NEWS GROUP

CLASSIFICATION

NLP

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Under supervision of

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DEALING WITH DATA steps:

- After downloading dataset and store it on the hard drive
- We had to open the folder and iterate on the classes folder and for each folder iterate on the files and SAVE the text file in a NEWS list.
- And save the class folder name in another list as it's our target column CATEGORY.

PREPROCESSING steps:

For each text file:

- Removing stop words
- Lower case folding
- Tokenize the text.
- Lemmatize each token.
- Using Regular Expression removes any non-alpha numeric word or white space.

Feature Extraction steps:

- Using TF-IDF vectorizer we fit the News column which has all the text files for all classes.

MODELS results:

After splitting data into 0.7 train / 0.3 test we trained these models on the train data and use test data to make predictions

Decision tree:

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Decision tree model Accuracy :  0.6344485749690211
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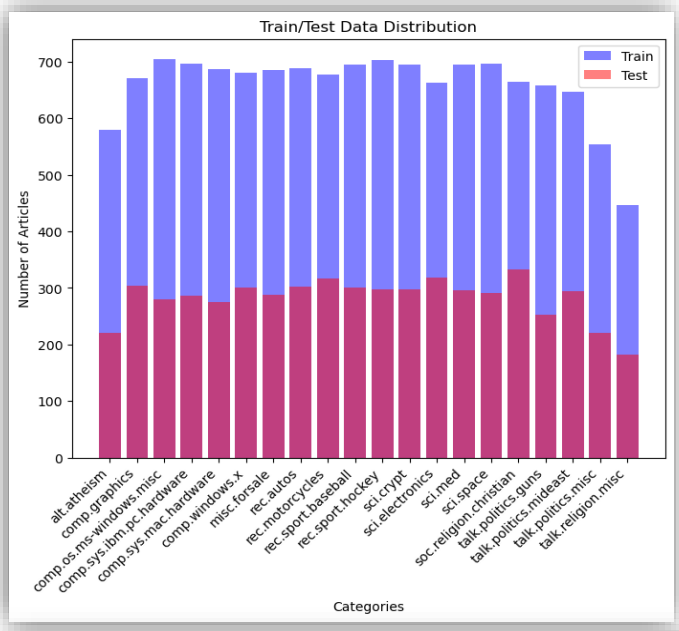
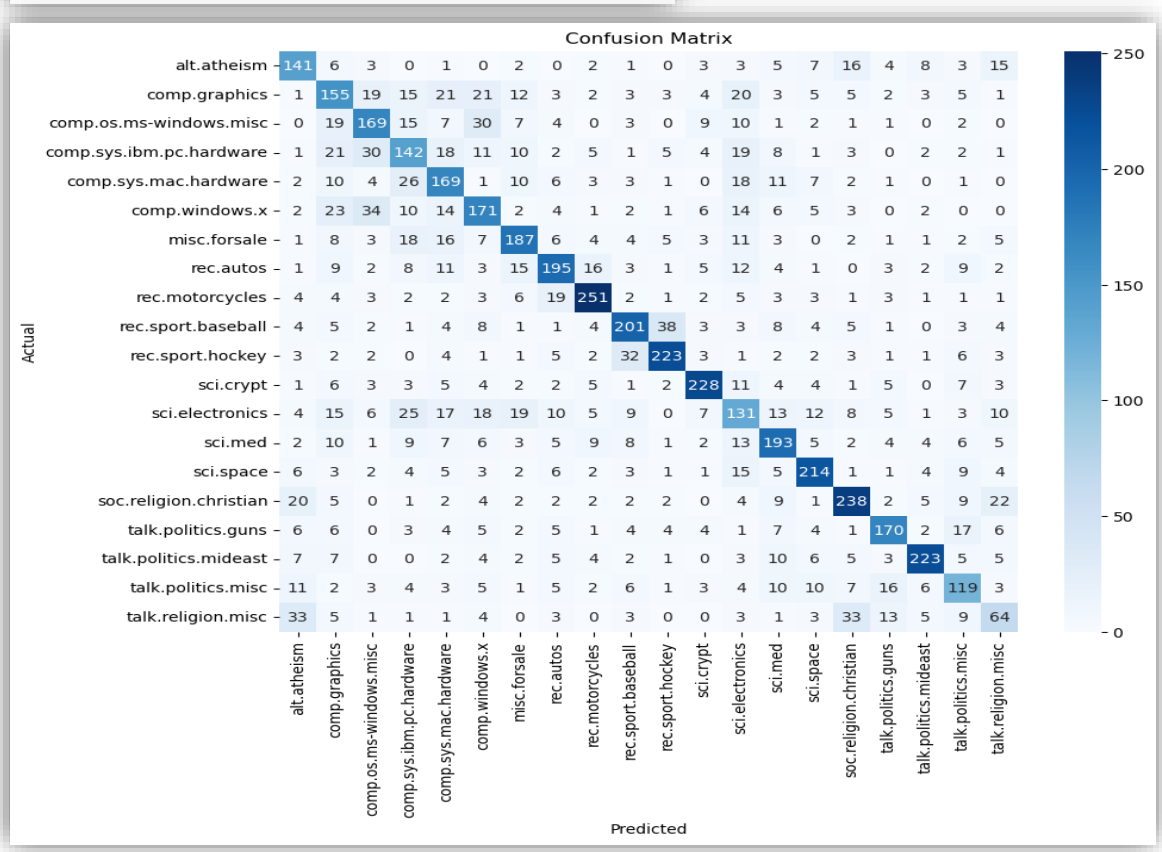
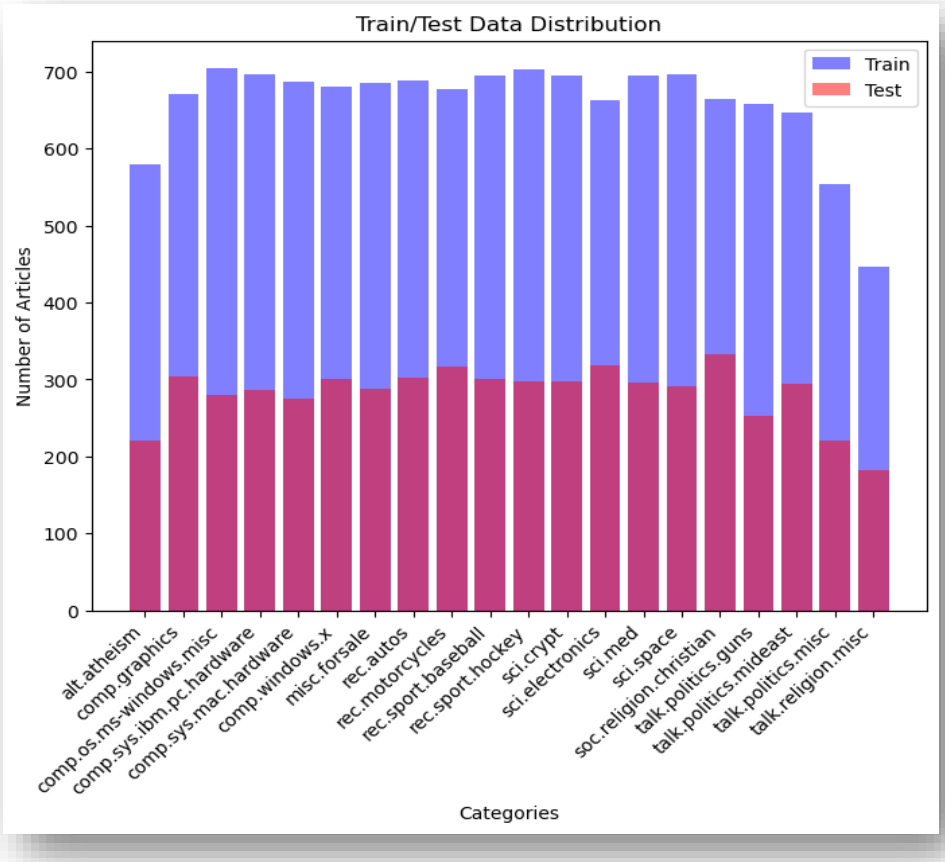
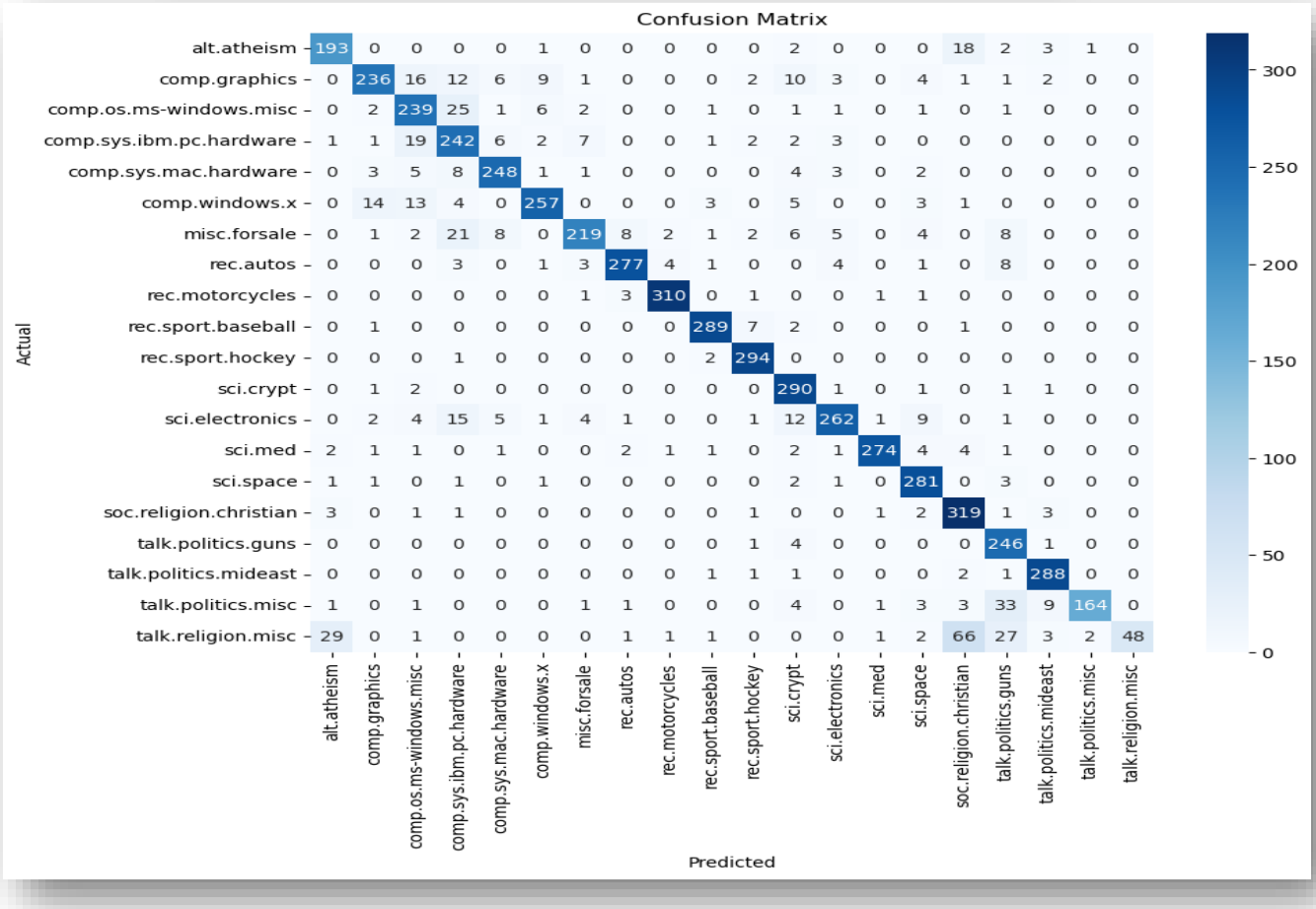




Naive Bayes:

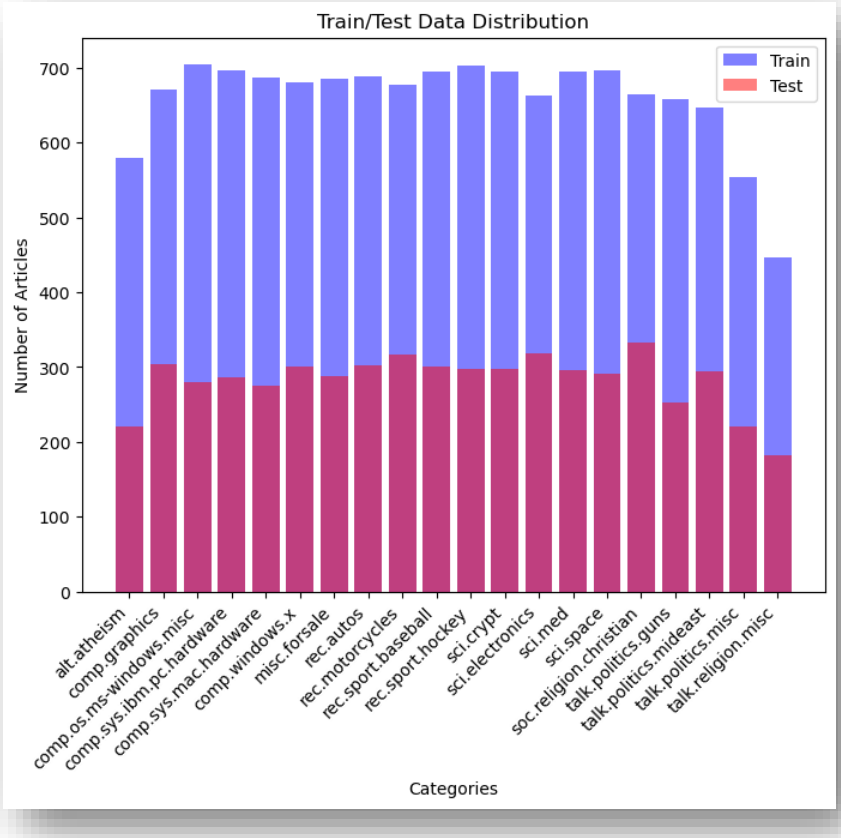
Naive Bayes model Accuracy : 0.8808638697114534

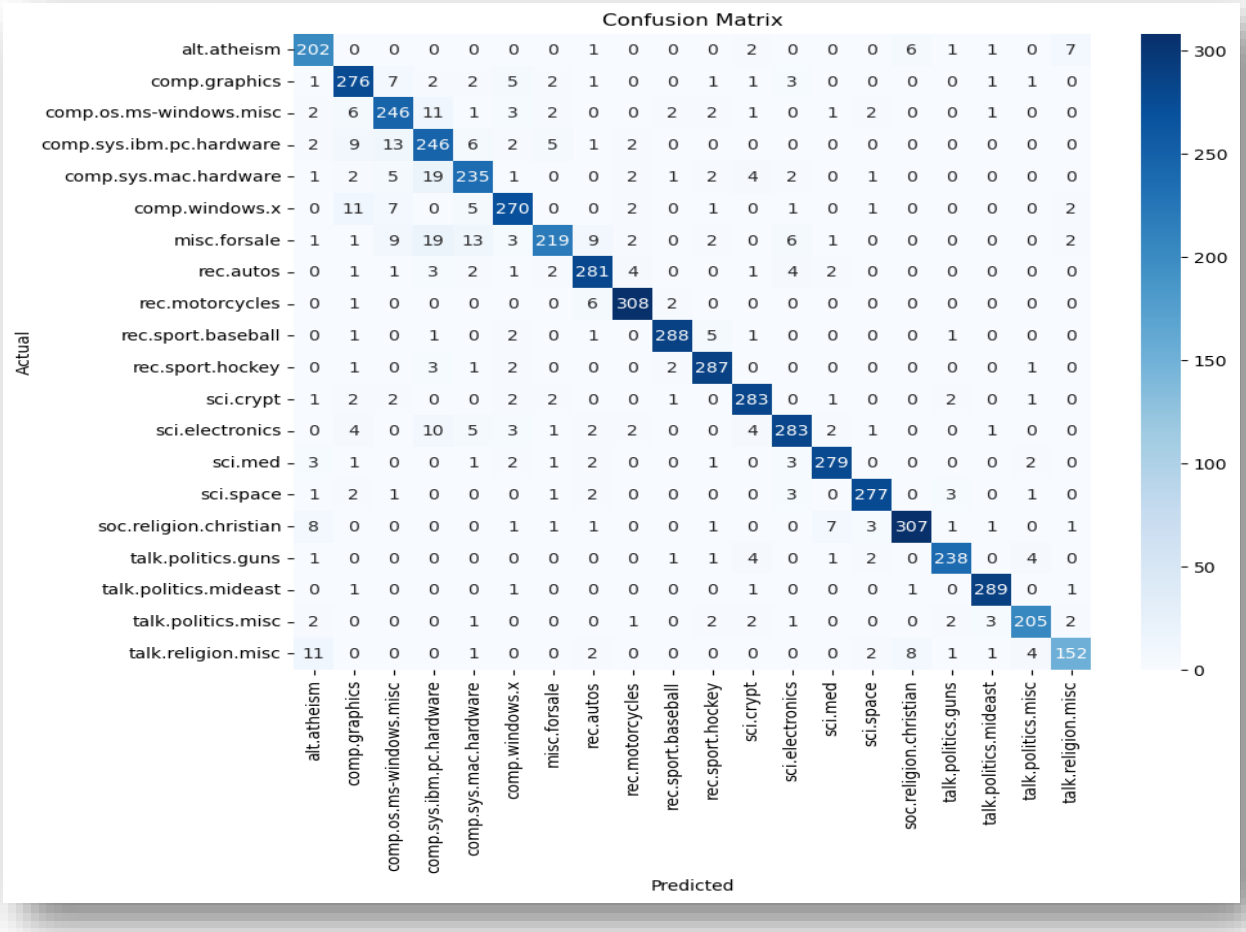




KNN:

KNN model Accuracy : 0.9153832536732165





Now with Our Hero **SVM**

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SVM model Accuracy :  0.9920339883165162
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