

Open a restaurant in New York City, Brooklyn

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1. Business Problem

My customer wants to make some investment in New York city, Brooklyn. He prefers to open a restaurant in Brooklyn, but he is a new man for Brooklyn, here is the business problem and I have to address and fix it for my customer:

- No idea about Brooklyn
- No idea about which food Brooklyn people favorited
- No idea about the restaurant location should be choosed

2. Data Description

Using data summary: Brooklyn venues data from Foursquare

Data Description:

- Find the most hot neighborhood in Brooklyn by checking the number of venues.
- Base on the hot neighborhood, find the most popular food the people liked.
- Check the popular restaurant location distribution.
- As people of neighboring area like similar type of

food,choose the location which open few above
restaurant,but the nearby location have lots of same type
restaurant.

3. Methodology

As customer no idea about Brooklyn,we have to figure out
below two things:

- Restaurant Location
- Restaurant Type

We could achieve that by following steps:

- ① Cluster the venues on neighborhood level
- ② Get the top popular neighborhoods
- ③ Analyze the venues construction of above neighborhoods
- ④ Find the most popular type of food of the popular area
- ⑤ Open the most popular restaurant in corresponding

location

4. Location analyze

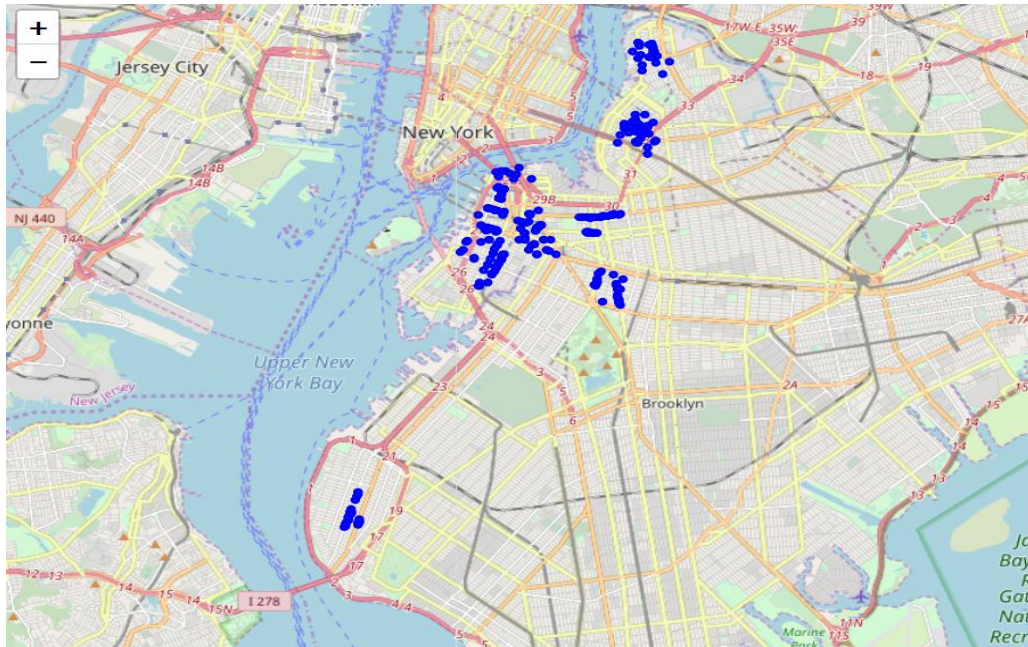
The hot area must have a lots of venues,I cluster the venues for
each neighborhood then choose the neighborhood where the
number of venues over than 80 as the candidate location:

[21]:

Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue ID	Venue Category
Bay Ridge	84	84	84	84	84	84	84
Boerum Hill	86	86	86	86	86	86	86
Brooklyn Heights	100	100	100	100	100	100	100
Carroll Gardens	100	100	100	100	100	100	100
Clinton Hill	96	96	96	96	96	96	96
Cobble Hill	100	100	100	100	100	100	100
Downtown	100	100	100	100	100	100	100
Dumbo	87	87	87	87	87	87	87
Greenpoint	100	100	100	100	100	100	100
North Side	100	100	100	100	100	100	100
Prospect Heights	83	83	83	83	83	83	83
South Side	100	100	100	100	100	100	100

5. Restaurant analyze

Cluster the Restaurant type by Venue category, then we know there are total 300 restaurant in hot Neighborhood of Brooklyn, and here is the restaurant distribution:



Obviously, the North West is very hot, let's make some further analyzing.

Let's check the top number of the Restaurant:

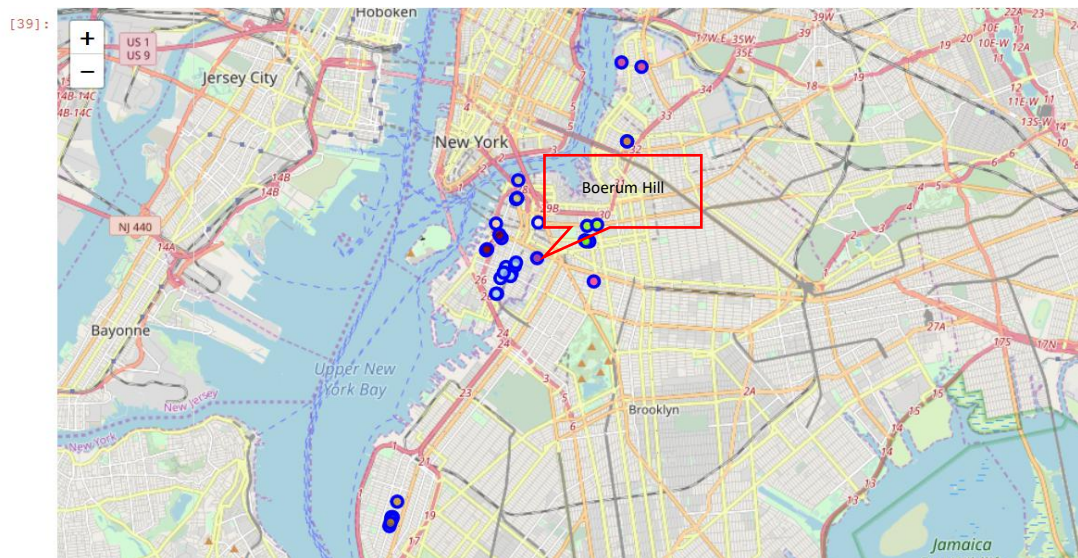
[36]:

	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue ID
Venue Category							
Italian Restaurant	40	40	40	40	40	40	40
American Restaurant	19	19	19	19	19	19	19
Mexican Restaurant	19	19	19	19	19	19	19
Thai Restaurant	18	18	18	18	18	18	18
Chinese Restaurant	17	17	17	17	17	17	17
French Restaurant	15	15	15	15	15	15	15
Sushi Restaurant	13	13	13	13	13	13	13
Japanese Restaurant	13	13	13	13	13	13	13
Seafood Restaurant	11	11	11	11	11	11	11
Restaurant	11	11	11	11	11	11	11
Indian Restaurant	10	10	10	10	10	10	10
Middle Eastern Restaurant	10	10	10	10	10	10	10
Vegetarian / Vegan Restaurant	9	9	9	9	9	9	9
New American Restaurant	9	9	9	9	9	9	9
Mediterranean Restaurant	8	8	8	8	8	8	8

Now we know the most popular food is Italian food,let's open a Italian Restaurant:

6. Final Result

I check the Italian Restaurant distribution and cluster the different Neighborhoods with different colors:



From above map,we know that hot Neighborhood Boerum Hill is

located at center of the hot area and neighboring area already opened lots of Italian restaurant, but Boerum Hill only have one Italian restaurant, so this is a good location of our restaurant. So I will suggest my customer to open a Italian restaurant in Boerum Hill.