

The best place to start an ecuadorian restaurant in NY

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1. Introduction

A family from Cuenca, a city of Ecuador, wants to live the American dream, for that reason they want to open a restaurant with traditional Ecuadorian food. The main dish in their menu will be "cuy".

The main idea of this project is to analyze which neighborhood in NY would have better profitability their restaurant. With data they want to know which neighborhood they should approach in NYC, specific in Queens.

2. Data

For this project I will use:

- Query the Foursquare website for the neighborhoods of New York where lives Latin people.
- New York neighborhood.
- Number of restaurants in the neighborhood.

a. Extracting Neighborhoods

Let's create a data frame with latitude and longitude of Queens, NYC like this:

| | Borough | Neighborhood | Latitude | Longitude |
|-----|---------|-----------------|-----------|------------|
| 129 | Queens | Astoria | 40.768509 | -73.915654 |
| 130 | Queens | Woodside | 40.746349 | -73.901842 |
| 131 | Queens | Jackson Heights | 40.751981 | -73.882821 |
| 132 | Queens | Elmhurst | 40.744049 | -73.881656 |
| 133 | Queens | Howard Beach | 40.654225 | -73.838138 |

Table 1: Queens neighborhoods

Also, we calculated the geographical coordinate of Queens that are: 40.6524927, -73.791421415816.

The next step was to make a map of the neighborhoods, the result was the next:



Figure 1: Queens neighborhoods

We calculated the distance between the neighborhoods to the center of Queens:

| | Borough | Neighborhood | Latitude | Longitude | Distance_to_center | X | Y |
|-----|---------|-----------------|-----------|------------|--------------------|---------------|--------------|
| 129 | Queens | Astoria | 40.768509 | -73.915654 | 25397.033121 | -5.812511e+06 | 9.858213e+06 |
| 130 | Queens | Woodside | 40.746349 | -73.901842 | 21384.337664 | -5.816215e+06 | 9.856324e+06 |
| 131 | Queens | Jackson Heights | 40.751981 | -73.882821 | 20604.314860 | -5.815188e+06 | 9.853901e+06 |
| 132 | Queens | Elmhurst | 40.744049 | -73.881656 | 19427.365586 | -5.816528e+06 | 9.853711e+06 |
| 133 | Queens | Howard Beach | 40.654225 | -73.838138 | 6051.896551 | -5.831597e+06 | 9.847628e+06 |

Table 2: Distance to Queens center in Queens neighborhoods

b. Foursquare

Thanks to Foursquare we obtain that there are 53 Latin restaurants in Queens:

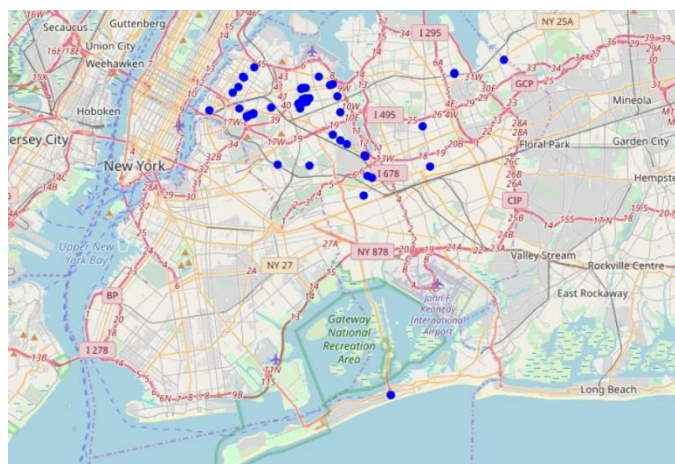


Figure 2: Latin restaurants in Queens

3. Methodology

In this project we will focus our efforts on detecting areas in Queens that have low Latin restaurant density. First, we collected data of Latin restaurants thanks to Foursquare. Next, we will calculate the area that is close to center with no Latin restaurant.

We found the number of Latin restaurants in area:

| | Borough | Neighborhood | Latitude | Longitude | Distance_to_center | X | Y | Restaurants_in_area |
|-----|---------|-----------------|-----------|------------|--------------------|---------------|--------------|---------------------|
| 129 | Queens | Astoria | 40.768509 | -73.915654 | 25397.033121 | -5.812511e+06 | 9.858213e+06 | 7 |
| 130 | Queens | Woodside | 40.746349 | -73.901842 | 21384.337664 | -5.816215e+06 | 9.856324e+06 | 16 |
| 131 | Queens | Jackson Heights | 40.751981 | -73.882821 | 20604.314860 | -5.815188e+06 | 9.853901e+06 | 13 |
| 132 | Queens | Elmhurst | 40.744049 | -73.881656 | 19427.365586 | -5.816528e+06 | 9.853711e+06 | 6 |
| 133 | Queens | Howard Beach | 40.654225 | -73.838138 | 6051.896551 | -5.831597e+06 | 9.847628e+06 | 8 |

Table 3: Latin American restaurants in Queens neighborhoods

We are going to map a Heat Map of the Latin restaurant in Queens.

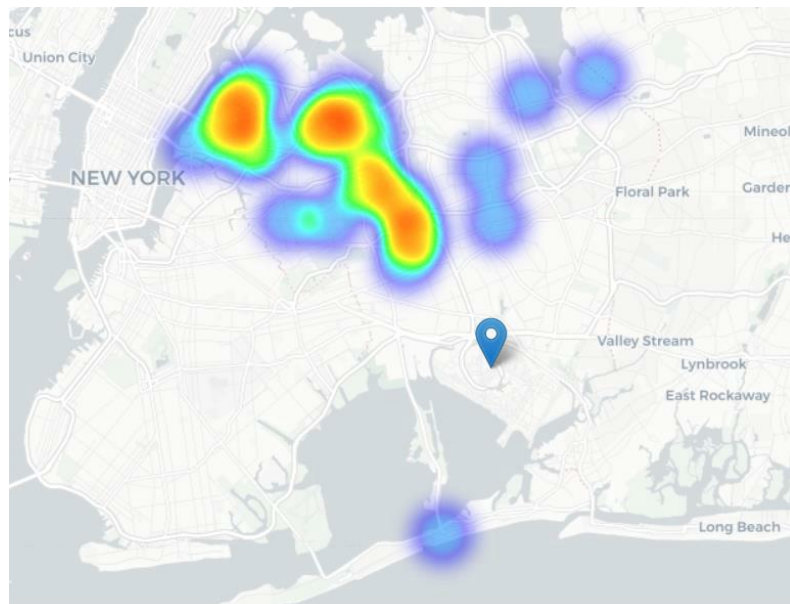


Figure 3: Heat map of Latin American restaurants in Queens

We can see that next to the center there is none restaurant, so now we are going to find the neighborhood next to the center that has 0 restaurants and is near to the center.

4. Results and Discussion

Our analysis shows that there are 53 Latin restaurants in Queens. From the heat map it is observed that most of these restaurants are located far from the center of Queens. To determine which is the best place for the restaurant, the data frame was filtered through neighborhoods that do not have any Latin restaurants nearby. Of these neighborhoods the one that is closest to the city center is the South Ozaka Park neighborhood, which is marked with a circle of red on the heat map.

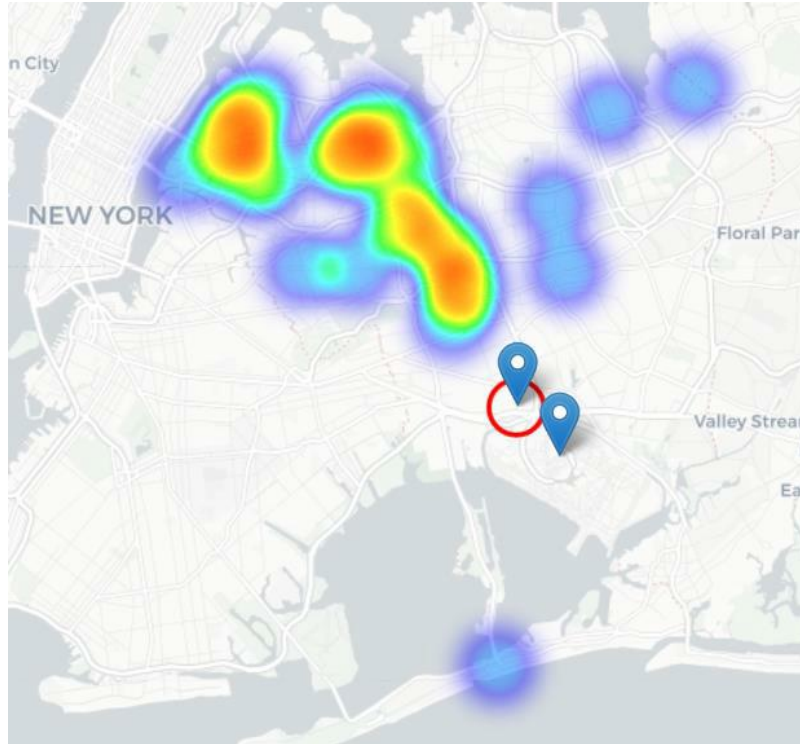


Figure 4: Heat map of Latin American restaurants in Queens with South Ozaka Park

5. Conclusions

From the data obtained in this project it can be determined that the best neighborhood to start this Ecuadorian restaurant in NY is South Ozaka Park, because there is no competition and it is close to the city center.