

IMPACT OF RACISM ON US ELECTIONS 2020

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ABSTRACT

Race and ethnicity have always played a role in politics around the world, in the same order they influencing the politics in a diverse and multicultural country like USA comes as no surprise. In the light of recent events triggered by the death of **George Floyd**, it surely does seem like it is going to have its effect on the upcoming US Elections 2020.

In this project we intend to gain an overview of the general public behind these events, its influence on their political stand and through all this try to predict the result of the US elections 2020. What better option than social media for this ? Therefore, we shall use social media sites such as twitter and reddit to collect the required data. We intend to perform a lexicon based sentiment analysis over the data and try to predict the outcome of the elections.

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1 DASHBOARD

We create a simple dashboard app to visualize our data collection over a few weeks. The dashboard web app is built using the [4]Flask web-framework in Python, with the web design aspects implemented using HTML and JavaScript.

The plots for the app are designed using Chart.js[3], a JavaScript library for plotting.

The data is accessed using the pymongo[2] library for flask framework as our data is stored in the [1]mongo database.

The "Tech With Tim" channel on youtube helped us implement most of our flask code[5].

1.1 Features

The dashboard app provides the user with two options to visualise the app.

1. Popular hashtags: The app takes a keyword, fetches and displays the top 5, most popular twitter hashtags used that are related to the keyword.

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2. Data count by date: The app takes a date-range(from date, to date) and displays the number of tweets/ comments collected from the respective social media networks. The users can choose between twitter or reddit to display the data from.

With the impending US elections, Joe Biden being the other candidate contesting for the position (we expected him to get a lot of black votes considering his relationship with the previous president Barack Obama), we decided it would be interesting to see how racism would impact it.

Now that the elections are done and Joe Biden has been the newly elected president, we try to analyze the data collected during the past two weeks to investigate how it correlates with the outcome of the elections.

1.2 Instructions to run

The app can be run from any device connected to the university network directly or through VPN. 1. From the directory containing the file 'app.py', run the command 'flask run --host=0.0.0.0'. This should start the app and also displays the port its running on, unless specified it is usually port number 5000. 2. Using the VPN address: "128.226.28.179" and the port: "5000" you can access the app running, on your browser, that is "128.226.28.179:5000". 3. Once the app opens up, it can be used to get the popular hashtags or tweet/comment count for a date-range. 4. The data is quite large and it might take a few minutes to load.

2 WORKING

The home page of the app has a navigation bar on top, with 3 options. The "about" tells users about the dashboard and provides a link to our project.

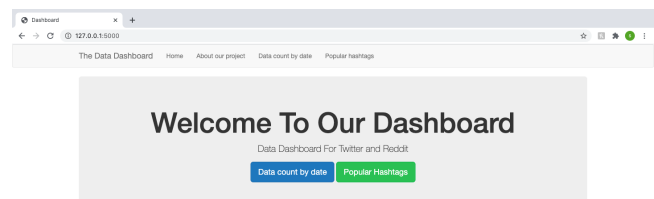


Figure 1: Application home page

Popular hashtags: upon selecting the "Popular Hashtags" option, it asks the user to enter a keyword. The app filters the data for the tweets related to the keywords, collects all the hashtags in those tweets and get the top 5 related hashtags. The data can be visualised using a bar graph. If in case no data was found, the app displays "No hashtags found".

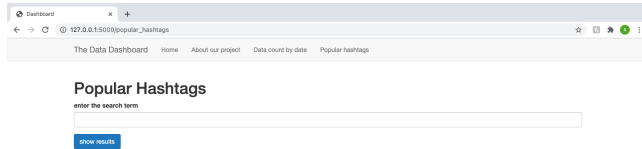


Figure 2: page to search for hashtags

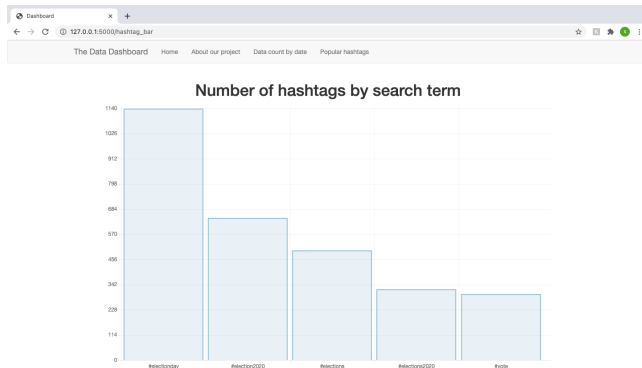


Figure 3: graph showing the results of hashtag search using "elections" as keyword

Date by count: upon selecting the "Data count by date" option, it asks the user to select a source of data (between twitter or reddit) and also the date-range. The app first checks for the correct date format, fetches the number of tweets collected from twitter or the number of comments collected from reddit everyday in the supplied date-range. The data can be visualised using a line graph. If in case no data was found, the app displays "No data found for the entered dates".

3 LIMITATIONS

The application may not work for all kinds of edge conditions. The data collection is huge and therefore the app may take a lot of time to load.

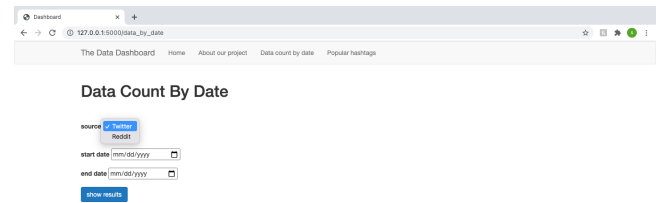


Figure 4: page to get data by date range

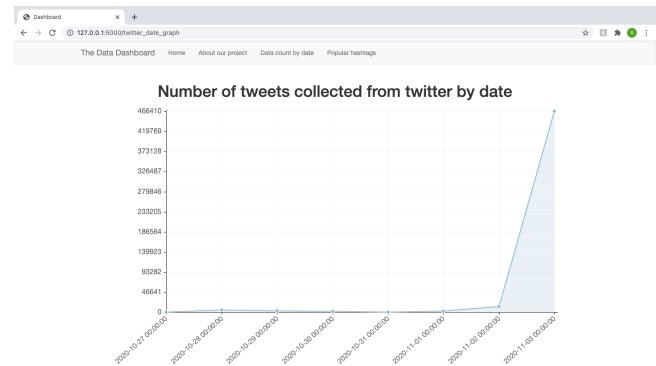


Figure 5: graph showing the results of data search by date for twitter

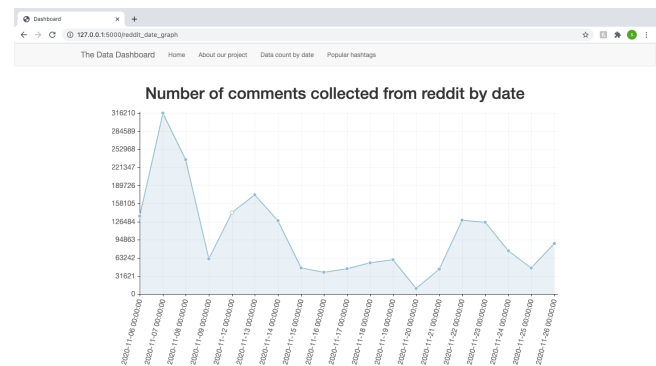


Figure 6: graph showing the results of data search by date for reddit

We believe the data fetching for the application needs much modification in terms of data as many data fields of the collected data are irrelevant in application perspective.

The data search can take a long time to load if the whole data-set is used, therefore we use a subset of our collected data to run our application. Since most of our data contains tweets/comments related to US elections, the result for any query could be directly or indirectly related to the same.

That being said the app can still be tested on other data sets by modifying the relevant field names in the code

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