Wrangle Report

Analysis of Twitter user “WeRateDogs”

Introduction

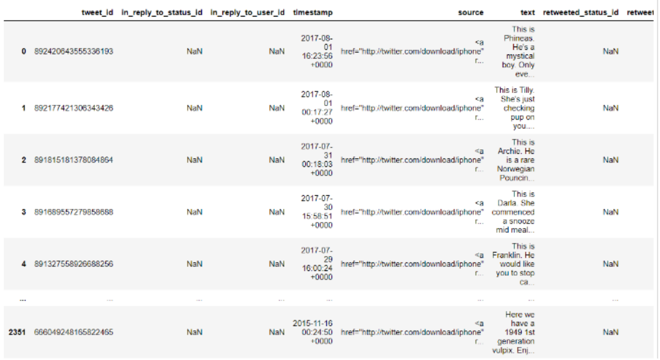
This report briefly describes the data wrangling efforts exerted in this project.

The dataset that you will be wrangling (and analyzing and visualizing) is the tweet archive of Twitter user @dog_rates, also known as WeRateDogs. WeRateDogs is a Twitter account that rates people's dogs with a humorous comment about the dog. These ratings almost always have a denominator of 10. The numerators, though? Almost always greater than 10. 11/10, 12/10, 13/10, etc. Why? Because "they're good dogs Brent." WeRateDogs has over 4 million followers and has received international media coverage.

The entirety of this project was implemented using Python language, Pandas, Matplotlib, Seaborn, Requests, Tweepy, Json, and NumPy.

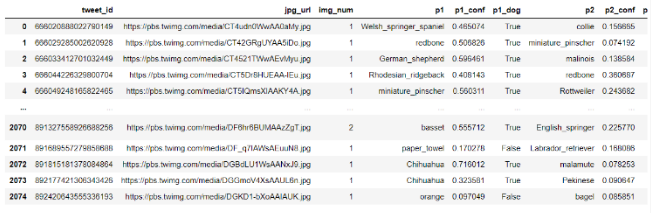
Data wrangling, which consists of:

- **Gathering Data**
  The data used was gathered from three different sources:
  1. **Enhanced Twitter Archive dataset** was a file on hand. The file was stored in the CSV file.



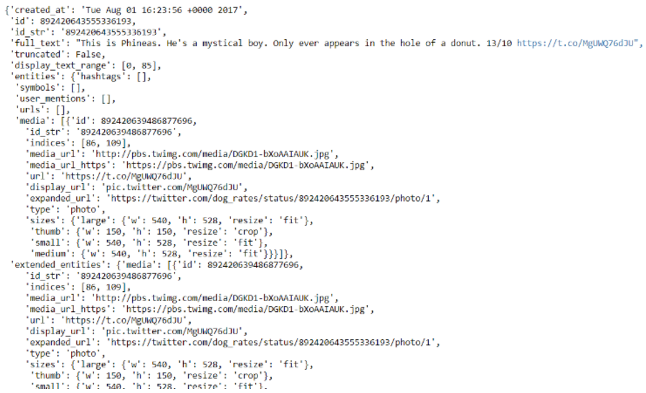
	tweet_id	in_reply_to_status_id	in_reply_to_user_id	timestamp	source	text	retweeted_status_id	retweet
0	892420643555336193	NaN	NaN	2017-08-01 16:23:56 +0000	<a href="http://twitter.com/download/iphone" r...	This is Phineas. He's a mystical boy. Only eve...	NaN	
1	892177421306343426	NaN	NaN	2017-08-01 00:17:27 +0000	<a href="http://twitter.com/download/iphone" r...	This is Tilly. She's just checking pup on you....	NaN	
2	891815181378084864	NaN	NaN	2017-07-31 00:18:03 +0000	<a href="http://twitter.com/download/iphone" r...	This is Archie. He is a rare Norwegian Pouncin...	NaN	
3	891689557279858688	NaN	NaN	2017-07-30 15:58:51 +0000	<a href="http://twitter.com/download/iphone" r...	This is Darla. She commenced a snooze mid meal...	NaN	
4	891327558926688256	NaN	NaN	2017-07-29 16:00:24 +0000	<a href="http://twitter.com/download/iphone" r...	This is Franklin. He would like you to stop ca...	NaN	
...	...	...	...	...	...	...	...	
2351	666049248165822465	NaN	NaN	2015-11-16 00:24:50 +0000	<a href="http://twitter.com/download/iphone" r...	Here we have a 1949 1st generation vulpix. Enj...	NaN	

  2. **Image Predictions File dataset** was retrieved from Udacity’s servers through the Requests library. The file was stored in the TSV file.



	tweet_id	jpg_url	img_num	p1	p1_conf	p1_dog	p2	p2_conf	p
0	666020888022790149	https://pbs.twimg.com/media/CT4udn0WwAA0aMy.jpg	1	Welsh_springer_spaniel	0.465074	True	collie	0.156665	
1	666029285002620928	https://pbs.twimg.com/media/CT42GRgUYAA5iDo.jpg	1	redbone	0.506826	True	miniature_pinscher	0.074192	
2	666033412701032449	https://pbs.twimg.com/media/CT4521TWwAEvMyu.jpg	1	German_shepherd	0.596461	True	malinois	0.138584	
3	666044226329800704	https://pbs.twimg.com/media/CT5Dr8HUEAA-lEu.jpg	1	Rhodesian_ridgeback	0.408143	True	redbone	0.360687	
4	666049248165822465	https://pbs.twimg.com/media/CT5IQmsXIAAKY4A.jpg	1	miniature_pinscher	0.560311	True	Rottweiler	0.243682	
...	...	...	...	...	...	...	...	...	
2070	891327558926688256	https://pbs.twimg.com/media/DF6hr6BUMAAzZgT.jpg	2	basset	0.555712	True	English_springer	0.225770	
2071	891689557279858688	https://pbs.twimg.com/media/DF_q7IAWsAEuuN8.jpg	1	paper_towel	0.170278	False	Labrador_retriever	0.168086	
2072	891815181378084864	https://pbs.twimg.com/media/DGBdLU1WsAANxJ9.jpg	1	Chihuahua	0.716012	True	malamute	0.078253	
2073	892177421306343426	https://pbs.twimg.com/media/DGGmoV4XsAAUL6n.jpg	1	Chihuahua	0.323581	True	Pekinese	0.090647	
2074	892420643555336193	https://pbs.twimg.com/media/DGKD1-bXoAAIAUK.jpg	1	orange	0.097049	False	bagel	0.085851	

3. **Data via the Twitter API dataset** was retrieved from Tweeter's API call, using the Tweepy library. Retrieved data was stored in JSON format.



```
{'created_at': 'Tue Aug 01 16:23:56 +0000 2017',
 'id': 892420643555336193,
 'id_str': '892420643555336193',
 'full_text': "This is Phineas. He's a mystical boy. Only ever appears in the hole of a donut. 13/10 https://t.co/MgUWQ76dJU",
 'truncated': False,
 'display_text_range': [0, 85],
 'entities': {'hashtags': [],
  'symbols': [],
  'user_mentions': [],
  'urls': [],
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    'indices': [86, 109],
    'media_url': 'http://pbs.twimg.com/media/DGKD1-bXoAAIAUK.jpg',
    'media_url_https': 'https://pbs.twimg.com/media/DGKD1-bXoAAIAUK.jpg',
    'url': 'https://t.co/MgUWQ76dJU',
    'display_url': 'pic.twitter.com/MgUWQ76dJU',
    'expanded_url': 'https://twitter.com/dog_rates/status/892420643555336193/photo/1',
    'type': 'photo',
    'sizes': {'large': {'w': 540, 'h': 528, 'resize': 'fit'},
     'thumb': {'w': 150, 'h': 150, 'resize': 'crop'},
     'small': {'w': 540, 'h': 528, 'resize': 'fit'},
     'medium': {'w': 540, 'h': 528, 'resize': 'fit'}}}]},
 'extended_entities': {'media': [{'id': 892420639486877696,
    'id_str': '892420639486877696',
    'indices': [86, 109],
    'media_url': 'http://pbs.twimg.com/media/DGKD1-bXoAAIAUK.jpg',
    'media_url_https': 'https://pbs.twimg.com/media/DGKD1-bXoAAIAUK.jpg',
    'url': 'https://t.co/MgUWQ76dJU',
    'display_url': 'pic.twitter.com/MgUWQ76dJU',
    'expanded_url': 'https://twitter.com/dog_rates/status/892420643555336193/photo/1',
    'type': 'photo',
    'sizes': {'large': {'w': 540, 'h': 528, 'resize': 'fit'},
     'thumb': {'w': 150, 'h': 150, 'resize': 'crop'},
     'small': {'w': 540, 'h': 528, 'resize': 'fit'},
```

- ## Assessing Data

  After gathering each of the above pieces of data, I assessed them visually and programmatically for quality and tidiness issues.

  1. **Tidiness Issues**
     - doggo, floofer, pepper, and puppo columns should be one column (merge columns).
     - twitter_archive, image_predictions, and tweet_data Dataframes should be part of one Dataframe (merge dataframes).
  2. **Quality Issues**
     - Delete retweets by filtering the NaN of retweeted_status_user_id.
     - Delete in_reply_to_status_id, retweeted_status_id, in_reply_to_user_id retweeted_status_user_id, retweeted_status_timestamp columns.
     - Correcting data type in tweet_id (from int into string).
     - Correcting data type in timestamp (from string into datetime).
     - Delete rows with jpg_url have missing.
     - Create 1 column for dog image prediction and 1 column for dog image prediction confidence.
     - Delete p1, p1_conf, p1_dog, p2, p2_conf, p2_dog, p3, p3_conf, p3_dog, img_num columns.
     - Convert underscore to space and convert lowercase to uppercase in prediction_dog.

- ## Cleaning Data

  The previous issues I cleaned as appropriate resulting in high quality and tidy master pandas DataFrame.