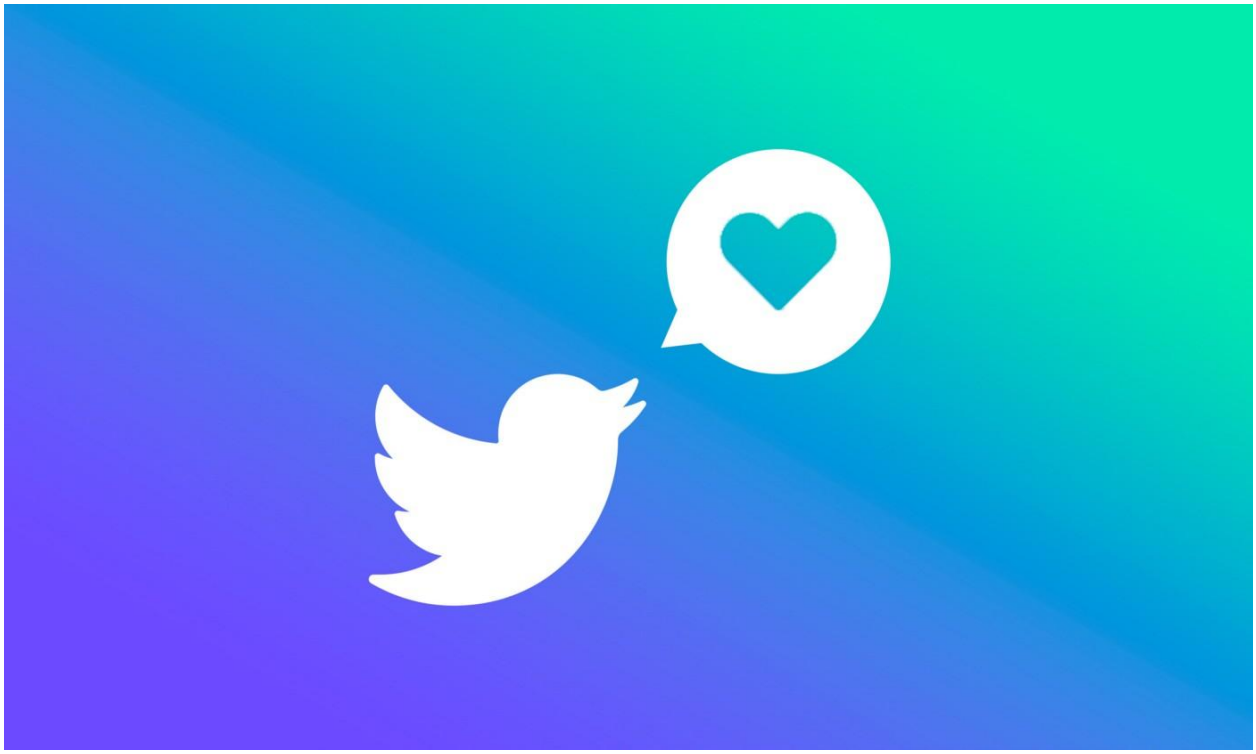
Isha Singhal

EDA of Tweets



import libraries

```
[1] import re
    import string
    import numpy as np
    import random
    import pandas as pd
    import matplotlib.pyplot as plt
    import seaborn as sns
    %matplotlib inline
    from plotly import graph_objs as go
    import plotly.express as px
    import plotly.figure_factory as ff
    from collections import Counter

    from PIL import Image
    from wordcloud import WordCloud, STOPWORDS, ImageColorGenerator


    import nltk
    from nltk.corpus import stopwords

    from tqdm import tqdm
    import os
    import nltk
    import spacy
    import random
    from spacy.util import compounding
    from spacy.util import minibatch

    import warnings
    warnings.filterwarnings("ignore")
```

helper function that helps generating random colours to use while plotting

```
[3] def random_colours(number_of_colors):
        '''
        Simple function for random colours generation.
        Input:
            number_of_colors - integer value indicating the number of colours which are going to be generated.
        Output:
            Color in the following format: ['#E86DA4'] .
        '''
        colors = []
        for i in range(number_of_colors):
            colors.append("#"+''.join([random.choice('0123456789ABCDEF') for j in range(6)]))
        return colors
```

importing the dataset

```
tweets = pd.read_csv('tweets.csv')
```

tweets.shape

```
print(tweets.shape)
```

```
(5232, 18)
```

tweets.info()

```
[5] tweets.info()
```

```
<class 'pandas.core.frame.DataFrame'>
RangeIndex: 5232 entries, 0 to 5231
Data columns (total 18 columns):
 #   Column                   Non-Null Count  Dtype 
---  ------                   --------------  ----- 
 0   id                       5232 non-null   int64 
 1   hashtag_generation_time  5232 non-null   object
 2   searched_hashtag         5232 non-null   object
 3   tweet_id                 5232 non-null   int64 
 4   tweet_created_at         5232 non-null   object
 5   screen_name              5232 non-null   object
 6   name                     5232 non-null   object
 7   user_description         4274 non-null   object
 8   followers_count          5232 non-null   int64 
 9   tweet                    5232 non-null   object
 10  location                 2587 non-null   object
 11  iso_language_code        5232 non-null   object
 12  retweet_count            5232 non-null   int64 
 13  user_created_at          5232 non-null   object
 14  favorite_count           5232 non-null   int64 
 15  entities                 5232 non-null   object
 16  tweet_source             5232 non-null   object
 17  verified                 5232 non-null   bool  
dtypes: bool(1), int64(5), object(12)
memory usage: 700.1+ KB
```

dropping rows with missing values

```
[6]  tweets.dropna(inplace=True)
```

taking a look at the first 5 rows

```
[7]  tweets.head()
```

	id	hashtag_generation_time	searched_hashtag	tweet_id	tweet_created_at	screen_name	name	user_description	followers_coun
1	6327	2022-08-26 13:54:52.480426+00	CBI Unfold D Truth InSSRCase	1563163059002101762	2022-08-26 13:54:50+00	BabyPink1803	Alli	Justice 4 Disha & SSR ~ :): 💛🦋💫 ~Your vibes sp...	111
2	6328	2022-08-26 13:54:52.618819+00	CBI Unfold D Truth InSSRCase	1563163056934334464	2022-08-26 13:54:49+00	Tanutoor85	𝒯𝒪𝒯𝒪(TanuToor)	Anshu ❤️I2.0 ❤️IAnaya ❤️IAansh❤️Luv❤️IKokdoo❤️...	277
3	6329	2022-08-26 13:54:52.656809+00	CBI Unfold D Truth InSSRCase	1563163055390744576	2022-08-26 13:54:49+00	its_ssrwarrior	S U P R I Y A	A Proud Fan of Sushant Singh Rajput.	200
4	6330	2022-08-26 13:54:52.696796+00	CBI Unfold D Truth InSSRCase	1563163052102791168	2022-08-26 13:54:48+00	Tanutoor85	𝒯𝒪𝒯𝒪(TanuToor)	Anshu ❤️I2.0 ❤️IAnaya ❤️IAansh❤️Luv❤️IKokdoo❤️...	277
6	6332	2022-08-26 13:54:52.796806+00	CBI Unfold D Truth InSSRCase	1563163045748101120	2022-08-26 13:54:46+00	Tanutoor85	𝒯𝒪𝒯𝒪(TanuToor)	Anshu ❤️I2.0 ❤️IAnaya ❤️IAansh❤️Luv❤️IKokdoo❤️...	277

getting more insights on the dataset

```
tweets.describe()
```

	id	tweet_id	followers_count	retweet_count	favorite_count
count	2467.000000	2.467000e+03	2467.000000	2467.000000	2467.000000
mean	8969.092420	1.563313e+18	1639.437779	43.910012	0.047021
std	1502.937758	1.483751e+14	1301.285789	63.113770	0.353723
min	6327.000000	1.563151e+18	8.000000	0.000000	0.000000
25%	7710.500000	1.563158e+18	476.000000	10.000000	0.000000
50%	9039.000000	1.563451e+18	1453.000000	27.000000	0.000000
75%	10218.500000	1.563454e+18	2116.000000	58.000000	0.000000
max	11557.000000	1.563460e+18	6251.000000	779.000000	6.000000

looking at the verified and unverified accounts, along with their followers count

```
[15] temp = tweets.groupby('verified').count()['followers_count'].reset_index().sort_values(by='followers_count')
     temp.style.background_gradient(cmap='Purples')
```

	verified	followers_count
0	False	2467

looking at the relationship between screen_name and location of users

```
[16] temp = tweets.groupby('screen_name').count()['location'].reset_index().sort_values(by='location')
     temp.style.background_gradient(cmap='Purples')
```

83	VedantaMahani	22
30	GopiPritam	22
58	Priya80167535	24
72	SoumyaRao52	24
111	kundu_koushani	26
24	Deenuboy	27
54	Nish_SSRian	28
84	Yasmin2186	28
31	Hemant36182804	29
16	BabyPink1803	29
114	lr_jhala	29
50	Nadiaa_Islam	31
64	SSRkaFan	31
46	Maddy89962426	33
68	ShivangiPrasad8	33

[16]
0s

77	Sushant_kv	35
63	SSRian_TC	47
37	Jannat_Firdouse	50
96	divine__ssr	54
138	tinassrian	55
129	sapnaghosh_21	66
118	meenakshi_hcc	73
48	MadhumitaroyC	77
38	Jen4SSR	80
49	Mayur4SSR	86
40	Justice62467857	93
2	AdnanMa47574375	93
90	asimplesoul33	113
101	hereforjusticeM	120
100	grvgrv2020	121
79	Tanutoor85	154
112	kundu_ssrian	159

the 200 most frequent words (index)

```
[19] FreqOfWords = tweets['tweet'].str.split(expand=True).stack().value_counts()

     FreqOfWords_top200 = FreqOfWords[:200]

     FreqOfWords_top200.index
```

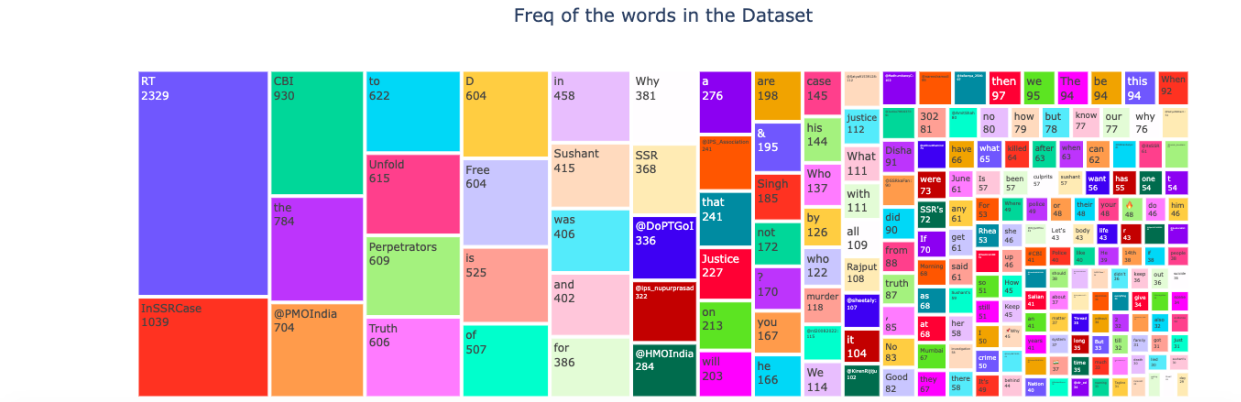
```
Index(['RT', 'InSSRCase', 'CBI', 'the', '@PMOIndia', 'to', 'Unfold',
       'Perpetrators', 'Truth', 'D',
       ...
       '@SumitaBasuRoy2:', 'family', 'got', 'innocent', 'death', 'waiting',
       'sushant's', 'lied', 'RheaC', 'day'],
      dtype='object', length=200)
```

visual analysis of frequency of words

```
[23] fig = px.treemap(FreqOfWords_top200, path=[FreqOfWords_top200.index], values=0)

     fig.update_layout(title_text = 'Freq of the words in the Dataset', title_x = 0.5, title_font=dict(size=20))

     fig.update_traces(textinfo='label+value')
     fig.show()
```



WordCloud to visualize the frequency of words

```
wordcloud = WordCloud(max_words=150, random_state=30, collocations=True).generate(str((tweets['tweet'])))

plt.figure(figsize=(15, 8))

plt.imshow(wordcloud, interpolation='bilinear')
plt.axis('off')
plt.show()
```