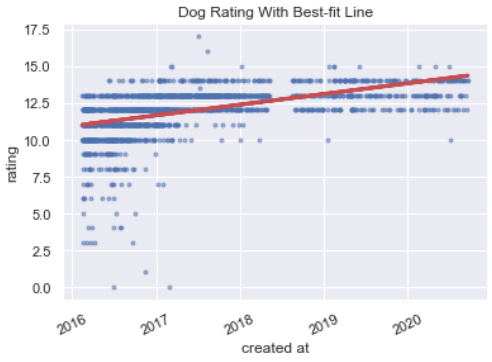
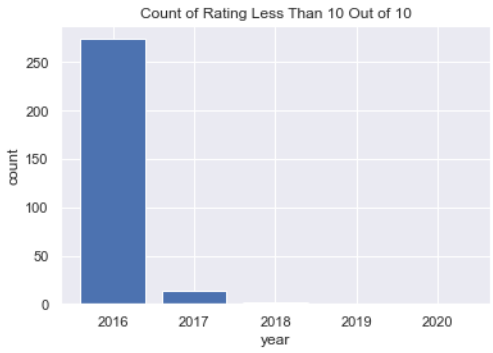
WeRateDogs Twitter Rating Analysis – Are Ratings Getting Higher and Higher?

WeRateDogs, as one of the most famous professional dog rating account on Twitter, has produced some interesting trend upon its ratings. In simple, how the account works is that people would send the account a picture of the dog, and they will respond with a number rating out of 10 about the dog in the question.

First, let us take a look at the account's rating distribution summary from the start of 2016 to the end of 2020, as shown in figure 1. On the distribution figure, a best-fit line is also plotted using stat's liner regression function to better visualize the overall trend of the rating score. As you can see, an overall uptrend of rating score can be observed in this graph. In addition, a count on the ratings below full marks from the year 2016 to 2020 (Figure-2) also seems to reveal the trends that ratings are getting higher and higher, yet can we conclude that the phenomenon is true?



(Figure-1)



(Figure-2)

To confirm the trend, a statistical test has to be conducted to find the answer. In our case, we can obtain a p-value for a hypothesis test whose null hypothesis is that the slope is zero using the scipy module, and we received a p-value less than 0.05. As the p-value is less than 0.05, usually, we would conclude that the slope is non-zero and the tendency is true. However, if we take a closer look, we can also acquire the data's normality score using stats.normaltest function. The normality p-value we obtained is close to zero, and by that means, the data is not being normal at all! The fact that the data is not normal instantly rejects the conclusion we drew from the previous test because the hypothesis test requires the data to be normal. Eventually, we cannot conclude the dog ratings are increasing despite the promising-looking data.