**Neural Network Deep Learning**

Assignment – 5

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Github Link : <https://github.com/kishorreyansh/Neural-Network-Deep-Learning/tree/main/Assignment-5>

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(y\_true, y\_pred)

In the below code snippet, we are implementing Naïve Bayes method using scikit-learn library:

Importing the given “glass.csv” into a variable called glass\_dataframe. Splitting the data using the train\_test\_split() function, such that 1/4 of the data is reserved as a test subset. Train the model using the GaussianNB() function, predict the values using the predict() function. Evaluate the model and generate the classification report of the predicted set using classification\_report(), and then calculate the Naïve Bayes accuracy using accuracy\_score().

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Output:

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1. Implement Linear SVM method using scikit library

Use the same dataset above

Use train\_test\_split to create training and testing part

Evaluate the model on test part using score and

classification\_report(y\_true, y\_pred)

In the below code snippet, we are implementing Linear SVM method using scikit library:

Importing the given “glass.csv” into a variable called glass\_dataframe. Splitting the data using the train\_test\_split() function, such that 1/4 of the data is reserved as a test subset. Train the model using the SVC() function, predict the values using the predict() function. Evaluate the model and generate the classification report of the predicted set using classification\_report(), and then calculate the Naïve Bayes accuracy using accuracy\_score().

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Output:

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CONCLUSION:

The Naïve Bayes Method in this case has an accuracy of 46.30%, while the SVM classifier has a 25.93% accuracy. Better performance is usually indicated by a higher accuracy. Thus, the Naïve Bayes classifier seems to be superior in this instance based only on accuracy.