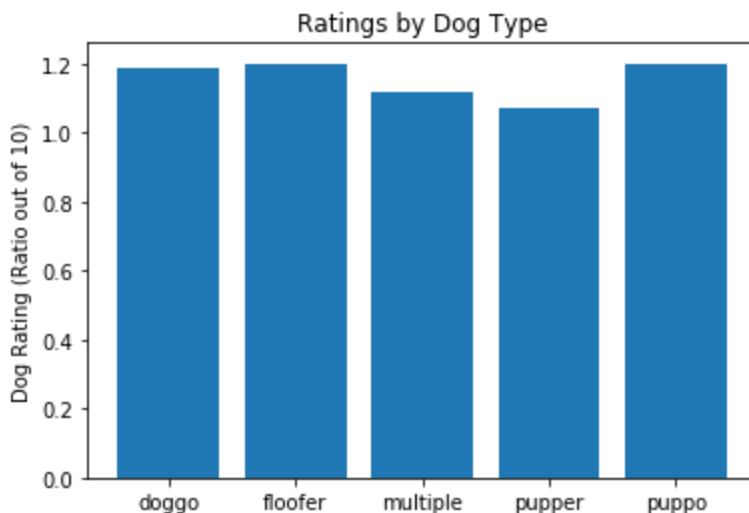


After gathering, assessing, and cleaning the 3 datasets related to the WeRateDogs twitter site, we analyzed the final data to draw a few insights. First, we calculated the overall average dog rating to be 117%. Second, we found arguably the most popular tweet by singling out the tweet that was most retweeted and favorited. It involved a dog learning he could stand in a pool and didn't have to dog paddle any longer! We compared the ratings across the different dog types that were parsed from the tweet text and found that puppos and floofers tied for the highest ratings, at a 1.2 ratio!

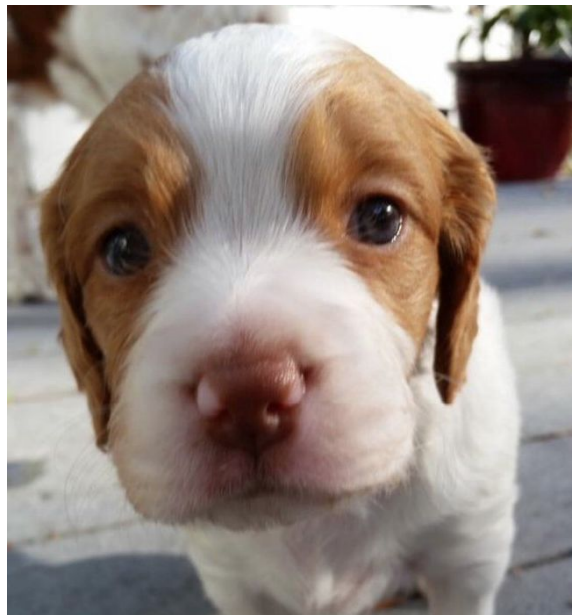


Before we move on to the last insight, I wanted to quickly comment on the design considerations taken with the above visualization. First, we have removed as much 'chart junk' as possible to ensure human viewers can quickly extract the intended message without being distracted (i.e. our data-ink ratio is high). We did not worry about coloring the bars different hues because that would not provide any more information than the chart is already conveying through the use of x-axis labels. A future enhancement for the chart could be ordering the columns such that the viewer doesn't need to try to decipher which dog type has the highest rating. Additionally, we could add bar labels that reflect the exact scores.

Lastly, we looked at the image predictions data to interpret which dog breeds the neural network was best at finding. Komondors, clumbers, and Brittany spaniels led the pack, and Scottish deerhounds and Cairns had the lowest average confidence ratios.

	index	p1	p1_conf
0	91	komondor	0.972531
1	80	clumber	0.946718
2	12	Brittany_spaniel	0.874545
3	89	keeshond	0.844431
4	77	bull_mastiff	0.815618

When we dive into the tweet pictures, this finding makes sense. Neural networks work by searching for patterns in the picture, pixel by pixel. Look how unmistakably shaggy the komondor's coat of fur is! Similarly, the Brittany Spaniels have very similar fur coloring around their noses.



Conversely, the dog breeds that scored lower confidence levels do not show the dogs in focus or have other objects cluttering the scene. The pattern-recognition falters with this image type:



It looks like this neural network is performing pretty well! I hope this preview into machine learning was exciting for you as it has been for me!