act_report

June 27, 2022

0.1 Report: act_report

- Create a **250-word-minimum written report** called "act_report.pdf" or "act_report.html" that communicates the insights and displays the visualization(s) produced from your wrangled data. This is to be framed as an external document, like a blog post or magazine article, for example.

This report titled **ACT REPORT** is a summary to communicate the insights and visualizations prodcued from my wrangled data. In this report, I will give an insights into the steps I followed to produce the insight and visualization needed for this project.
To work on this project, I worked on three sets of datasets. These datasets are:

1. *twitter_archive_enhanced.csv*: This dataset was provided by Udacity. The dataset contains *2356 rows and 17 columns*. The columns contains information about each line of tweets.

2. *image-predictions.tsv*: This dataset was also provided by Udacity but hosted on its server. The dataset was propgrammatically downloaded using the request library of python. The dataset contains *2057 rows and 12 columns*. The columns contains information about the prediction of the images in the tweets contained in *twitter_archive_enhanced* datasets.

3. *twitter_json.txt*: This dataset is supposed to be scrapped from Twitter using the tweepy API but I could not as I do not have the elevated access to Twitter Developer account as at the time of doing the project. I used the already provided dataset by Udacity and extracted a dataset containing *2354 rows and 3 columns*. The columns contains information about the retweet and favourite counts of the tweets contained in *twitter_archive_enhanced* datasets.

After assessing the three datasets, I found 9 quality issues and 2 tidiness issues. These issues were worked on and cleaned up during the data cleaning session using various pandas functions. The cleaned datasets were merged into a single datasets for further analysis to be carried on it. The resultant single dataset from the merger is named *twitter_archived_master_csv file.

ANALYSIS OF THE FINAL DATASET To analyse the single and final dataset, the following steps were followed:

1. The needed dataset was imported into the jupyter notebook using the the *pd.read_csv('file_name')* pandas method

2. Next, the *df.columns* pandas method was used to call the columns in the dataset

3. *df.describe()* pandas method was used to get the descriptive statistics of the datasets
4. The percentage of the dogs whose stages were not stated was gotten by dividing the value_counts by the shape and multiplying by 100
5. Tweet with highest retweet counts, least retweet counts, highest likes and lowest likes were gotten using the *pd.nlargest()* and *pd.nsmallest()*
6. The visualization of the most popular dog stage and distribution of images per tweet was gotten using the sns.countplot() seaborn method

The codes used in the analysis above and their result are shown below:

```
In [1]: # importing the merged dataset

        import pandas as pd
        import numpy as np
        import matplotlib.pyplot as plt
        %matplotlib inline
        import seaborn as sns
        sns.set_style('darkgrid')

        df=pd.read_csv('twitter_archive_master.csv')
```

```
In [2]: # Calling the columns in the dataset

        df.columns
```

```
Out[2]: Index(['tweet_id', 'timestamp', 'source', 'text', 'rating_numerator',
               'rating_denominator', 'name', 'dogstage', 'jpg_url', 'img_num', 'p1',
               'p1_conf', 'p1_dog', 'p2', 'p2_conf', 'p2_dog', 'p3', 'p3_conf',
               'p3_dog', 'retweet_cnt', 'fav_cnt'],
              dtype='object')
```

```
In [3]: # Getting the Descriptive Statistics summary

        df.describe()
```

```
Out[3]:            tweet_id  rating_numerator  rating_denominator      img_num  \
        count  1.994000e+03       1994.000000         1994.000000  1994.000000
        mean   7.358508e+17         12.280843           10.532096     1.203109
        std    6.747816e+16         41.497718            7.320710     0.560777
        min    6.660209e+17          0.000000            2.000000     1.000000
        25%    6.758475e+17         10.000000           10.000000     1.000000
        50%    7.084748e+17         11.000000           10.000000     1.000000
        75%    7.877873e+17         12.000000           10.000000     1.000000
        max    8.924206e+17       1776.000000          170.000000     4.000000

                   p1_conf      p2_conf      p3_conf   retweet_cnt       fav_cnt
        count  1994.000000  1994.000000  1994.000000   1994.000000   1994.000000
```

```
mean       0.593992     0.134398     0.060165   2766.753260    8895.725677
std        0.272090     0.100747     0.050971   4674.698447   12213.193181
min        0.040000     0.000000     0.000000     16.000000      81.000000
25%        0.360000     0.050000     0.020000    624.750000    1982.000000
50%        0.590000     0.120000     0.050000   1359.500000    4136.000000
75%        0.850000     0.197500     0.090000   3220.000000   11308.000000
max        1.000000     0.490000     0.270000  79515.000000  132810.000000
```

```
In [4]: # Getting the percentage of the dogs whose stage were not stated.

        (df.dogstage.value_counts() / df.shape[0]) * 100
```

```
Out[4]: none              84.653962
        pupper            10.180542
        doggo              3.159478
        puppo              1.103310
        doggo, pupper      0.451354
        floofer            0.351053
        doggo, floofer     0.050150
        doggo, puppo       0.050150
        Name: dogstage, dtype: float64
```

```
In [5]: # Getting the most retweeted tweet

        df.nlargest(1, columns='retweet_cnt', keep='first')
```

```
Out[5]:               tweet_id            timestamp  \
        775  744234799360020481  2016-06-18 18:26:18

                                                  source  \
        775  <a href="http://twitter.com/download/iphone" r...

                                                    text  rating_numerator  \
        775  Here's a doggo realizing you can stand in a po...                13

             rating_denominator  name dogstage  \
        775                  10  None    doggo

                                                 jpg_url  img_num   ...     \
        775  https://pbs.twimg.com/ext_tw_video_thumb/74423...        1   ...

            p1_conf  p1_dog        p2 p2_conf  p2_dog       p3 p3_conf  p3_dog  \
        775    0.83    True  ice_bear    0.04   False  whippet    0.02    True

             retweet_cnt  fav_cnt
        775        79515   131075

        [1 rows x 21 columns]
```

```
In [6]: # Getting the least retweeted tweet

        df.nsmallest(1, columns='retweet_cnt', keep='first')

Out[6]:                 tweet_id           timestamp  \
        1977  666102155909144576  2015-11-16 03:55:04

                                                         source  \
        1977  <a href="http://twitter.com/download/iphone" r...

                                                           text  rating_numerator  \
        1977  Oh my. Here you are seeing an Adobe Setter giv...                11

              rating_denominator  name dogstage  \
        1977                  10  None     none

                                                     jpg_url  img_num   ...     \
        1977  https://pbs.twimg.com/media/CT54YGiWUAEZnoK.jpg        1   ...

             p1_conf  p1_dog            p2 p2_conf  p2_dog      p3 p3_conf  p3_dog  \
        1977     0.3    True  newfoundland    0.15    True  borzoi    0.13    True

              retweet_cnt  fav_cnt
        1977           16       81

        [1 rows x 21 columns]

In [7]: # Getting the most favourited tweet

        df.nlargest(1, columns='fav_cnt', keep='first')

Out[7]:                tweet_id           timestamp  \
        309  822872901745569793  2017-01-21 18:26:02

                                                        source  \
        309  <a href="http://twitter.com/download/iphone" r...

                                                          text  rating_numerator  \
        309  Here's a super supportive puppo participating ...                13

             rating_denominator  name dogstage  \
        309                  10  None    puppo

                                                    jpg_url  img_num   ...     \
        309  https://pbs.twimg.com/media/C2tugXLXgAArJ04.jpg        1   ...

            p1_conf  p1_dog                  p2 p2_conf  p2_dog             p3  \
        309     0.2    True  labrador_retriever    0.16    True  irish_terrier
```

```
    p3_conf  p3_dog  retweet_cnt  fav_cnt
309    0.07    True        48265   132810

[1 rows x 21 columns]
```

```
In [8]: # Getting the least favourited tweet

        df.nsmallest(1, columns='fav_cnt', keep='first')
```

```
Out[8]:                 tweet_id            timestamp  \
1977  666102155909144576  2015-11-16 03:55:04

                                                 source  \
1977  <a href="http://twitter.com/download/iphone" r...

                                                   text  rating_numerator  \
1977  Oh my. Here you are seeing an Adobe Setter giv...                 11

      rating_denominator  name dogstage  \
1977                  10  None     none

                                              jpg_url  img_num   ...     \
1977  https://pbs.twimg.com/media/CT54YGiWUAEZnoK.jpg        1   ...

     p1_conf  p1_dog           p2 p2_conf  p2_dog      p3 p3_conf  p3_dog  \
1977     0.3    True  newfoundland    0.15    True  borzoi    0.13    True

      retweet_cnt  fav_cnt
1977           16       81

[1 rows x 21 columns]
```

```
In [9]: # Percentage of unnamed dogs

        (df.name.value_counts() / df.shape[0]) * 100
```

```
Out[9]: None         32.296891
        Charlie       0.551655
        Cooper        0.501505
        Lucy          0.501505
        Oliver        0.501505
        Tucker        0.451354
        Penny         0.451354
        Sadie         0.401204
        Winston       0.401204
        Daisy         0.351053
        Toby          0.351053
        Lola          0.351053
```

```
Jax             0.300903
Stanley         0.300903
Bo              0.300903
Bella           0.300903
Koda            0.300903
Dave            0.250752
Leo             0.250752
Chester         0.250752
Oscar           0.250752
Bailey          0.250752
Buddy           0.250752
Louis           0.250752
Rusty           0.250752
Milo            0.250752
Scout           0.250752
Maggie          0.200602
Phil            0.200602
Brody           0.200602
                  ...
Samsom          0.050150
Kenny           0.050150
Jo              0.050150
Anthony         0.050150
Taco            0.050150
Canela          0.050150
Horace          0.050150
Venti           0.050150
Evy             0.050150
Huxley          0.050150
Cedrick         0.050150
Lenox           0.050150
Ron             0.050150
Juckson         0.050150
Steve           0.050150
Sunshine        0.050150
Julio           0.050150
Dante           0.050150
Terrance        0.050150
Eevee           0.050150
Zara            0.050150
Grady           0.050150
Lance           0.050150
Scruffers       0.050150
Amélie          0.050150
Craig           0.050150
Ivar            0.050150
Amy             0.050150
Al              0.050150
```

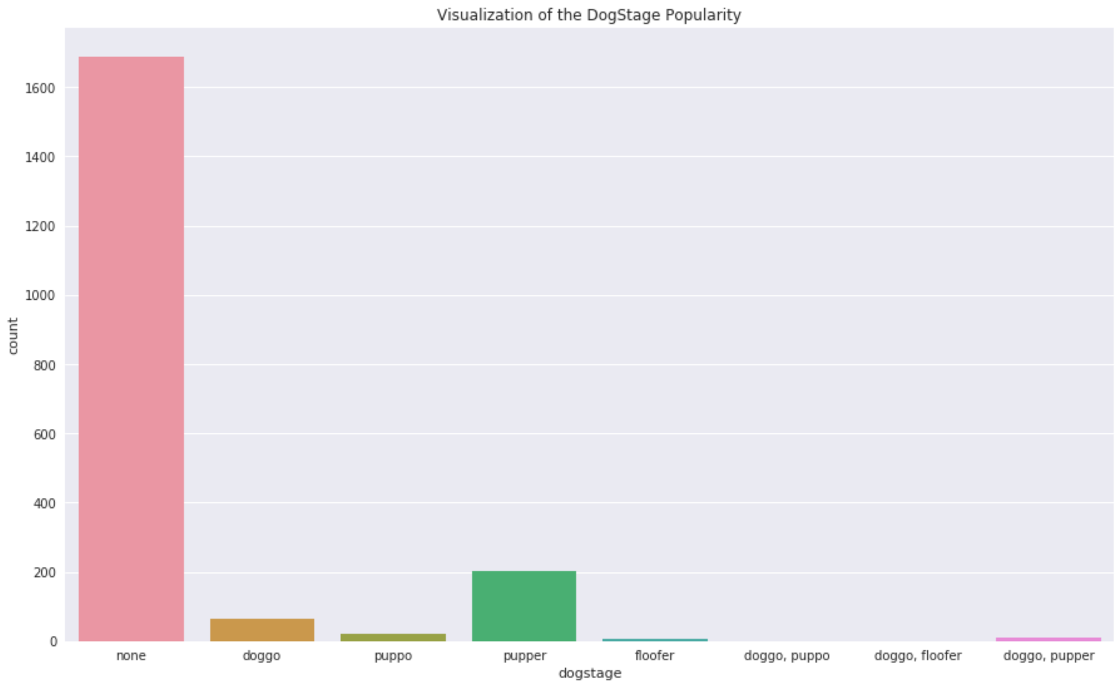
```
Lassie        0.050150
Name: name, Length: 914, dtype: float64
```

The insight drawn from the above analysis are:

1. The percentage of the dogs that their stage was not stated is ***84.65%***. This means that **1688** dogs do not have their stage stated
2. The most retweeted tweet is the tweet with tweet ID *744234799360020481* created on *2016-06-18 18:26:18* with a retweet count of ***79515***
3. The least retweeted tweet is the tweet with tweet ID *666102155909144576* created on *2015-11-16 03:55:04* with a retweet count of ***16***
4. The most favourited tweet is the the tweet with the tweet ID *822872901745569793* created on *2017-01-21 18:28:02* with favourite count of ***132810***
5. The least favourited tweet is the tweet with the tweet ID *666102155909144576* created on *2015-11-16 03:55:04* with a favourite count of ***81***. **Coincidentally, the least retweeted tweet is also the least favourited tweet**
6. The percentage of the dogs that were unnamed is ***32.29%***. This means that **644** dogs are unnamed.

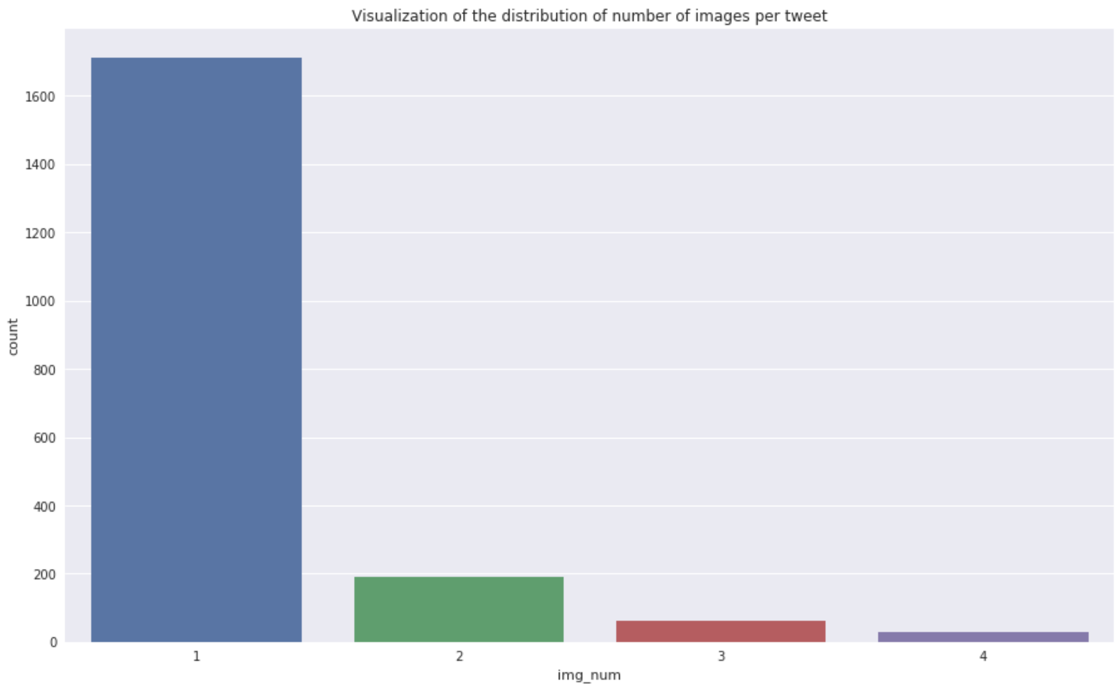
Visualization

```
In [10]: # which dogstage was most popular. ignore the result of the unnamed stage

         sns.set(rc={'figure.figsize':(15, 9)})
         sns.countplot(df.dogstage)
         plt.title('Visualization of the DogStage Popularity')
         plt.show()
```



Observation: From the plot above, it can shown that **pupper** is the most popular dog stage in the dataset,followed by **doggo**

```
In [11]: # What is the distribution of the number of images per tweet

         sns.set(rc={'figure.figsize':(15, 9)})
         sns.countplot(df.img_num)
         plt.title('Visualization of the distribution of number of images per tweet')
         plt.show()
```



Observation: From the plot above, it can be shown that most tweet posted one image of their dogs