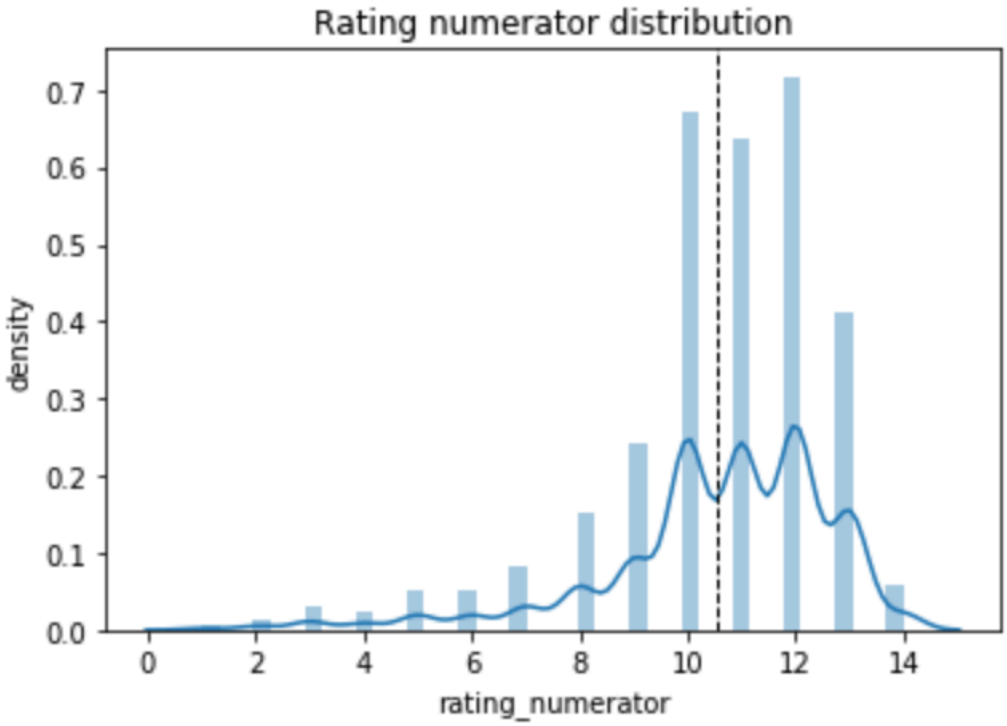
WeRateDogs is a popular Twitter account that posting tweets mainly on rating peoples' dogs. The rating system is based on a fraction with the denominator fixed at 10.

The analysis was done by using three pieces of data: The WeRateDogs Twitter archive from Udacity that contains basic tweet data (id, timestamp, text and etc); image predictions by using convolutional neural network; each tweets' JSON data extracted from the Python Tweepy API.

During the analysis, I first checked the distribution of rating numerator.

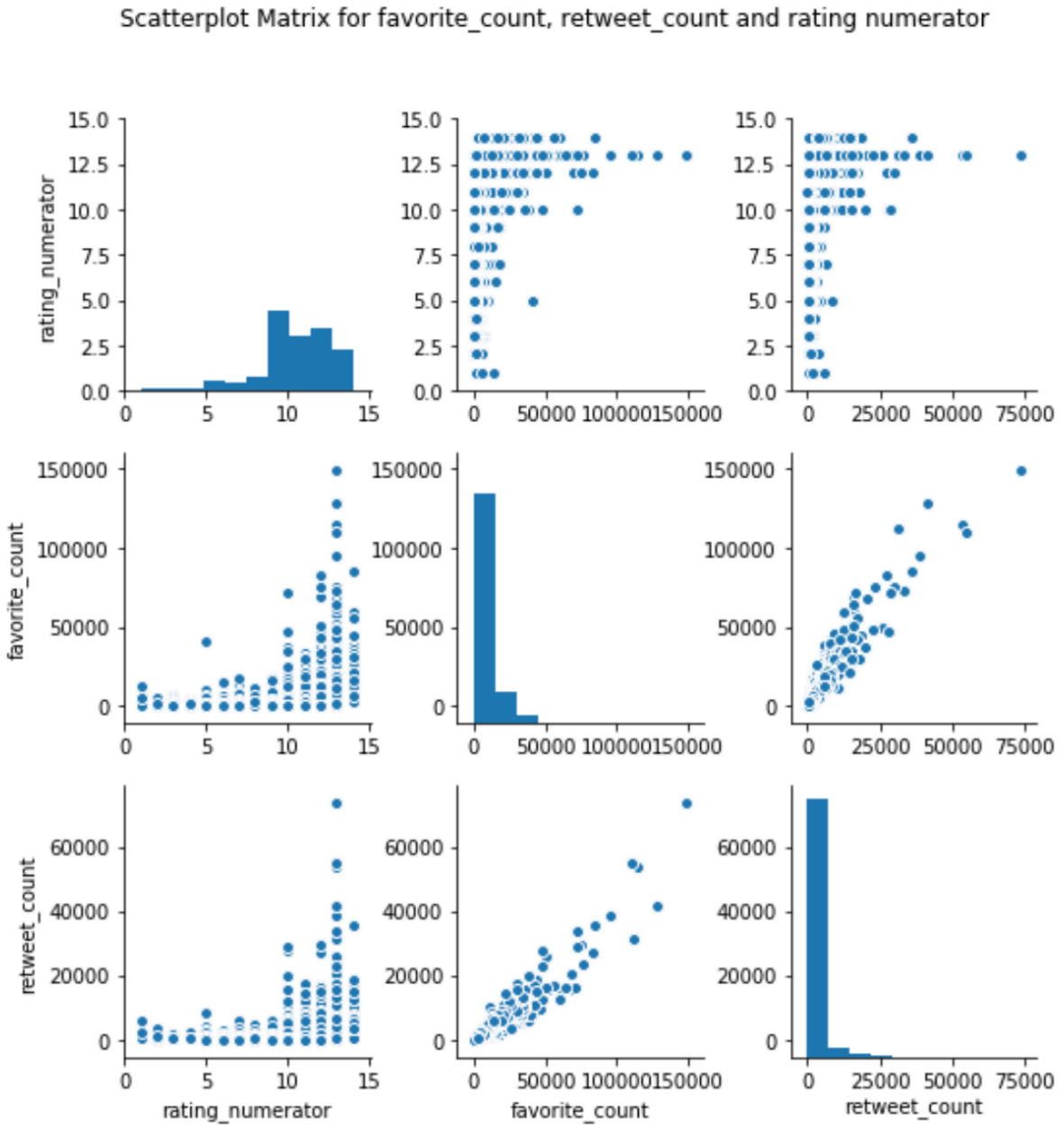


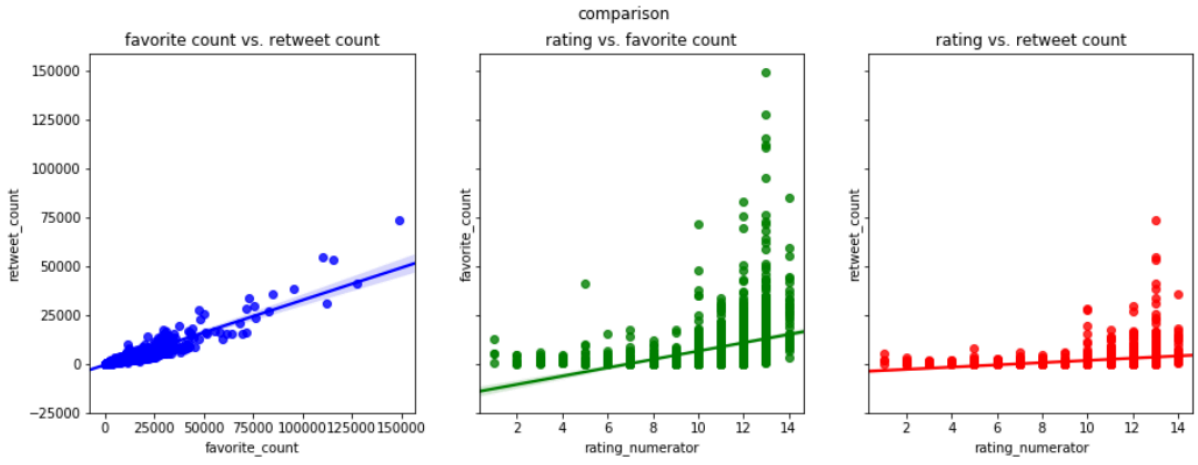
Among 1969 tweets that I analysed, the average rating is 10.55, which is above the rating denominator 10. More than 75% of the dogs were rated above 10. This is due to a unique rating system which is a big part of the popularity of WeRateDogs.

Then I checked whether the rating also changes with time by plotting the moving average of the rating numerator.

The figure shows that the rating numerator gradually increased with time. It was below 11 before September 2016, and gradually increased to be around 12.5 in July 2017. This indicates that the standards of the rating system is not constant.

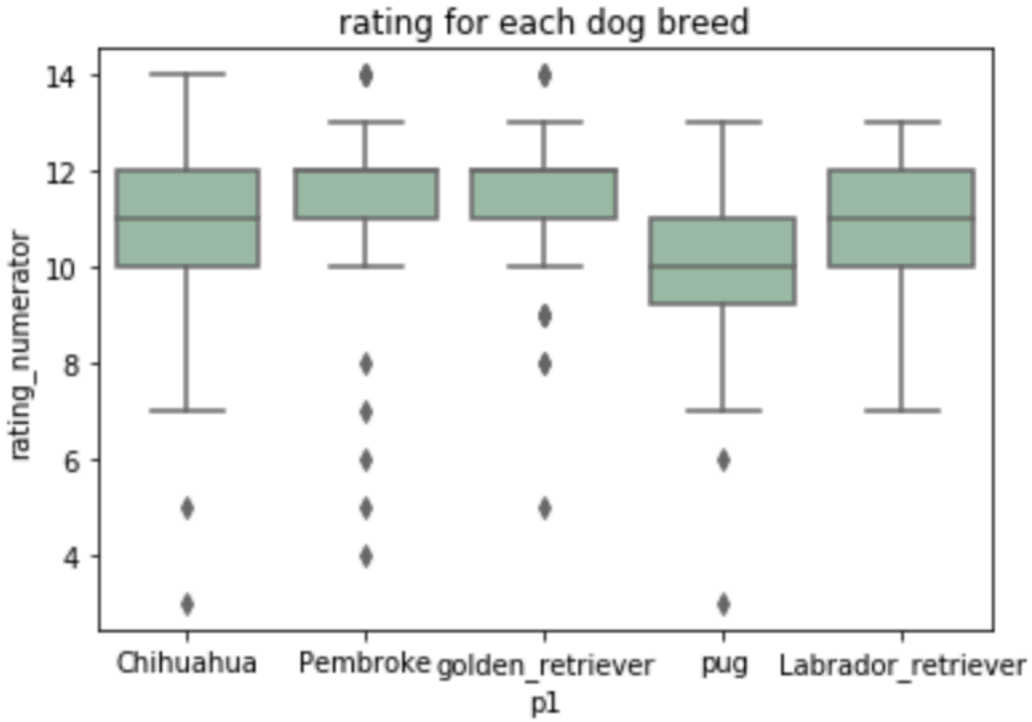
Next, I checked how retweet count and favourite count are correlated and whether they are also correlated with dog rating. I made a scatterplot matrix for those three parameters.





Regression analysis shows all three parameters are positive correlated. The figures shows that the tweets have high favourite count also have high retweet count. Tweets with high favorite count are more frequently been retweeted. Tweets with higher rating also get more favorite and retweet count.

At the end, I investigated whether rating for different dog breeds are different. I used the first prediction of the image as dog breed and chose the ones with more than 50 counts for statistical analysis.



A one-way ANOVA indicates a significant effect of dog breeds on rating. Post-hoc evaluation indicates Chihuahua got significant less rating than Labrador retriever but more rating than pug. Labrador retriever got significant less rating than Pembroke and golden retriever. Pembroke got significant less rating than golden retriever.

To sum up, I found that WeRateDogs in average left a rate of 10.55/10. And the average rating gradually increased with time. They tended to give higher and higher scores. This may have to do with the positive correlation between rating and favorite/retweet count. Besides, I found the rating are dog breed related, such that certain dog breeds have higher scores than the others.