# News Group Classification

Team: 55

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| --- | --- | --- |
| Seat Number | Section | Name |
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| 2021170480 | 6 | محمد عوض طلعت محمد |
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## PreProcessing:

Convert text to list of tokens (word tokenization)

Remove Stop Word from tokens

Remove Punctuation from tokens

Perform stemming on tokens using SnowballStemmer

Concatenate all tokens as single string

## Feature Extraction:

Apply TfidfVectorizer (TF-IDF) on train and test data in order to extract features from the preprocessed tokens

## Model Training and Testing:

Naive Bayes:

Training Accuracy = 0.9459961110129044

Testing Accuracy = 0.8069569835369091

Decision Tree (max-depth = 20):

Training Accuracy = 0.530316422131872

Testing Accuracy = 0.4002920870950611

## Visualizing Results:

Used Confusion Matrix to visualize the results as Precision, Recall and F1Score

## Saving the Model:

Save both Naive Bayes and Decision Tree models using pickle library