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3/27/2020
Problem Solving and Software Design
Assignment #2

Project Overview (100 words max)

I set out to create an application that would be able to analyze Twitter tweets regarding any specific keyword or hashtag for sentiment analysis, and then create a graph analyzing the results.
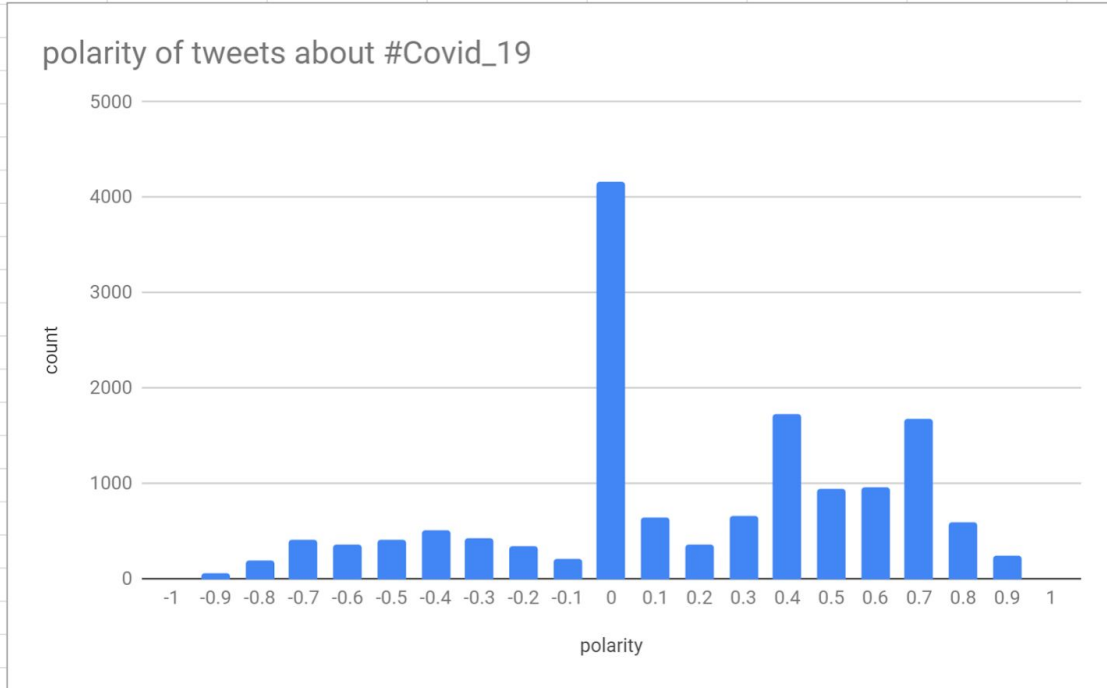
Implementation (2-3 paragraphs)

I broke my application into 3 major parts, the first of which was simply to use the Twython API to "collect" data. The second major part of the application was to write functions that would be able to interpret and parse the collected data for analysis. The final part was to output the data into a more readable format.

One decision I had to make was what data I would choose to "store" locally, versus writing a function that would simply analyze the received data/text right away. Ultimately I chose the former because it seemed like the simpler and more lightweight option, but for an application that would be used for more advanced purposes (pr perhaps by many people at a time) I think it would be useful to have a way to only scrape the data as needed, rather than storing locally, in order to prevent heavy server load/stress.

Results (2-3 paragraphs + figures/examples)

The resulting graphs that can be generated using the program are definitely interesting to look at. For example by searching for #coronavirus we can see that surprisingly most of the tweets still have a fairly "moderate" sentiment.

polarity of tweets about #Covid_19

The effect of "sentiment analysis" was performed simply by storing all collected tweets locally, and then running a function that iterates upon each tweet and grades it based on a "polarity score" from -1 to 1. Each tweet is assigned a value and then the total values are totalled up to provide a simple-to-understand graph.

Reflection (1 paragraph)

I think the data collection part of this assignment went well. I'm very much interested in the idea of "scraping" data from major websites for research purposes. However, I vastly underestimated the effort that would be required to do sentiment analysis, and required a decent amount of help from Google and other websites. Ultimately however the final product is working and functioning with what I had in mind, so overall I would consider the assignment to be a success!