

```

import pandas as pd
import matplotlib.pyplot as plt
import numpy as np
import seaborn as sns
import string
import re
from sklearn.model_selection import train_test_split
from sklearn.metrics import accuracy_score
from sklearn.metrics import classification_report

```

```

data_fake=pd.read_csv('Fake.csv')
data_true=pd.read_csv('True.csv')

```

```
data_fake.head()
```

```

                                title \
0   Donald Trump Sends Out Embarrassing New Year'...
1   Drunk Bragging Trump Staffer Started Russian ...
2   Sheriff David Clarke Becomes An Internet Joke...
3   Trump Is So Obsessed He Even Has Obama's Name...
4   Pope Francis Just Called Out Donald Trump Dur...

```

```

                                text subject \
0   Donald Trump just couldn t wish all Americans ...   News
1   House Intelligence Committee Chairman Devin Nu...   News
2   On Friday, it was revealed that former Milwauk...   News
3   On Christmas day, Donald Trump announced that ...   News
4   Pope Francis used his annual Christmas Day mes...   News

```

```

                                date
0   December 31, 2017
1   December 31, 2017
2   December 30, 2017
3   December 29, 2017
4   December 25, 2017

```

```
data_true.tail()
```

```

                                title \
21412  'Fully committed' NATO backs new U.S. approach...
21413  LexisNexis withdrew two products from Chinese ...
21414  Minsk cultural hub becomes haven from authorities
21415  Vatican upbeat on possibility of Pope Francis ...
21416  Indonesia to buy $1.14 billion worth of Russia...

```

```

                                text      subject \
21412  BRUSSELS (Reuters) - NATO allies on Tuesday we...  worldnews
21413  LONDON (Reuters) - LexisNexis, a provider of l...  worldnews
21414  MINSK (Reuters) - In the shadow of disused Sov...  worldnews
21415  MOSCOW (Reuters) - Vatican Secretary of State ...  worldnews
21416  JAKARTA (Reuters) - Indonesia will buy 11 Sukh...  worldnews

```

```

            date
21412  August 22, 2017
21413  August 22, 2017
21414  August 22, 2017
21415  August 22, 2017
21416  August 22, 2017

data_fake["class"]=0
data_true['class']=1

data_fake.shape, data_true.shape
((23481, 5), (21417, 5))

data_fake_manual_testing = data_fake.tail(10)
for i in range(23480,23470,-1):
    data_fake.drop([i],axis = 0, inplace = True)

data_true_manual_testing = data_true.tail(10)
for i in range(21416,21406,-1):
    data_true.drop([i],axis = 0, inplace = True)

data_fake.shape, data_true.shape
((23471, 5), (21407, 5))

data_fake_manual_testing['class']=0
data_true_manual_testing['class']=1

/var/folders/4t/3vdgbnv14470zb28qpg4mmmc0000gn/T/
ipykernel_1197/1676563180.py:1: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation:
https://pandas.pydata.org/pandas-docs/stable/user\_guide/indexing.html#returning-a-view-versus-a-copy
    data_fake_manual_testing['class']=0
/var/folders/4t/3vdgbnv14470zb28qpg4mmmc0000gn/T/ipykernel_1197/167656
3180.py:2: SettingWithCopyWarning:
A value is trying to be set on a copy of a slice from a DataFrame.
Try using .loc[row_indexer,col_indexer] = value instead

See the caveats in the documentation:
https://pandas.pydata.org/pandas-docs/stable/user\_guide/indexing.html#returning-a-view-versus-a-copy
    data_true_manual_testing['class']=1

data_fake_manual_testing.head(10)

```

		title \
23471	Seven Iranians freed in the prisoner swap have...	
23472	#Hashtag Hell & The Fake Left	
23473	Astroturfing: Journalist Reveals Brainwashing ...	
23474	The New American Century: An Era of Fraud	
23475	Hillary Clinton: 'Israel First' (and no peace ...	
23476	McPain: John McCain Furious That Iran Treated ...	
23477	JUSTICE? Yahoo Settles E-mail Privacy Class-ac...	
23478	Sunnistan: US and Allied 'Safe Zone' Plan to T...	
23479	How to Blow \$700 Million: Al Jazeera America F...	
23480	10 U.S. Navy Sailors Held by Iranian Military ...	

		text	subject
23471	21st Century Wire says This week, the historic...		Middle-east
23472	By Dady Chery and Gilbert MercierAll writers ...		Middle-east
23473	Vic Bishop Waking TimesOur reality is carefull...		Middle-east
23474	Paul Craig RobertsIn the last years of the 20t...		Middle-east
23475	Robert Fantina CounterpunchAlthough the United...		Middle-east
23476	21st Century Wire says As 21WIRE reported earl...		Middle-east
23477	21st Century Wire says It s a familiar theme. ...		Middle-east
23478	Patrick Henningsen 21st Century WireRemember ...		Middle-east
23479	21st Century Wire says Al Jazeera America will...		Middle-east
23480	21st Century Wire says As 21WIRE predicted in ...		Middle-east

		date	class
23471	January 20, 2016		0
23472	January 19, 2016		0
23473	January 19, 2016		0
23474	January 19, 2016		0
23475	January 18, 2016		0
23476	January 16, 2016		0
23477	January 16, 2016		0
23478	January 15, 2016		0
23479	January 14, 2016		0
23480	January 12, 2016		0

data_true_manual_testing.head(10)

		title \
21407	Mata Pires, owner of embattled Brazil builder ...	

```

21408 U.S., North Korea clash at U.N. forum over nuc...
21409 U.S., North Korea clash at U.N. arms forum on ...
21410 Headless torso could belong to submarine journ...
21411 North Korea shipments to Syria chemical arms a...
21412 'Fully committed' NATO backs new U.S. approach...
21413 LexisNexis withdrew two products from Chinese ...
21414 Minsk cultural hub becomes haven from authorities
21415 Vatican upbeat on possibility of Pope Francis ...
21416 Indonesia to buy $1.14 billion worth of Russia...

```

```

                                text      subject \
21407 SAO PAULO (Reuters) - Cesar Mata Pires, the ow... worldnews
21408 GENEVA (Reuters) - North Korea and the United ... worldnews
21409 GENEVA (Reuters) - North Korea and the United ... worldnews
21410 COPENHAGEN (Reuters) - Danish police said on T... worldnews
21411 UNITED NATIONS (Reuters) - Two North Korean sh... worldnews
21412 BRUSSELS (Reuters) - NATO allies on Tuesday we... worldnews
21413 LONDON (Reuters) - LexisNexis, a provider of l... worldnews
21414 MINSK (Reuters) - In the shadow of disused Sov... worldnews
21415 MOSCOW (Reuters) - Vatican Secretary of State ... worldnews
21416 JAKARTA (Reuters) - Indonesia will buy 11 Sukh... worldnews

```

```

                                date  class
21407 August 22, 2017          1
21408 August 22, 2017          1
21409 August 22, 2017          1
21410 August 22, 2017          1
21411 August 21, 2017          1
21412 August 22, 2017          1
21413 August 22, 2017          1
21414 August 22, 2017          1
21415 August 22, 2017          1
21416 August 22, 2017          1

```

```

data_merge=pd.concat([data_fake, data_true], axis = 0)
data_merge.head(10)

```

```

                                title \
0   Donald Trump Sends Out Embarrassing New Year'...
1   Drunk Bragging Trump Staffer Started Russian ...
2   Sheriff David Clarke Becomes An Internet Joke...
3   Trump Is So Obsessed He Even Has Obama's Name...
4   Pope Francis Just Called Out Donald Trump Dur...
5   Racist Alabama Cops Brutalize Black Boy While...
6   Fresh Off The Golf Course, Trump Lashes Out A...
7   Trump Said Some INSANELY Racist Stuff Inside ...
8   Former CIA Director Slams Trump Over UN Bully...
9   WATCH: Brand-New Pro-Trump Ad Features So Muc...

```

```

                                text subject \

```

0	Donald Trump just couldn't wish all Americans ...	News
1	House Intelligence Committee Chairman Devin Nu...	News
2	On Friday, it was revealed that former Milwauk...	News
3	On Christmas day, Donald Trump announced that ...	News
4	Pope Francis used his annual Christmas Day mes...	News
5	The number of cases of cops brutalizing and ki...	News
6	Donald Trump spent a good portion of his day a...	News
7	In the wake of yet another court decision that...	News
8	Many people have raised the alarm regarding th...	News
9	Just when you might have thought we'd get a br...	News

	date	class
0	December 31, 2017	0
1	December 31, 2017	0
2	December 30, 2017	0
3	December 29, 2017	0
4	December 25, 2017	0
5	December 25, 2017	0
6	December 23, 2017	0
7	December 23, 2017	0
8	December 22, 2017	0
9	December 21, 2017	0

```
data_merge.columns
```

```
Index(['title', 'text', 'subject', 'date', 'class'], dtype='object')
```

```
data=data_merge.drop(['title','subject','date'], axis = 1)
```

```
#count of missing values
```

```
data.isnull().sum()
```

```
text      0
class     0
dtype: int64
```

```
data = data.sample(frac = 1)
```

```
data.head()
```

	text	class
17752	Could there be two creepier people than creep...	0
3377	WELLINGTON (Reuters) - U.S. President Donald T...	1
21019	SEOUL (Reuters) - North Korea has been observe...	1
15561	BRUSSELS/MADRID (Reuters) - Catalonia's former...	1
20171	PARIS (Reuters) - European Commission chief Je...	1

```
data.reset_index(inplace = True)
```

```
data.drop(['index'], axis = 1, inplace = True)
```

```
data.columns
```

```
Index(['text', 'class'], dtype='object')
```

```
data.head()
```

	text	class
0	Could there be two creepier people than creep...	0
1	WELLINGTON (Reuters) - U.S. President Donald T...	1
2	SEOUL (Reuters) - North Korea has been observe...	1
3	BRUSSELS/MADRID (Reuters) - Catalonia s former...	1
4	PARIS (Reuters) - European Commission chief Je...	1

```
def wordopt(text):
    text = text.lower()
    text = re.sub('\[.*?\]', '', text)
    text = re.sub('\W', " ", text)
    text = re.sub('https?://\S+|www\.\S+', '', text)
    text = re.sub('<.*?>+', 'b', text)
    text = re.sub('[%s]' % re.escape(string.punctuation), '', text)
    text = re.sub('\w*\d\w*', '', text)
    return text
```

```
data['text'] = data['text'].apply(wordopt)
```

```
x = data['text']
y = data['class']
```

```
x_train, x_test, y_train, y_test = train_test_split(x,y,test_size =
0.25)
```

```
from sklearn.feature_extraction.text import TfidfVectorizer
```

```
vectorization = TfidfVectorizer()
xv_train = vectorization.fit_transform(x_train)
xv_test = vectorization.transform(x_test)
```

```
from sklearn.linear_model import LogisticRegression
```

```
LR = LogisticRegression()
LR.fit(xv_train, y_train)
```

```
LogisticRegression()
```

```
pred_lr = LR.predict(xv_test)
```

```
LR.score(xv_test, y_test)
```

```
0.9868983957219252
```

```
print (classification_report(y_test, pred_lr))
```

	precision	recall	f1-score	support
0	0.99	0.99	0.99	5889

1	0.99	0.99	0.99	5331
accuracy			0.99	11220
macro avg	0.99	0.99	0.99	11220
weighted avg	0.99	0.99	0.99	11220

```
from sklearn.tree import DecisionTreeClassifier
```

```
DT = DecisionTreeClassifier()
DT.fit(xv_train, y_train)
```

```
DecisionTreeClassifier()
```

```
pred_dt = DT.predict(xv_test)
```

```
DT.score(xv_test, y_test)
```

```
0.9962566844919786
```

```
print(classification_report(y_test, pred_lr))
```

	precision	recall	f1-score	support
0	0.99	0.99	0.99	5889
1	0.99	0.99	0.99	5331
accuracy			0.99	11220
macro avg	0.99	0.99	0.99	11220
weighted avg	0.99	0.99	0.99	11220

```
from sklearn.ensemble import GradientBoostingClassifier
```

```
GB = GradientBoostingClassifier(random_state = 0)
GB.fit(xv_train, y_train)
```

```
GradientBoostingClassifier(random_state=0)
```

```
pred_gb = GB.predict(xv_test)
```

```
GB.score(xv_test, y_test)
```

```
0.9957219251336898
```

```
print(classification_report(y_test, pred_gb))
```

	precision	recall	f1-score	support
0	1.00	0.99	1.00	5889
1	0.99	1.00	1.00	5331
accuracy			1.00	11220

macro avg	1.00	1.00	1.00	11220
weighted avg	1.00	1.00	1.00	11220

```
from sklearn.ensemble import RandomForestClassifier
```

```
RF = RandomForestClassifier(random_state = 0)
RF.fit(xv_train, y_train)
```

```
RandomForestClassifier(random_state=0)
```

```
pred_rf = RF.predict(xv_test)
```

```
RF.score(xv_test, y_test)
```

```
0.9888591800356507
```

```
print (classification_report(y_test, pred_rf))
```

	precision	recall	f1-score	support
0	0.99	0.99	0.99	5889
1	0.99	0.99	0.99	5331
accuracy			0.99	11220
macro avg	0.99	0.99	0.99	11220
weighted avg	0.99	0.99	0.99	11220

```
def output_lable(n):
    if n==0:
        return "Fake News"
    elif n==1:
        return "Not A Fake News"
```

```
def manual_testing(news):
    testing_news = {"text":[news]}
    new_def_test = pd.DataFrame(testing_news)
    new_def_test['text'] = new_def_test["text"].apply(wordopt)
    new_x_test = new_def_test["text"]
    new_xv_test = vectorization.transform(new_x_test)
    pred_LR = LR.predict(new_xv_test)
    pred_DT = DT.predict(new_xv_test)
    pred_GB = GB.predict(new_xv_test)
    pred_RF = RF.predict(new_xv_test)

    return print("\n\nLR Prediction: {} \nDT Prediction: {} \nGBC
Prediction: {} \nRFC Prediction:{}".format(output_lable(pred_LR[0]),
output_lable(pred_DT[0]),
output_lable(pred_GB[0]),
```



```
output_label(pred_RF[0]))
```

```
news = str(input())  
manual_testing(news)
```

Federal health officials told the AP they have not received any reports of Ebola cases at the Nevada event. A screenshot of a supposed post from the Centers for Disease Control and Prevention confirming such cases was fabricated. And there is no record of a national emergency being declared. The claims emerged after summer storm left muddy roads flooded, stranding tens of thousands of partygoers; event organizers let traffic flow out of the main road Monday afternoon. "So it was announced earlier that Burning Man was declared a national emergency because it was flooded, and so they sent in FEMA," a woman claims in a TikTok video shared on Instagram, suggesting the development was suspicious. The AP found no record, including on federal websites and in White House announcements, of a national emergency declaration and FEMA confirmed that it was not involved in the situation. "No FEMA personnel or assets have been deployed to the Burning Man festival and there are no requests from local or state authorities for our assistance," FEMA spokesperson Jeremy Edwards said in an email. The TikTok video, like other posts, goes on to relay baseless rumors of reported cases of Ebola, whose occasional outbreaks in humans primarily occur in Africa, at the festival. Some posts also shared an image made to appear that the CDC confirmed the supposed outbreak on X, the platform formerly known as Twitter. The purported X post from the agency reads, "Ebola outbreak confirmed at Black Rock City, NV. It is recommended that all Burning Man attendees remain in their dwellings until further notice. Current State of Emergency in progress." But the CDC's X account published no such post. "CDC has not received any reports of Ebola at the Burning Man Festival and has not issued any warnings or had any requests for assistance from the state and local health departments either," agency spokesperson Scott Pauley said in an email. Reverse image searches further show that a graphic about Ebola used in the fictitious CDC post was published by the agency in 2016, but elements of it were changed. For example, the original graphic asks, "Recently in West Africa?" But the version used in the made-up X post asks, "Recently in Nevada?" Referencing more online rumors, Pauley also noted the CDC had not received reports of mpox, formerly known as monkeypox, or Marburg, a rare but severe hemorrhagic fever, in relation to Burning Man. A representative for the Burning Man Project organization also refuted the online claims. "Quite simply, the online rumors of transmissible illnesses in Black Rock City are unfounded and untrue," Dominique Debucquoy-Dodley said in an email. The festival had been closed to vehicles after more than a half-inch (1.3 centimeters) of rain fell Sept. 1, causing flooding and foot-deep mud, as the AP reported. The annual gathering, which launched on a San Francisco beach in 1986, attracts nearly 80,000 artists, musicians and activists for a mix of wilderness camping and

avant-garde performances

LR Prediction: Fake News

DT Prediction: Fake News

GBC Prediction: Fake News

RFC Prediction:Fake News

```
news=str(input())  
manual_testing(news)
```

MOSCOW (Reuters) - Russia's former ambassador to Washington, Sergei Kislyak, said on Saturday his conversations with former White House national security adviser Michael Flynn had been transparent and focused on matters of U.S.-Russia cooperation. Kislyak ended his tenure in Washington in July but remains a key figure in ongoing U.S. investigations into Moscow's alleged meddling in the 2016 presidential election. Flynn was forced to resign in February after it became known that he had failed to disclose the content of conversations he had with Kislyak and misled U.S. Vice-President Mike Pence about their meetings. "We only spoke about the most simple things ... but the communication was completely correct, calm, absolutely transparent. In any case, there were no secrets on our side," Kislyak said during a panel discussion on Russian television. "There are a number of issues which are important for cooperation between Russia and the United States - most of all, terrorism. And that was one of the things we discussed."

LR Prediction: Not A Fake News

DT Prediction: Not A Fake News

GBC Prediction: Not A Fake News

RFC Prediction:Not A Fake News