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2. 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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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.

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

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