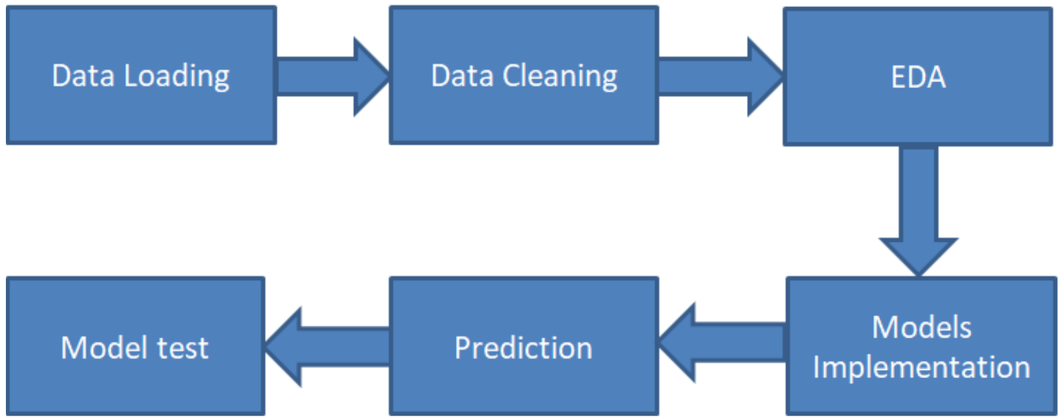
Made by: Abdelaziz

IRON HACK

DAFT NOV21

1. The goal of my project is to build a Fake News Detection model using Machine Learning .

2. Once a source is labeled as a producer of fake news, we can predict with high level of confidence that any future articles.



About data

Columns	Isna().sum()
id	0
title	558
author	1957
text	39
label	0

	Columns	Count	Non_Null	Dtype
0	id	20800	Non_null	int64
1	title	20800	Non_null	object
2	author	20800	Non_null	object
3	text	20800	Non_null	object
4	label	20800	Non_null	Int64

NewsF.shape()	
20800	5

NewsF.duplicated().sum(
0

Data Cleaning/Processing

```
# we can remove all null values from ower NewsF dataset
NewsF= NewsF.fillna('')
```

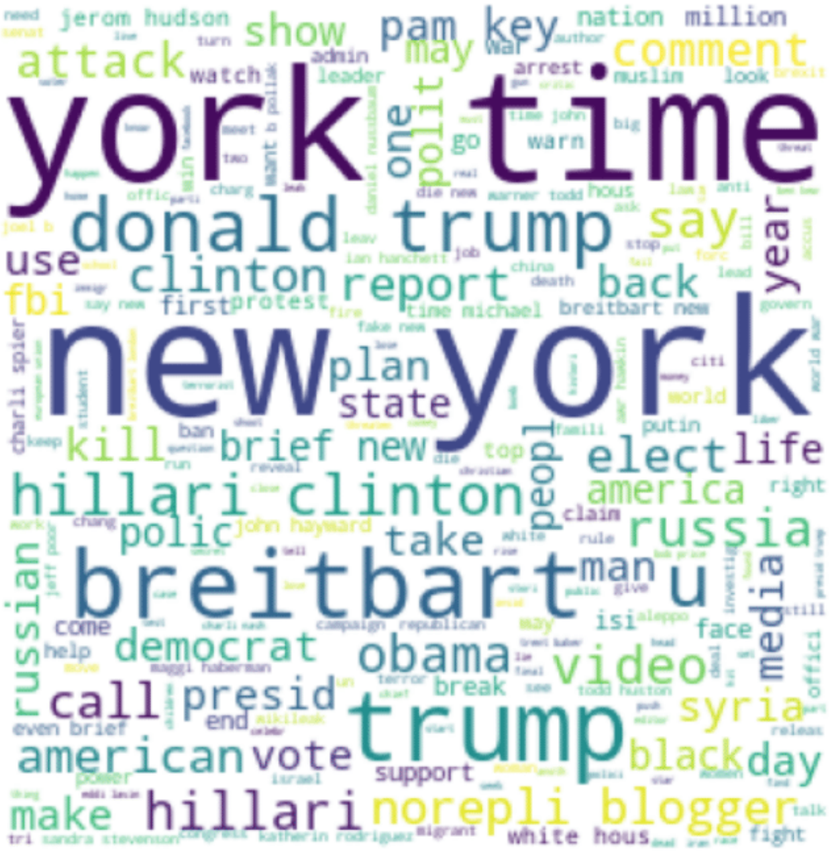
```
NewsF['Merge'] = NewsF['author'] + " " + NewsF['title'
```

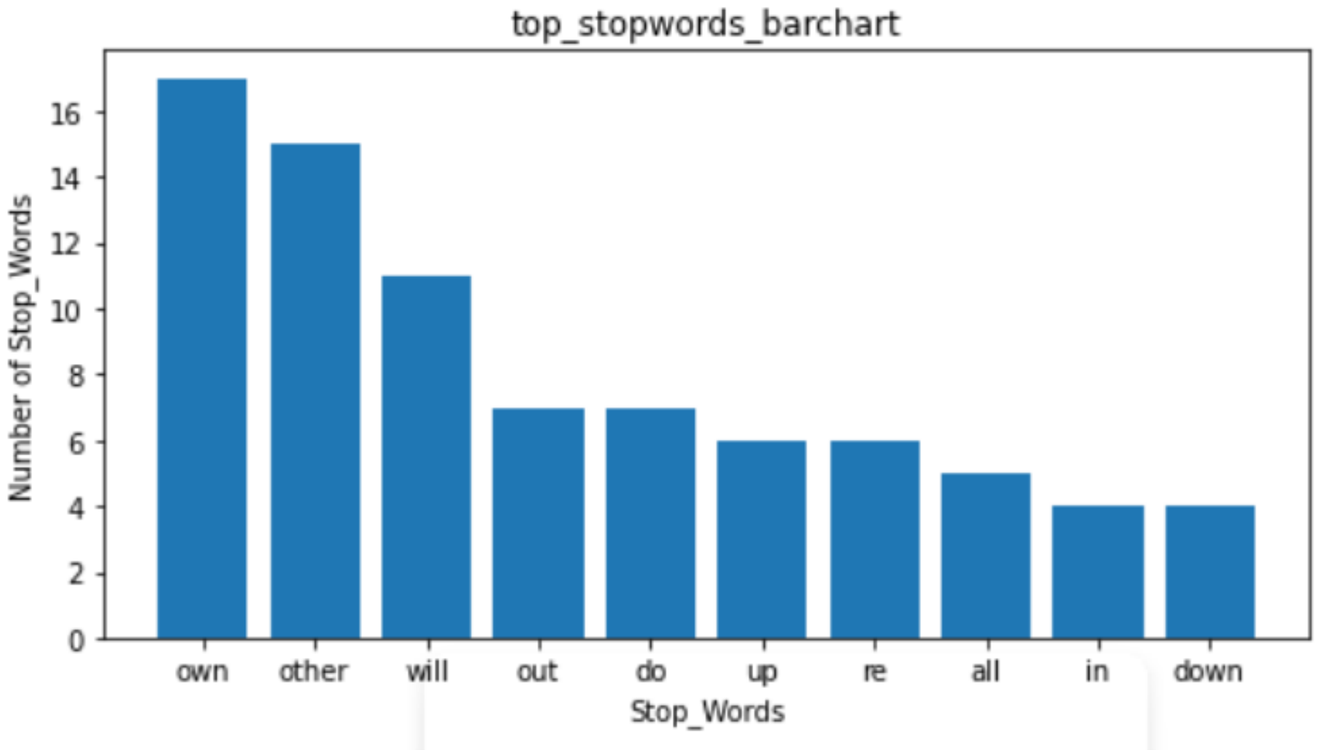
```
stem = PorterStemmer()
def stemming(Merge):
    stemmed_Merge = re.sub('[^a-zA-Z]',' ',Merge)
    stemmed_Merge = stemmed_Merge.split()
    stemmed_Merge = [stem.stem(word) for word in stemmed_Merge if not word in stopwords.words('englis
    stemmed_Merge = ' '.join(stemmed_Merge)
    return stemmed_Merge
```

```
NewsF['Merge'] = NewsF['Merge'].apply(stemming)
```

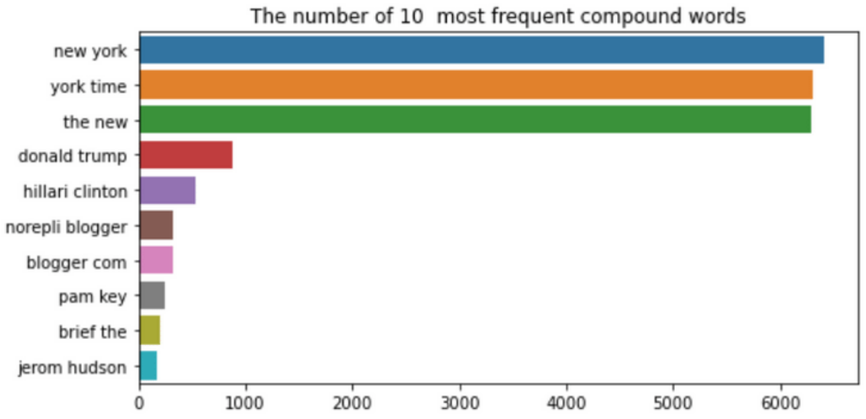
EDA

Word Cloud

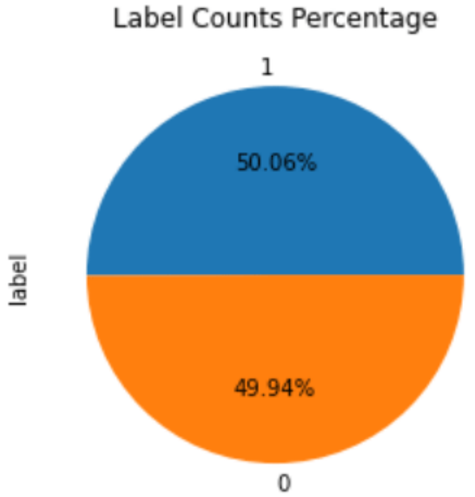


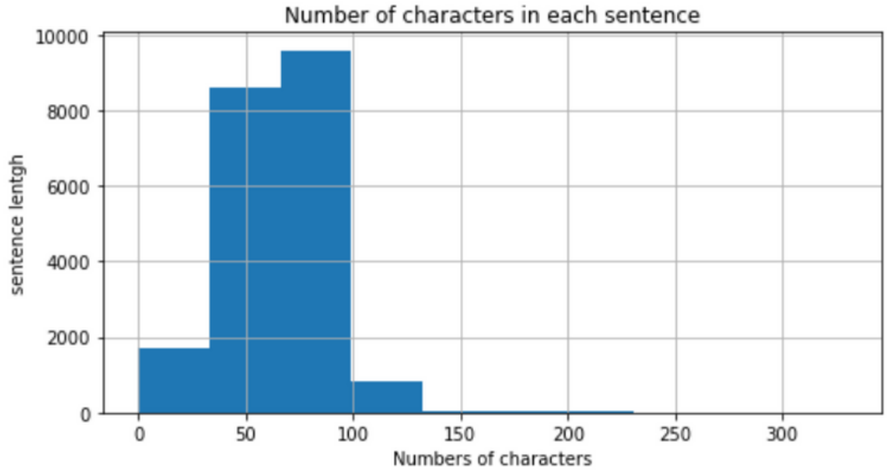


EDA



	Words	Total Count	Percentage
0	new	7,167	3.3%
1	time	6,675	3.1%
2	york	6,415	2.9%
3	trump	3,740	1.7%
4	breitbart	2,756	1.3%
5	clinton	1,272	0.6%
6	hillari	1,267	0.6%
7	donald	905	0.4%
8	news	769	0.4%
9	elect	768	0.4%



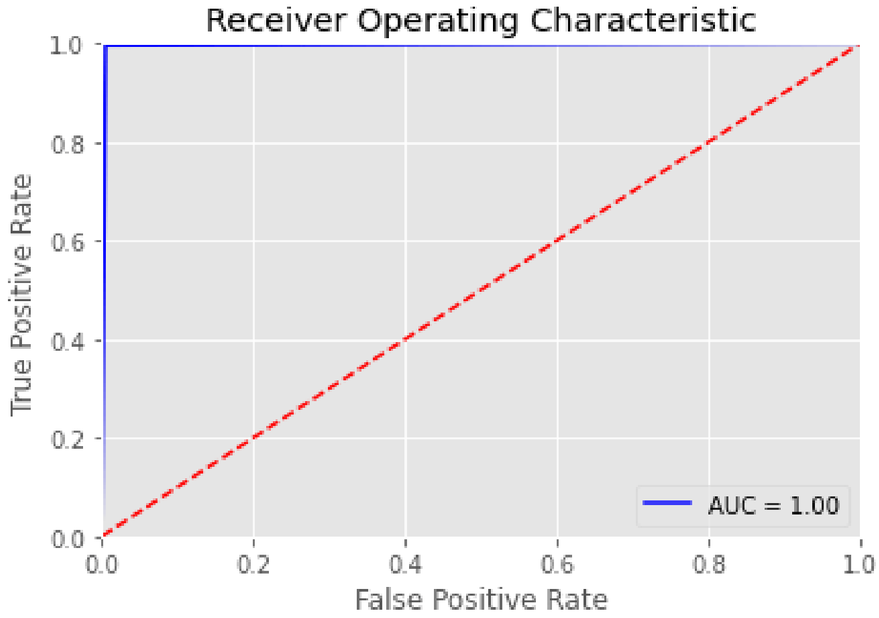


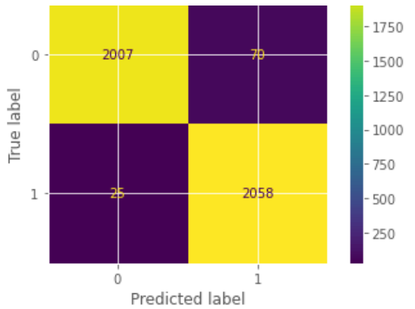
Supervised models

Logistic Regression

- Logistics regression is common and is a useful regression method for solving the binary classification problem.

- Logistic regression describes and estimates the relationship between one dependent binary variable and independent variables.





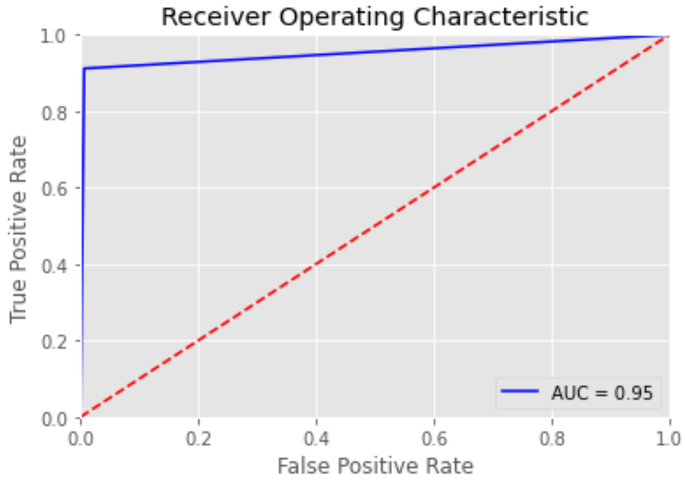
Accuracy: 0.977

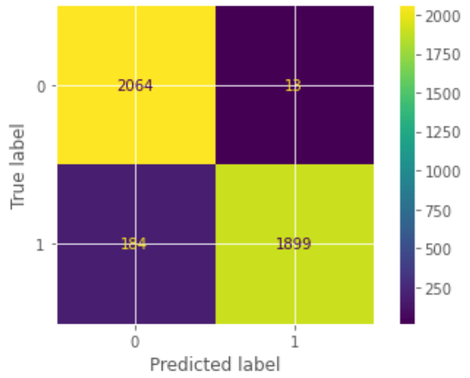
Supervised models

Multinomial Naive Bayes

- Multinomial Naive Bayes is one of the most popular supervised learning classifications that is used for the analysis of the categorical text data.

- It calculates the probability of each tag for a given sample and then gives the tag with the highest probability as output.





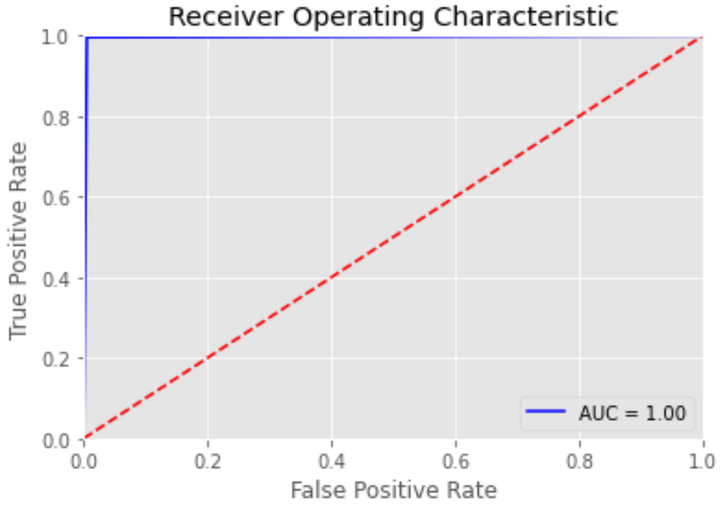
Accuracy: 0.952

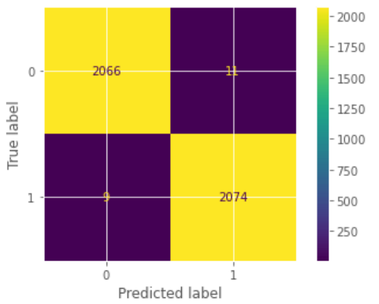
Supervised models

Decision Tree Classifier

- A decision tree is a supervised machine learning classification algorithm used to build models likethe structure of a tree.

- In classification, the goal of the predictive model is to identify the class that generated a particular instance





Accuracy: 0.995

Let's Test if it's is a Real or Fake

THANK YOU