Mini Project 3 – Part 2 - Jens Sabel

Google Collab Link:
https://colab.research.google.com/drive/1bwF9L3kE3ALEsmWI9sq9Wb46G4PfDn9N?usp=sharing

Project Plan

In the proposed project plan I set out to do research on how the Ukraine/Russia war has affected what people tweet about on twitter. In the initial plan, I was to check for certain words relating to the conflict to see which of them occurs the most, and overall, how much is tweeted about the conflict from week to week. The following report goes through how I implemented the solution and what the results were.

Implementation

Before starting the project, I realized that I did not have the academic access to all the twitter data reaching back to 2006, this defeating part of the proposed project plan. Instead, the data I had access to with the elevated access is only the data from a week from the current date. Here I decided to take another approach in the form of only looking at last week instead of a longer time period. This should produce some interesting results depending on the news from last week, where we only need to look back at the past weeks new to try and understand why some words trended more than others.

Firstly, Google Collab had an old version of Tweepy running on the machine, so I manually added the newest version of Tweepy from the GitHub repository in order to get a version of 4.10 or higher. By doing this, I gained access to some of the functions missing in previous versions. Also, the Twitter data was accessed via their API with elevated access v.1.1 and v.2.

Because the API only allows for historical data from seven days ago, I hardcoded the dates into the solution. After this, I implemented the code for getting the different areas of concern relating to the Ukraine/Russia-war. Firstly, I selected a query I wanted to run, then I used Tweepys built in client function "get_recent_tweets_count", which returns data about the period and number of tweets belonging to the used query. All the queries were run with the following five statements: "(electricity OR power OR électricité OR elektrizität) shortage"," (fuel OR gas OR essence OR benzin) shortage"," (ukraine OR russia) inflation war"," (ukraine OR russia) nukes war" and " (ukraine OR russia) conflict war". Using this data, one can visualize the number of tweets per day. This was repeated with five different queries.

I decided to include code that visually prints the different tweets itself to the console, including who tweeted it and at what time. Below is an extract of some of the tweets found. Note that this mining has been done via filtering away all the retweets and only keeping "the first tweet".
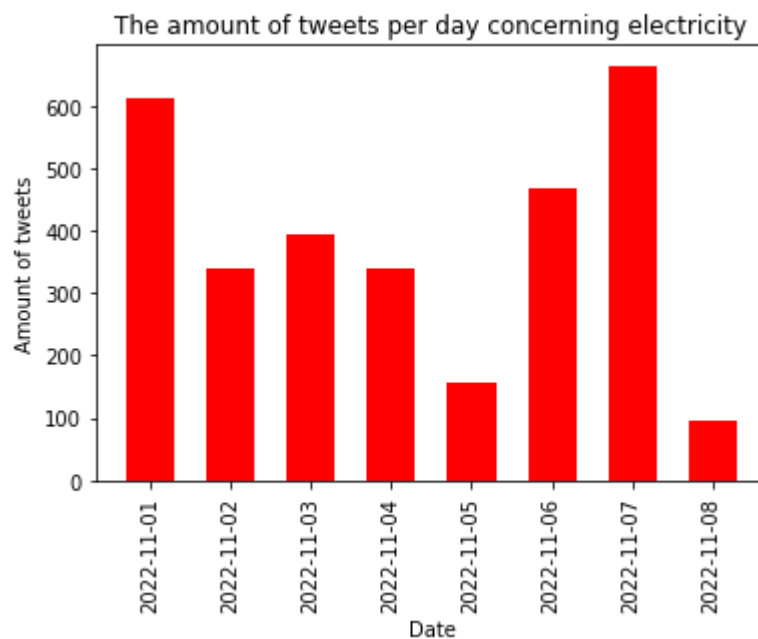
- Ron tweeted at Tue Nov 01 10:22:30 +0000 2022 the following @joncoopertweets Yes vote for food shortage,inflation, higher gas prices ,forcing the jab ,border crisis,war,, yes let's all vote blue
- Bella Jackson tweeted at Tue Nov 01 14:29:56 +0000 2022 the following @JoeBiden YOU caused America's crisis and energy turmoil NOT the oil companies and NOT private sector.

- Ultra MAGA Jim tweeted at Thu Nov 03 00:16:49 +0000 2022 the following @MsAvaArmstrong Inflation is at a 40 year high.
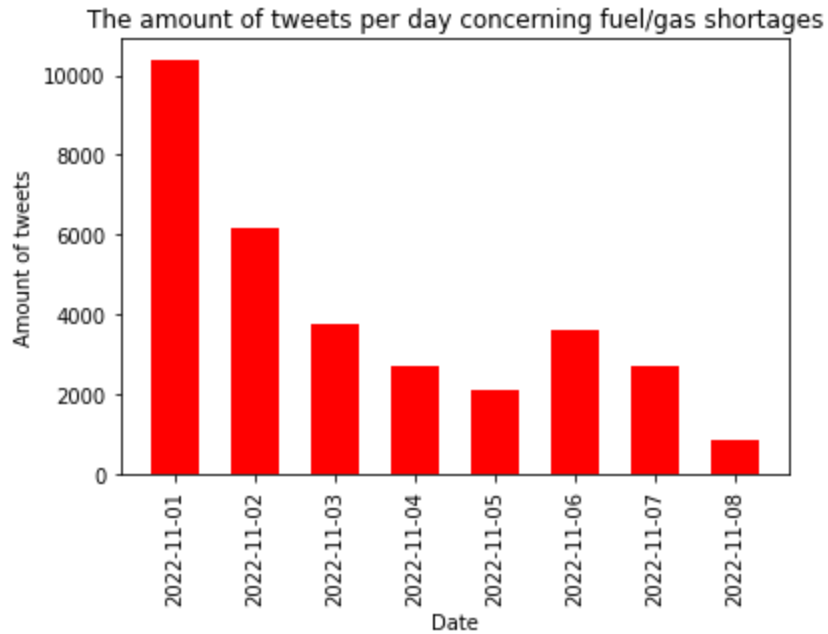
Results

These were some graphs I created considering the five different areas of concern. The graph shows how many times tweets belonging to respective query have been tweeted about on Twitter.
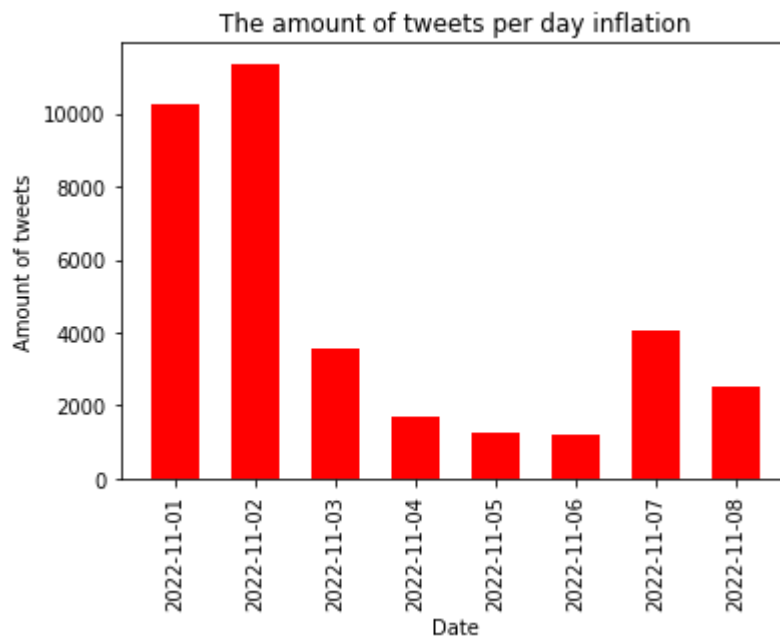
The graph below shows the number of tweets regarding electricity shortage: Here one can see that 7.11.2022 was the day with the most tweets concerning electricity. Keep in mind that today's date migh not have reached its peak yet because I'm writing this report in the middle of the day.
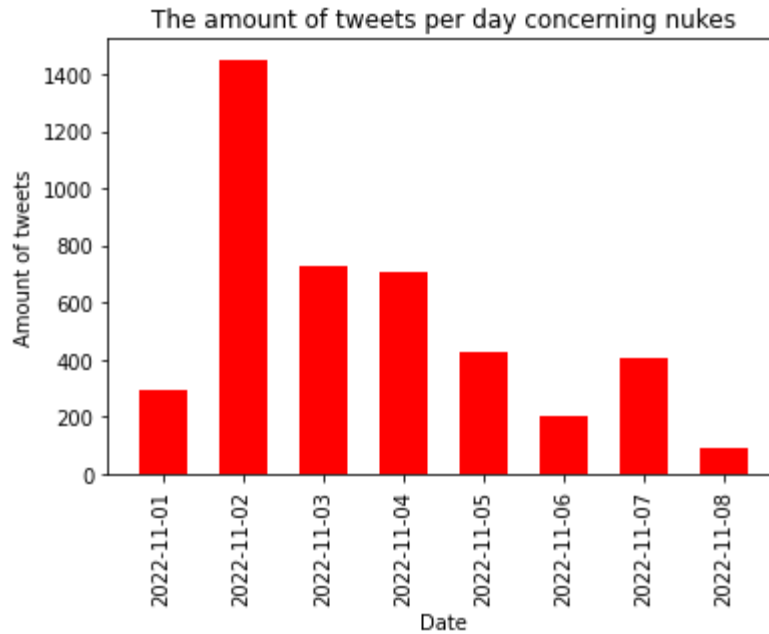

The graph below shows the number of tweets regarding gas/fuel shortage: Here one can see that tweets about this subject have steadily been declining somewhat, only peeking one week ago as well as last Sunday. If one looks at the raw twitter data mined, one can see that many of the past tweets were about the fuel crisis in America, which also could have ties to the mid-term election taking place soon in America.

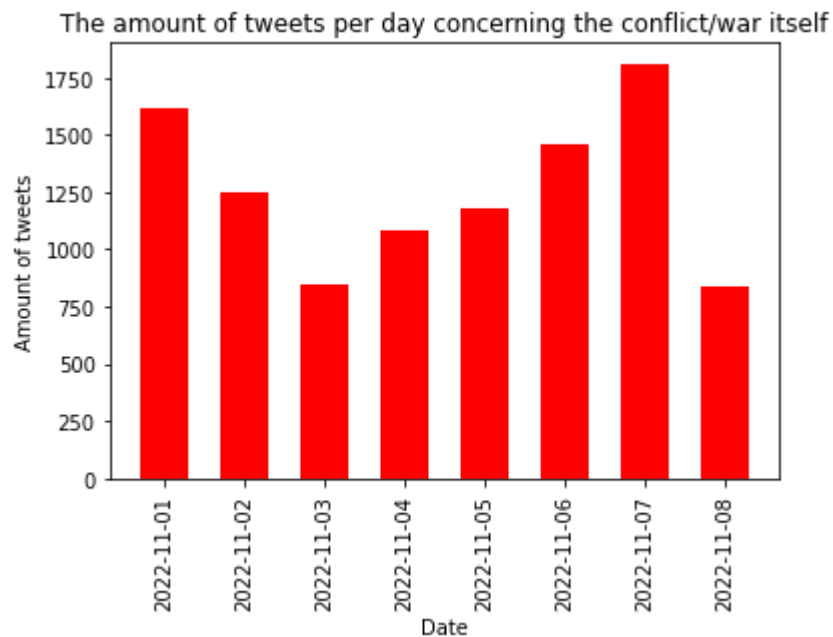The amount of tweets per day concerning fuel/gas shortages

The graph below shows the number of tweets regarding inflation: Here one can see that tweets about this subject follow the fuel/gas shortage concern rather similarly. This is because fuel prices can be tied into what is causing inflation overall, since inflation is calculated over a few areas of concern, including fuel prices.
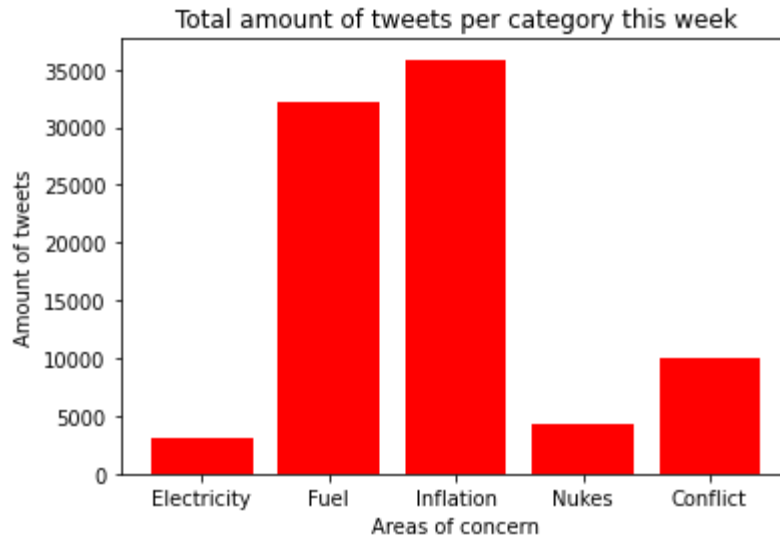

The amount of tweets per day inflation

The graph below shows the number of tweets regarding nukes in the war itself: Here one can see that tweets about nukes in the Russia/Ukraine war peaked 2.11.2022 and has since been declining.

The amount of tweets per day concerning nukes

This last graph shows the number of tweets regarding the conflict/war itself: Here one can see more activity overall since this is a broader category than the rest of graphs shows. Here one does see an increase in tweets overall, keeping in mind that today's numbers are lower since the report is being written in the middle of the day.

The amount of tweets per day concerning the conflict/war itself

This last graph shows the overall number of tweets per category last week: Here one can see that most tweets from last week are concerning inflation and fuel. The least tweeted about were electricity and nukes.

Total amount of tweets per category this week

Conclusion

Overall, the project was able to be implemented as per the project proposal, with the minor adjustment that the data was only available from last week. If one has followed the news recently the American mid-term election is just around the corner and one of the major questions for the election is the economy and the rising inflation, as well as the Russia/Ukraine conflict and how that should be funded further from the American side.

There are several articles going around last week touching on these subjects:

CNN Business rising interest rates: https://edition.cnn.com/2022/11/02/success/what-rising-interest-rates-mean-credit-mortgage/index.html

BBC Republicans could reduce funding for Ukraine: https://www.bbc.com/news/world-us-canada-63407089

This is also supported by looking at the raw twitter data, where many of the tweets are political in nature. Many of the people tweeted at are politicians in the United States. Furthermore, one can see that the Ukraine/Russia war is still a trending topic on twitter.