



Fake News Detection Project

```
import os
for dirname, _, filenames in os.walk
('/kaggle/input'):
    for filename in filenames:
        print(os.path.join(dirname, f
ilename))
nltk.download('stopwords')
```

/opt/conda/lib/python3.10/site-packag
es/scipy/__init__.py:146: UserWarnin
g: A NumPy version >=1.16.5 and <1.2
3.0 is required for this version of S
ciPy (detected version 1.23.5

```
warnings.warn(f"A NumPy version >=
{np_minversion} and <{np_maxversion}"
```

In [1]:

```
import numpy as np # linear algebra
import pandas as pd # data processing,
CSV file I/O (e.g. pd.read_csv)
import plotly.express as px
import plotly.graph_objs as go
from plotly.subplots import make_subplots

import nltk
from nltk.corpus import stopwords
import tensorflow as tf
from tensorflow.keras.optimizers import Adam
from tensorflow.keras.callbacks import ModelCheckpoint
from sklearn.model_selection import train_test_split
from transformers import AutoTokenizer, TFAutoModelForSequenceClassification
```

```
/kaggle/input/fake-and-real-news-dataset/True.csv
```

```
/kaggle/input/fake-and-real-news-dataset/Fake.csv
```

```
[nltk_data] Downloading package stopwords to /usr/share/nltk_data...
```

```
[nltk_data] Package stopwords is already up-to-date!
```

```
Out[1]:
```

```
True
```

```
In [2]:
```

```
fake_news_path = "/kaggle/input/fake-and-real-news-dataset/Fake.csv"
real_news_path = "/kaggle/input/fake-and-real-news-dataset/True.csv"
```


In [3]:

```
fake_news = pd.read_csv(fake_news_path)
real_news = pd.read_csv(real_news_path)
```

In [4]:

```
fake_news.head(3)
```

Out[4]:

	title	text	subject	date
0	Donald Trump Sends Out Embarrassing New Year'...	Donald Trump just couldn't wish all Americans ...	News	December 31, 2017
1	Drunk Bragging Trump Staffer Started Russian ...	House Intelligence Committee Chairman Devin Nu...	News	December 31, 2017

2	Sheriff David Clarke Becomes An Internet Joke...	On Friday, it was revealed that former Milwauk...	News	December 30, 2017
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In [5]:

```
real_news.head(3)
```

Out[5]:

title	text	subject	date
As U.S. budget fight looms, Republicans flip t...	WASHINGTON (Reuters) - The head of a conservat...	politicsNews	December 31, 2017
U.S. military to accept transgender recruits o...	WASHINGTON (Reuters) - Transgender people will...	politicsNews	December 29, 2017
Senior U.S. Republican senator: 'Let Mr. Muell...	WASHINGTON (Reuters) - The special counsel inv...	politicsNews	December 31, 2017

In [6]:

```
real = real_news.copy()  
fake = fake_news.copy()
```

In [7]:

```
real['Label'] = 'Real'  
fake['Label'] = 'Fake'
```

In [8]:

```
news = pd.concat([real, fake], axis=  
0, ignore_index=True)  
news.reset_index()  
news.head()
```


Out[8]:

	title	text	subject
0	As U.S. budget fight looms, Republicans flip t...	WASHINGTON (Reuters) - The head of a conservat...	politicsNews
1	U.S. military to accept transgender recruits o...	WASHINGTON (Reuters) - Transgender people will...	politicsNews
2	Senior U.S. Republican senator: 'Let Mr. Muell...	WASHINGTON (Reuters) - The special counsel inv...	politicsNews
3	FBI Russia probe helped by Australian diplomat...	WASHINGTON (Reuters) - Trump campaign adviser ...	politicsNews
4	Trump wants Postal Service to charge 'much mor...	SEATTLE/WASHINGTON (Reuters) - President Donal...	politicsNews

Thank You

