# Neural Networks and Deep Learning

## Assignment 1

**SAI TEJA GOUD KASALA**

**700741728**

1. Implement Naïve Bayes method using scikit-learn library Use dataset available with name glass Use train\_test\_split to create training and testing part Evaluate the model on test part using score and Classification Report

In this question,

* The related modules has been imported and reading csv file.
* After that data has been divided into features and target set.
* Later, the data is divided into train and test data sets.
* The data is trained with the model GaussianNB.
* After training the data, need to predict using test data and calculated classification report using y test and y pred.
* Here are the screenshots after running the code

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2. Implement linear SVM method using scikit-learn Use the same dataset above Use train\_test\_split to create training and testing part Evaluate the model on test part using score and Which algorithm you got better accuracy? Can you justify why?

In this question,

* The related modules has been imported and read csv file.
* After that data has been divided into features and target set.
* Later, the data is divided into train and test data sets. The data is trained with the model Linear SVM.
* After training the data, need to predict using test data. And, calculated classification report using y test and y pred.
* It is observed that this has better accuracy score compared to Naïve Bayes method.

Here are the screenshots below running the code.

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3. Implement Linear Regression using scikit-learn a) Import the given “Salary\_Data.csv” b) Split the data in train\_test partitions, such that 1/3 of the data is reserved as test subset. c) Train and predict the model. d) Calculate the mean\_squared error. e) Visualize both train and test data using scatter plot.

* Here salary data has been used.
* In the first step imported all necessary modules and splitted data according to the test partition given.
* After that using Linear Regression trained the model and calculated mean squared error.
* For visualization used matplotlib module and through scatter plot the visualization displayed.

Here are the screenshots below

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Github link: