**SOURCE CODE:**

import pandas as pd

import numpy as np

import seaborn as sns

import matplotlib.pyplot as plt

from sklearn.model\_selection import train\_test\_split

from sklearn.metrics import accuracy\_score

from sklearn.metrics import classification\_report

import re

import string data\_fake = pd.read\_csv('/content/drive/MyDrive/Colab Notebooks/Fake.csv')

data\_true = pd.read\_csv('/content/drive/MyDrive/Colab Notebooks/True.csv')

data\_true.head()

data\_fake.head()

data\_fake["class"] = 0

data\_true['class'] = 1

data\_fake.shape, data\_true.shape

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

data\_fake\_manual\_testing['class'] = 0

data\_true\_manual\_testing['class'] = 1

data\_fake\_manual\_testing.head(10)

data\_true\_manual\_testing.head(10)

data\_merge = pd.concat([data\_fake, data\_true], axis = 0)

data\_merge.head(10)

data\_merge.columns

data = data\_merge.drop(['title','subject', 'date'], axis = 1)

data.isnull().sum()

data=data.sample(frac=1)

data.head()

data.reset\_index(inplace=True)

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

data.columns

data.head()

def wordopt(text):

  text = text.lower()

  text = re.sub('\[.\*?\]', '', text)

  text = re.sub("\\W", " ", text)

  text = re.sub('https?://\St|www\.|S+', '', text)

  text = re.sub('<."?>+', '', text)

  text = re.sub('[%s]' % re.escape(string.punctuation), ' ',text)

  text = re.sub('\n', '', 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)

pred\_lr = LR.predict(xv\_test)

LR.score(xv\_test, y\_test)

print(classification\_report(y\_test, pred\_lr))

from sklearn.tree import DecisionTreeClassifier

DT = DecisionTreeClassifier()

DT.fit(xv\_train, y\_train)

pred\_dt = DT.predict(xv\_test)

DT.score(xv\_test, y\_test)

print(classification\_report(y\_test, pred\_dt))

from sklearn.ensemble import GradientBoostingClassifier

GB=GradientBoostingClassifier(random\_state=0)

GB.fit(xv\_train,y\_train)

predit\_gb=GB.predict(xv\_test)

GB.score(xv\_test,y\_test)

print(classification\_report(y\_test, predit\_gb))

from sklearn.ensemble import RandomForestClassifier

RF=RandomForestClassifier(random\_state=0)

RF.fit(xv\_train,y\_train)

pred\_rf=RF.predict(xv\_test)

RF.score(xv\_test,y\_test)

print(classification\_report(y\_test, pred\_rf))

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)

  predit\_GB=GB.predict(new\_xv\_test)

  pred\_RF=RF.predict(new\_xv\_test)

  return print("In\nLR Prediction: {} \nDT Prediction:{} \nGB Prediction: {} \nRF Prediction: {}".format(output\_lable(pred\_LR[0]),

                                                                                                           output\_lable(pred\_DT[0]),

                                                                                                           output\_lable(predit\_GB[0]),

                                                                                                           output\_lable(pred\_RF[0])))

news = str(input())

manual\_testing(news)

<https://github.com/Chando0185/fake_news_detection/blob/main/Model_Training.ipynb>

<https://www.kaggle.com/code/siljithkandyil/fake-news-detection/notebook>

<https://www.kaggle.com/code/manuelcecerepalazzo/fake-news-detection?scriptVersionId=102972795&cellId=4>

<https://www.kaggle.com/code/hamditarek/fake-news-detection-on-twitter-eda/notebook>