

The Battle of Neighborhoods

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Business problem

Glo-vate, a global business, is continuously considering new prospects internationally. Lately, the company desires to invest in a Restaurant Industry. The restaurant will also be promoted as an Entertainment Venue. Subsequently, Glo-vate did some investigating, and is interested in Manhattan, New York or Downtown, Toronto. Toronto is Canada's largest city. It's a good place for dining and kicking back. The people are friendly, and it's the impact of the city's 200-plus cultures when composed make Toronto lively. However, there is simply no place in the United States as bursting with as many restaurants and entertainment industries as New York City. New York is seen as the world's most important economic and cultural capital. The city's atmosphere and style of life are unique. Equally the municipalities are very diverse and are the monetary capitals of their countries. Glo-vate wants to compare the neighborhoods of the places and determine how parallel or different they are therefore making it easier to make a decision about where they should invest. This information provided by this report will be useful for individuals who are interested in investing or purchasing restaurants in New York or Toronto.

Data description

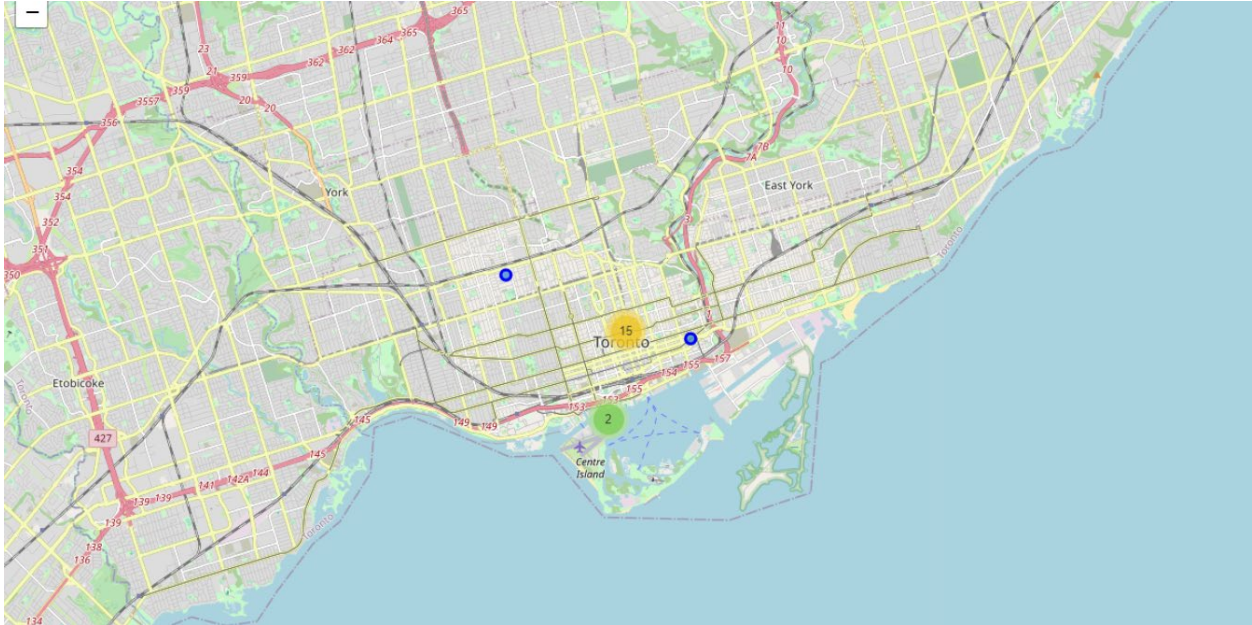
The neighborhoods data will be fetched and explored of Manhattan, New York and Downtown, Toronto from Foursquare API. The information we will be focused on are restaurants, coffee shops and entertainment venues. Neighborhood Segmentation and Clustering will be applied to analyze the neighborhood data and arrange the best restaurant location in both cities based on traffic and brand of restaurants. Finally, we will decide which city is the better place for Glo-vate to invest in.

	Borough	Neighborhood	Latitude	Longitude	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
0	Manhattan	Marble Hill	40.876551	-73.910660	0	Coffee Shop	Yoga Studio	Gym	Diner	Donut Shop	Seafood Restaurant	Pizza Place	Tennis Stadium	Pharmacy	Gym / Fitness Center
1	Manhattan	Chinatown	40.715618	-73.994279	1	Spa	Bakery	Cocktail Bar	Sandwich Place	English Restaurant	Museum	Tea Room	Greek Restaurant	Pizza Place	Hotel
2	Manhattan	Washington Heights	40.851903	-73.936900	1	Café	Italian Restaurant	Park	Market	Bakery	Restaurant	Coffee Shop	Deli / Bodega	Burger Joint	Dog Run
3	Manhattan	Inwood	40.867684	-73.921210	1	Pet Store	Park	Bistro	Farmers Market	Bakery	Diner	Mexican Restaurant	Deli / Bodega	Wine Bar	Wine Shop
4	Manhattan	Hamilton Heights	40.823604	-73.949688	0	Yoga Studio	Cocktail Bar	Café	Mexican Restaurant	Pizza Place	Caribbean Restaurant	Italian Restaurant	Wine Bar	Arts & Crafts Store	English Restaurant

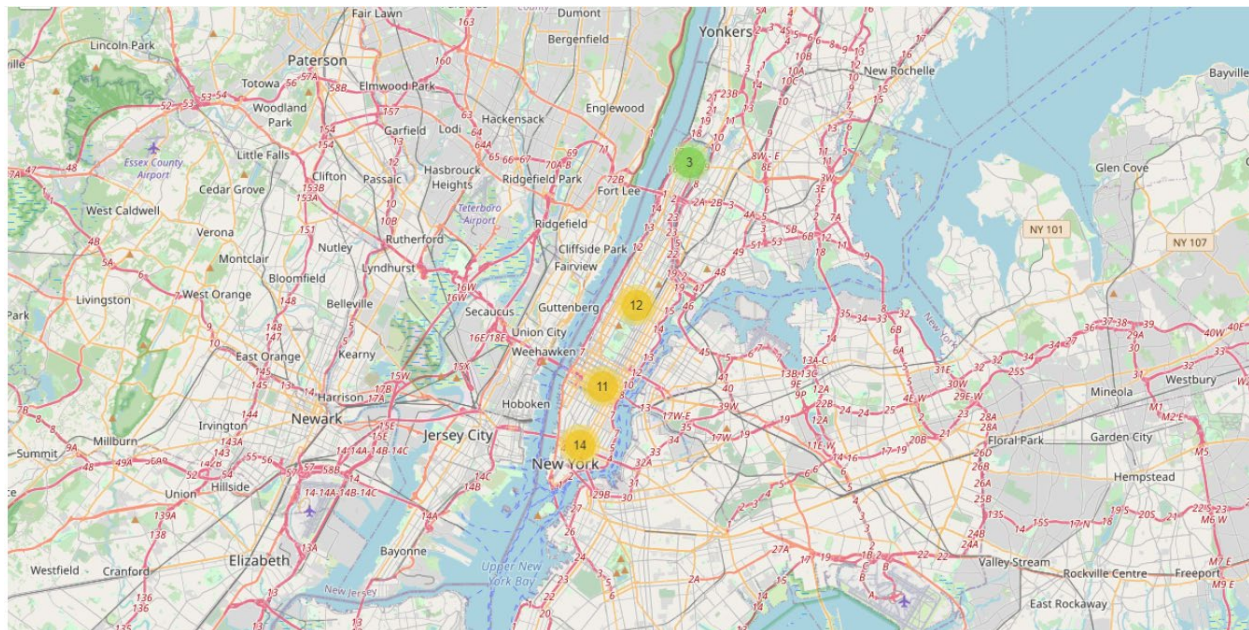
	Postal Code	Borough	Neighborhood	Latitude	Longitude	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
2	MSA	Downtown Toronto	Regent Park, Harbourfront	43.654260	-79.360636	0	Breakfast Spot	Gym / Fitness Center	Bakery	Restaurant	Spa	Coffee Shop	Distribution Center	Park	Historic Site	Food Truck
4	M7A	Downtown Toronto	Queen's Park, Ontario Provincial Government	43.662301	-79.389494	0	Coffee Shop	Mexican Restaurant	Park	Creperie	Arts & Crafts Store	Italian Restaurant	Sushi Restaurant	Beer Bar	Distribution Center	Concert Hall
9	M5B	Downtown Toronto	Garden District, Ryerson	43.657162	-79.378937	3	Café	Tea Room	Music Venue	Plaza	Burrito Place	Comic Shop	Clothing Store	Thai Restaurant	Theater	Fountain
15	M5C	Downtown Toronto	St. James Town	43.651494	-79.375418	2	Coffee Shop	Gym	Gastropub	Restaurant	Japanese Restaurant	Food Truck	Cosmetics Shop	Creperie	Middle Eastern Restaurant	Dance Studio
20	M5E	Downtown Toronto	Berczy Park	43.644771	-79.373306	0	Cocktail Bar	Farmers Market	Park	Concert Hall	Restaurant	Museum	Coffee Shop	Liquor Store	Fountain	Vegetarian / Vegan Restaurant

Cluster Segmentations

Downtown, Toronto, Canada



Manhattan, New York, United States



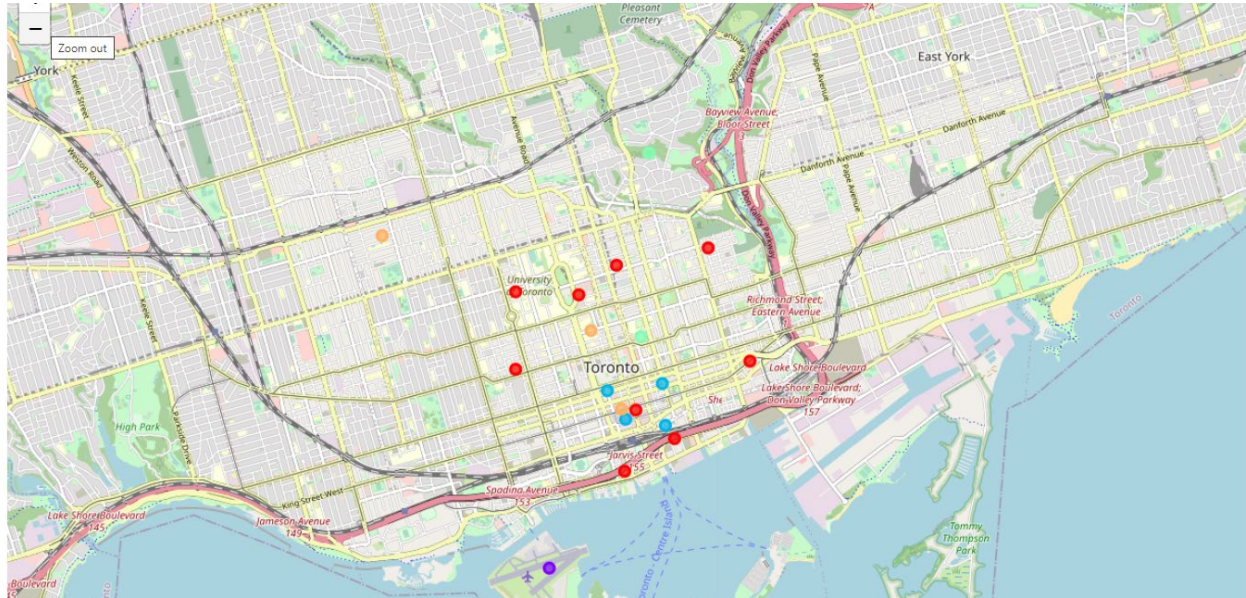
Methodology

There are two cities that we are going to explore with the equivalent methodology. Primarily, we will take the processed data from the previous lab and include Downtown, Toronto. For the New York, Manhattan data, we will use the file from the previous lab as well. We then use the python folium library to visualize geographic details of the cities and its boroughs. The Foursquare API is used to utilize and explore the neighborhoods and segment them. The LIMIT parameter is set to 20, which would limit the number of venues returned by the Foursquare API and the radius of 500 meter. One Hot Encoding, is used in order to group data, and find out the top ten venues present in each neighborhood. Unsupervised learning K-means algorithm was used to cluster the neighborhoods. Finally, the k_cluster value of 5 was used to divided the neighborhoods into 5 different clusters based on the likeness they have regarding the venues they have.

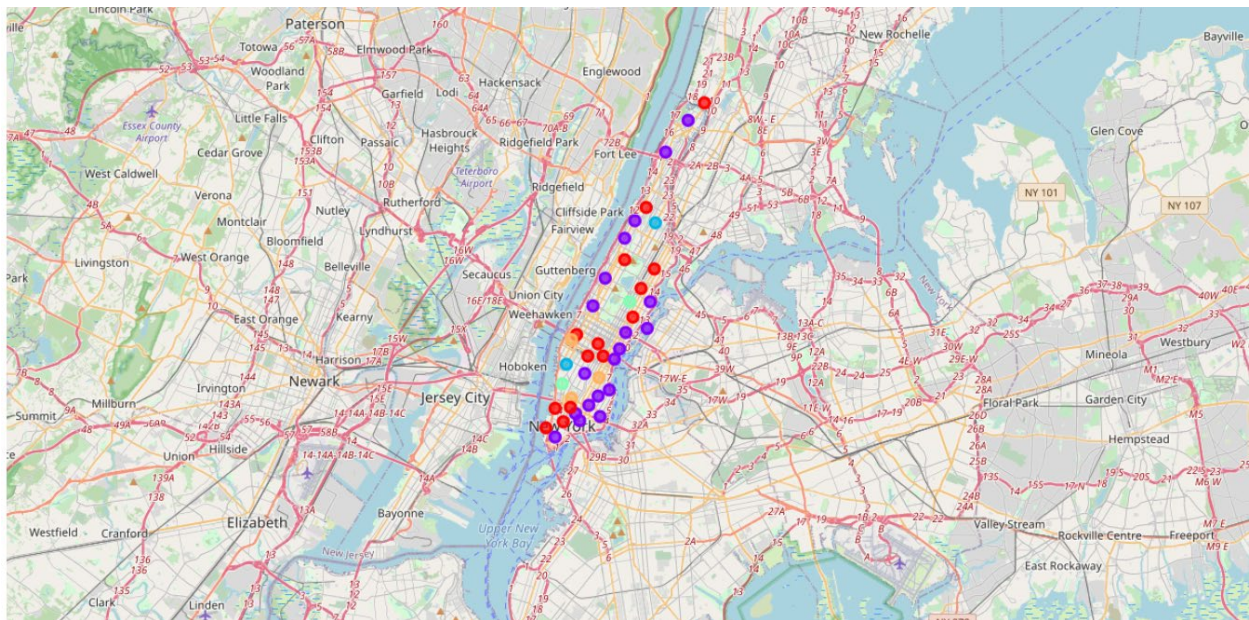
Discussion

The intent with which the analysis was carried out was to find out which city should Glo-vate invest in their Restaurant and Entertainment business. Whether Manhattan, New York of Downtown, Toronto, Canada. As we analyze the results section, we analyze the clusters and see similar venues in both cities. This is one instance of how our data analysis can help individuals and businesses make a clear decision based on which city would be a better fit for their ideas.

Downtown, Toronto, Canada



Manhattan, New York, United States



Results & Conclusion

From the clustering results we can see that Manhattan, New York has more varied restaurants and entertainment venues than Downtown Toronto, Canada. This means more than likely the area will attract more walk-ins and prospects. Moreover, the more diverse restaurants and cafes are in neighborhoods, the more individuals are exposed to different types of food, entertainment and cultures. With the information presented, it would be recommended that Glo-vate invest in their Restaurant in Mahattan, New York.