

A great place to start a Latin American restaurant

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1. Introduction

An Ecuadorian family wants to live the American dream, for that they want to open a restaurant with traditional Latin American food. The main dish they want to offer is the "encebollado", with this they also want to offer sea food.

My idea for this project is to analyze which neighborhood would have better profitability their idea. With data they want to know which neighborhood they should approach. This idea can be scalable for many Latin American restaurants that want to be open in New York, 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, New York City 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 American restaurants in Queens:

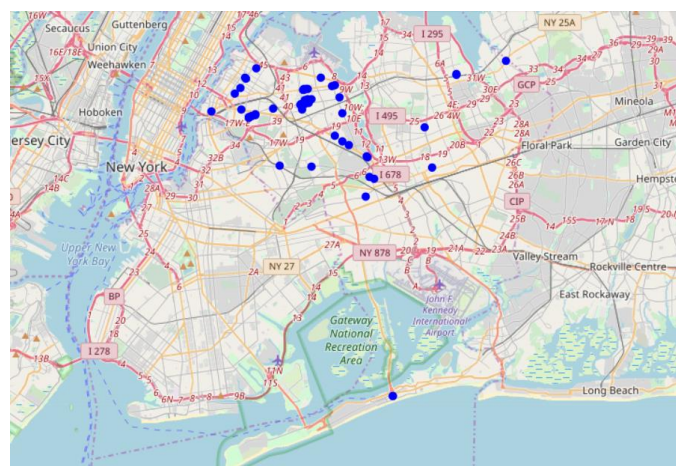


Figure 2: Latin American restaurants in Queens

3. Methodology

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

We found the number of Latin American 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 American restaurant in Queens.

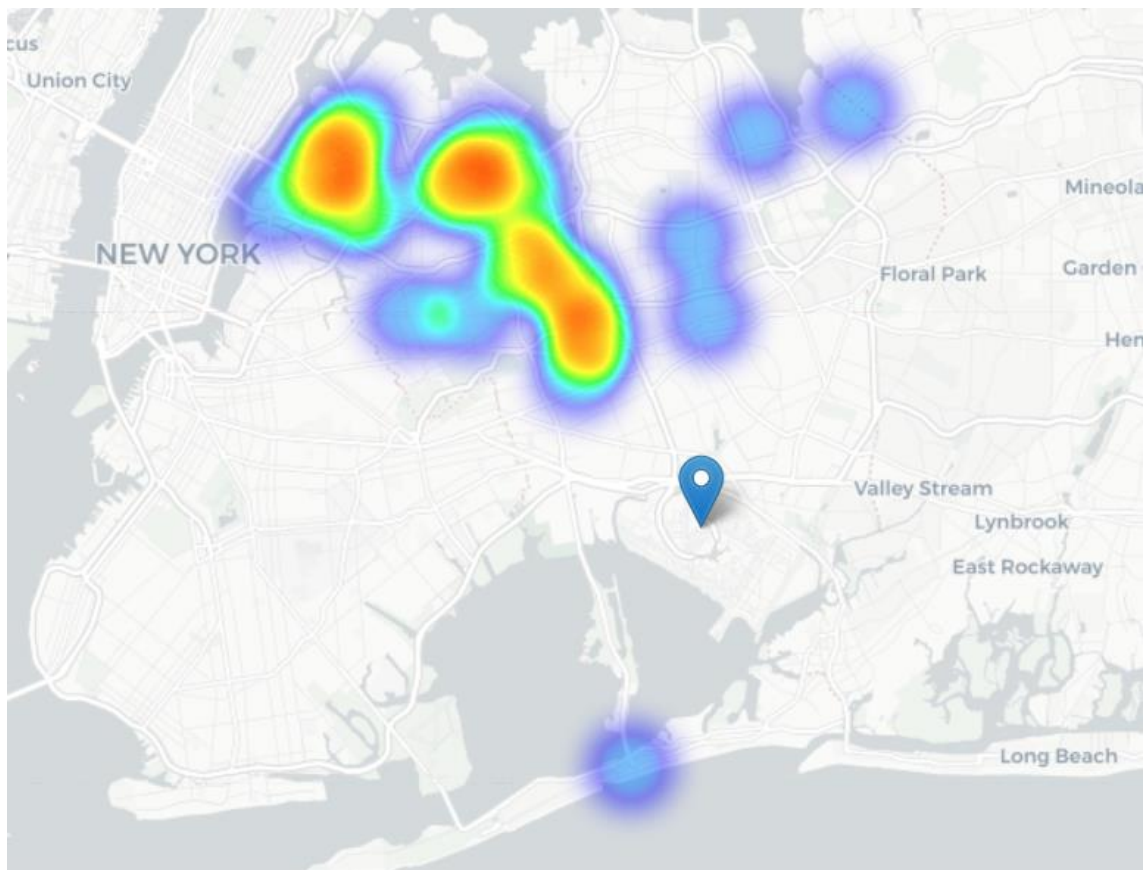


Figure 3: Heat map of Latin American restaurants in Queens

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 American 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 American 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.

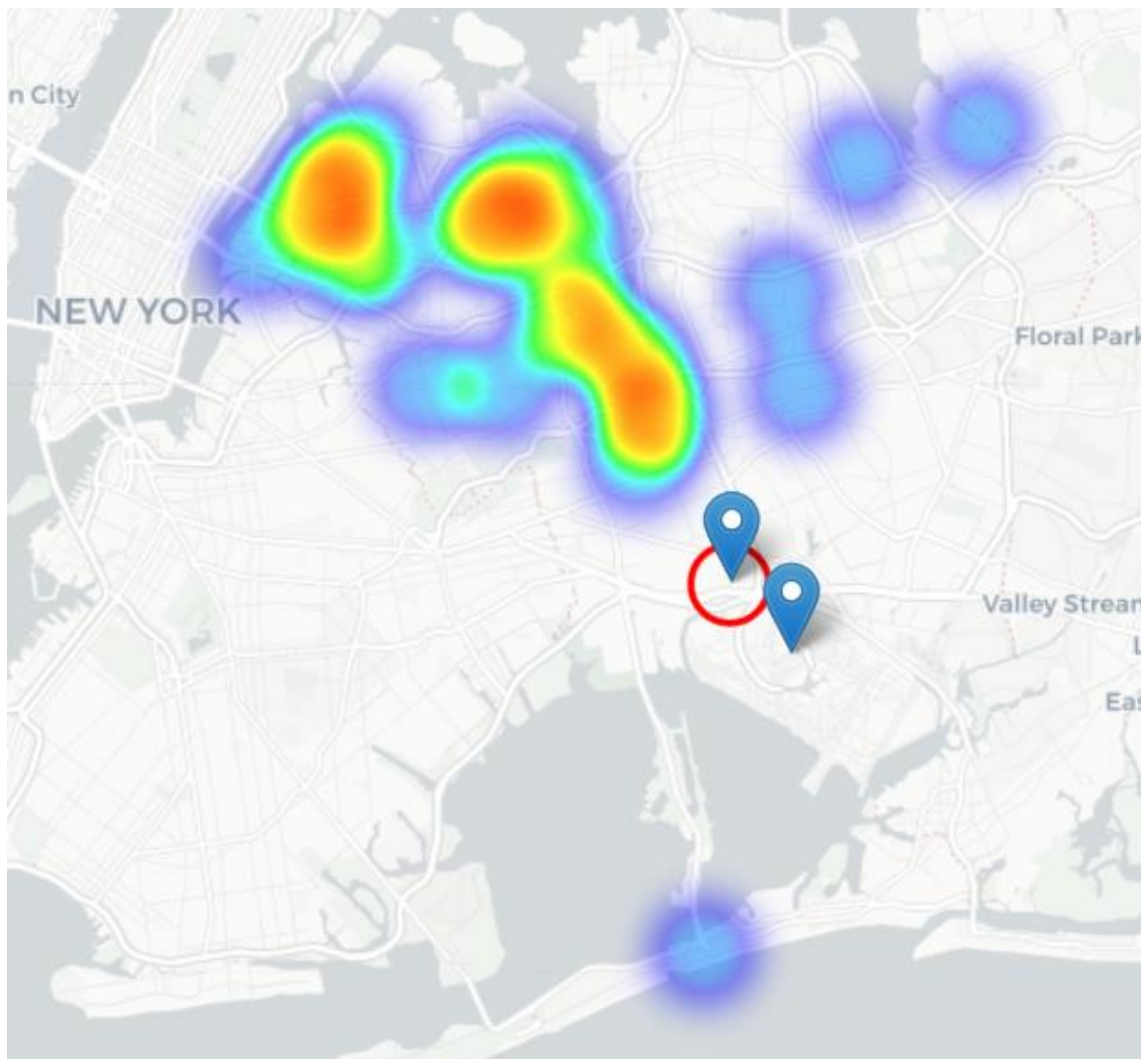


Figure 4: Heat map of Latin American restaurants in Queens with South Ozaka Park

5. Conclusions

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