The Battle of Neighborhoods 2019

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COMPANY NAME
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Introduction

New York City comprises 5 boroughs sitting where the Hudson River meets the Atlantic Ocean. At its core is Manhattan, a densely populated borough that's among the world's major commercial, financial and cultural centers. Its iconic sites include skyscrapers such as the Empire State Building and sprawling Central Park. Broadway theater is staged in neon-lit Times Square.

The Big Apple has thousands of restaurants of all kind spread by the neighborhoods and it is a real challenge to find the best place to start a new food business anywhere in the city.

In this study, I will try to identify eligible spots in New York City to open a Brazilian Restaurant and my target public would be any entrepreneur who is willing to open a Brazilian restaurant in New York City.

In order to differentiate the study a bit, my idea was to find a good place to open a restaurant that was not in the Manhattan or Staten Island area, that were more obvious places.

Data

Firstly I used a JSON file with all the boroughs, neighborhoods and respective coordinates (latitude and longitude). Source: https://cocl.us/new_york_dataset. Since the file contained all the boroughs I had to remove all the entries from 'Manhattan' and 'Staten Island' since they were not part of the scope of the study. The data was then loaded as a table. There were no missing values to deal with.

	Borough	Neighborhood	Latitude	Longitude
0	Bronx	Wakefield	40.894705	-73.847201
1	Bronx	Co-op City	40.874294	-73.829939
2	Bronx	Eastchester	40.887556	-73.827806
3	Bronx	Fieldston	40.895437	-73.905643
4	Bronx	Riverdale	40.890834	-73.912585

Then I used the Folium library to plot the neighborhoods in New York City that I was going to work in.

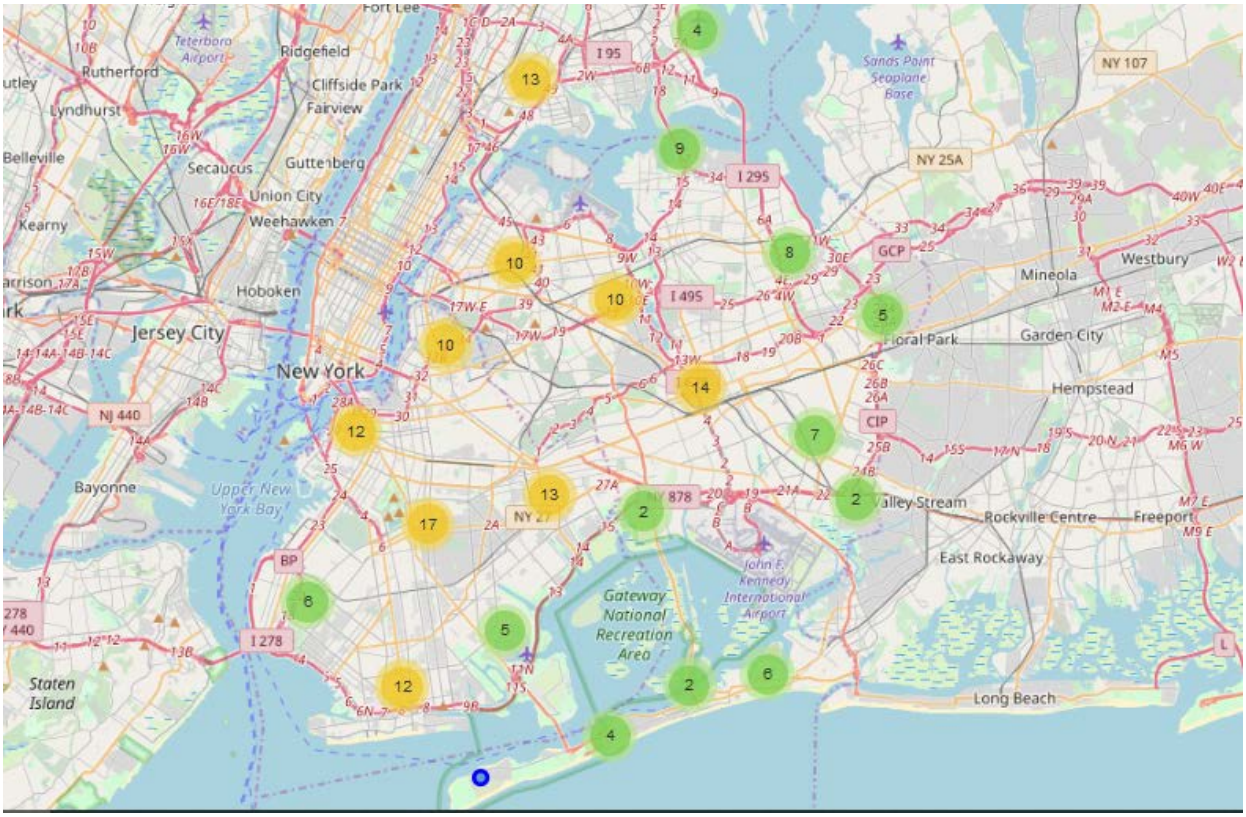


Figure 1 - New York City Neighborhoods

With that information I was able to use Foursquare API to gather all the venues registered in each neighborhood, filtering only the restaurants so I could see how they are distributed among the boroughs.

Figure 2 - New York City Restaurants

Methodology

The methodology used in this study was clustering. I decided to divide the restaurants in two different clusters: The first one would contain the restaurants labeled as 'Brazilian Restaurants' or 'South American Restaurants' and the other cluster contained the remaining restaurants.

This decision was made because you are more willing to succeed in a specific kind of food if you guarantee that no other restaurant of the same kind is close enough to your place. That said, I generated a map with the two clustered restaurants.

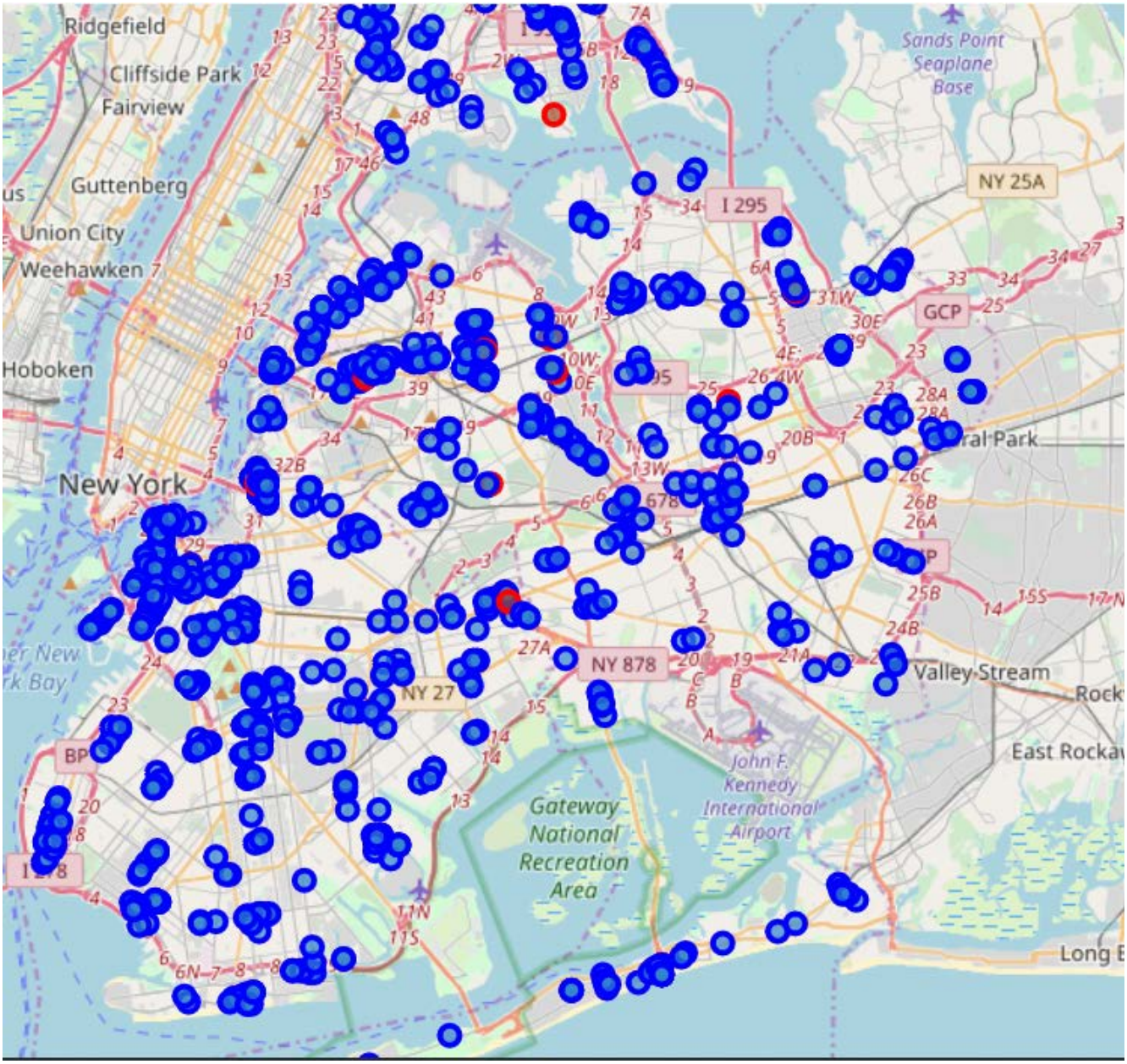


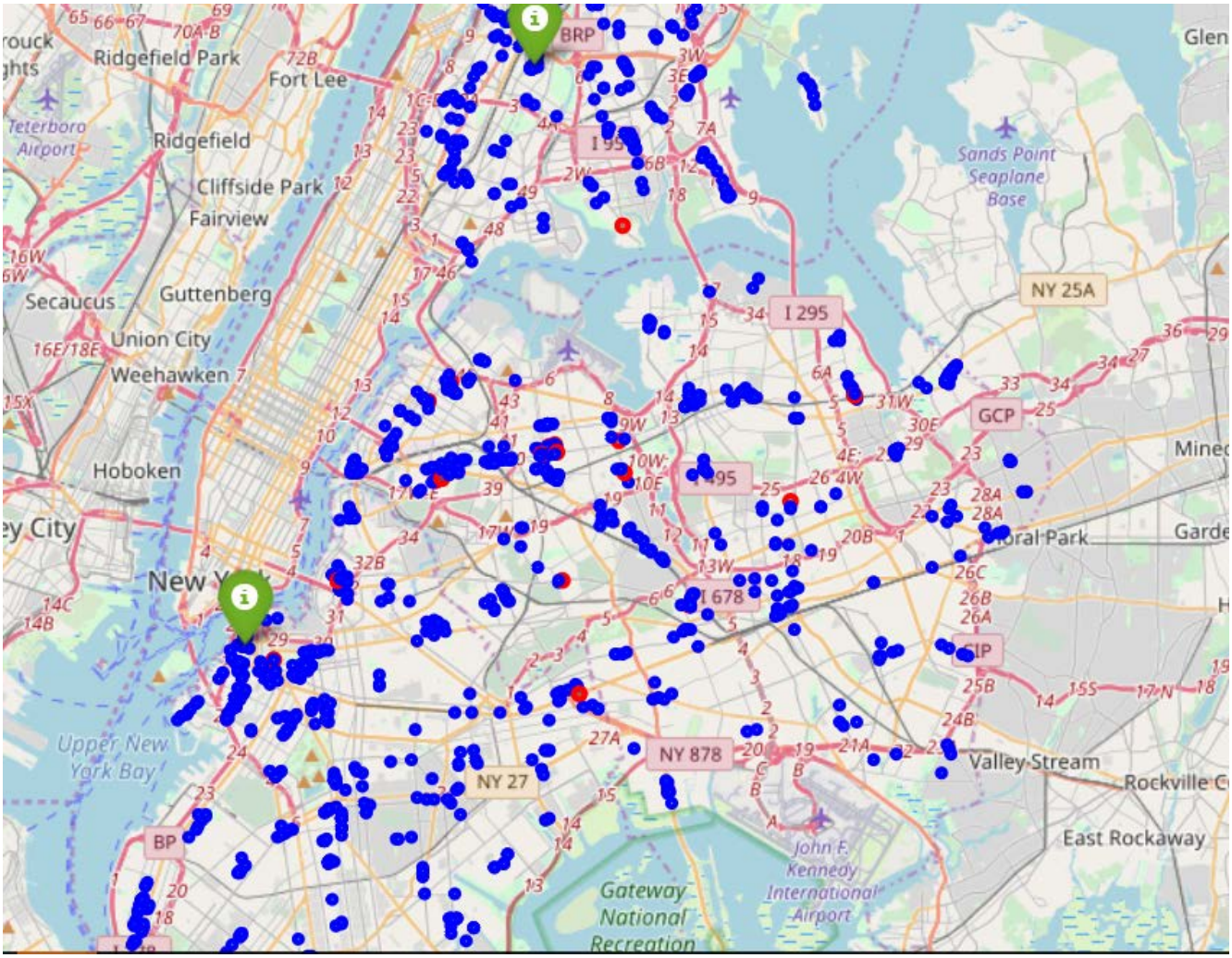
Figure 3- New York City Clustered Restaurants

Results

As a result of the clustering it was possible to identify many places in the BBQ (Bronx, Brooklyn, Queens) region that do not have South American restaurants and that could be great candidates for having a Brazilian restaurant installed.

Central Brooklyn, West Bronx were two places that I have found promising for having a restaurant opened. I based my decision choosing places that already have some restaurants around so

it will ever be considered a “restaurants area”, however none of the restaurants around have the same kind of cousine as the Brazilian one.



Conclusion

New York is one of the biggest cities in the world. Thousands of restaurants spread among its 203 neighborhoods and 8.3 million inhabitants besides the tourists and yet, opening a successful restaurant in the city can be really challenging. The clustering methodology is the simplest way to identify standards and take decisions. Of course more statistical operations could be performed in this example to refine the decision but due to the short deadline I decided to keep it real simple.

With this kind of visualization, one can even decide that there is a lot of competition in NYC already and try to move business to a different town.