

BATTLE OF NEIGHBORHOODS

INTRODUCTION

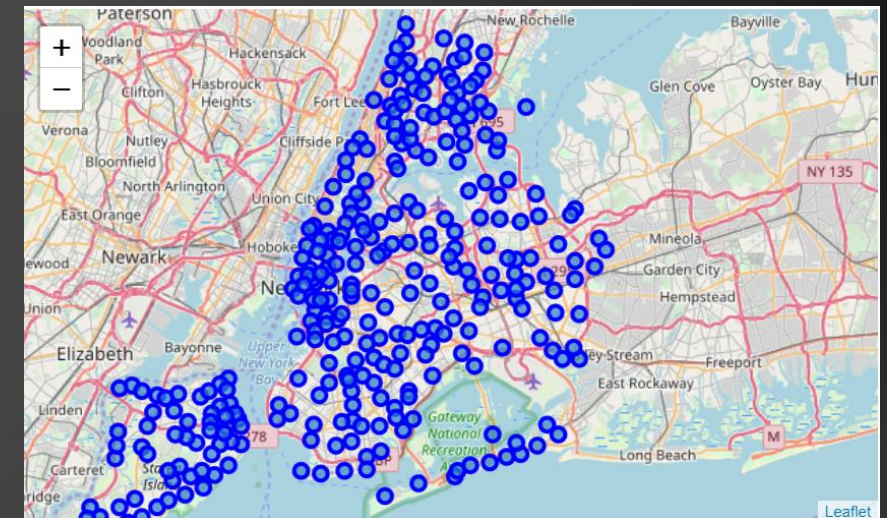
- Exploring the neighborhoods of the New York and Toronto City which are one of most popular cities in the USA and Canada.
- Finding out the similarities between them
- Exploring the venues in the neighborhoods using the foursquare API endpoint.
- It will be helpful for the those who need to travel between the two being the financial centers.

DATA ACQUISITION AND CLEANING

- Toronto neighborhood data is been scraped from the Wikipedia page using a python scrapper.
- New York city data consisting of the longitudes and latitudes is merged to generate a complete dataset.
- The data is cleaned for any missing values such as not assigned, and also the scraped data is transformed into a data frame for easier operations.

EXPLORATORY ANALYSIS

- The figure on the top shows the neighborhoods in the Toronto.
- The figure in the bottom on the right shows the neighborhoods in the New York city.
- These provide an understanding of the neighborhoods are distributed in the respective cities.



TOP 10 VENUES IN THE SCARBOROUGH NEIGHBORHOOD

Out[53]:

| | Neighborhood | 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 | Agincourt | Clothing Store | Skating Rink | Breakfast Spot | Latin American Restaurant | Lounge | Coffee Shop | General Entertainment | Gas Station | Fried Chicken Joint | Fast Food Restaurant |
| 1 | Cedarbrae | Hakka Restaurant | Athletics & Sports | Bakery | Bank | Gas Station | Fried Chicken Joint | Caribbean Restaurant | Thai Restaurant | Construction & Landscaping | Gym Pool |
| 2 | Cliffcrest | American Restaurant | Motel | Coffee Shop | Grocery Store | General Entertainment | Gas Station | Fried Chicken Joint | Fast Food Restaurant | Electronics Store | Department Store |
| 3 | Cliffside West | General Entertainment | Skating Rink | Café | College Stadium | Vietnamese Restaurant | Coffee Shop | Grocery Store | Gas Station | Fried Chicken Joint | Fast Food Restaurant |
| 4 | East Birchmount Park | Hobby Shop | Coffee Shop | Department Store | Chinese Restaurant | Gym Pool | Grocery Store | General Entertainment | Gas Station | Fried Chicken Joint | Fast Food Restaurant |

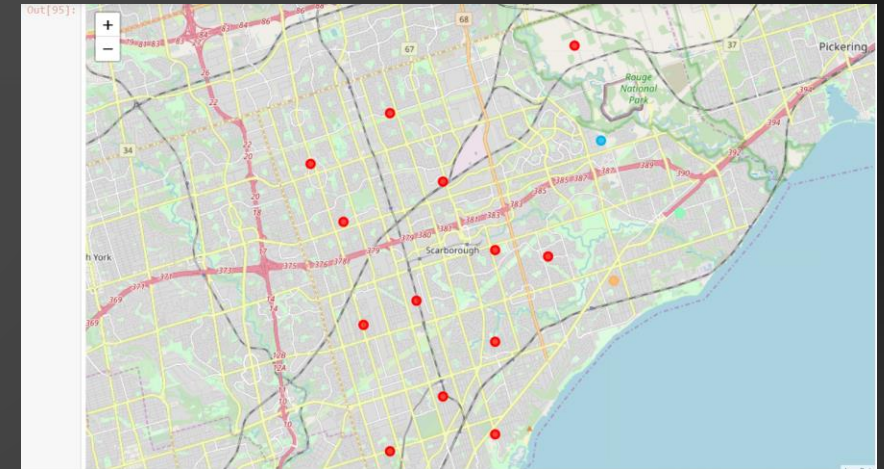
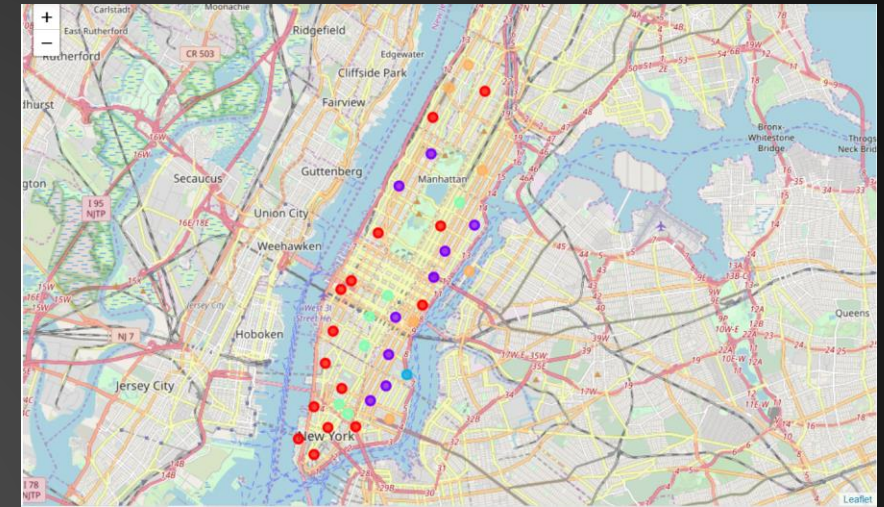
TOP 10 VENUES IN THE MANHATTAN DISTRICT

Out[60]:

| | Neighborhood | 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 | Battery Park City | Park | Coffee Shop | Hotel | Gym | Clothing Store | Wine Shop | Women's Store | Memorial Site | Boat or Ferry | Burger Joint |
| 1 | Carnegie Hill | Coffee Shop | Pizza Place | Cosmetics Shop | Bookstore | Bakery | Gym | Japanese Restaurant | Yoga Studio | Café | Wine Shop |
| 2 | Central Harlem | Cosmetics Shop | African Restaurant | American Restaurant | Bar | French Restaurant | Seafood Restaurant | Chinese Restaurant | Café | Tapas Restaurant | Market |
| 3 | Chelsea | Coffee Shop | Bakery | Italian Restaurant | Ice Cream Shop | American Restaurant | Nightclub | Hotel | Bookstore | Market | Sushi Restaurant |
| 4 | Chinatown | Chinese Restaurant | American Restaurant | Vietnamese Restaurant | Cocktail Bar | Salon / Barbershop | Spa | Optical Shop | Bakery | Hotpot Restaurant | Asian Restaurant |

CLUSTERING NEIGHBORHOODS IN SCARBOROUGH AND MANHATTAN

- The clustering technique was used to group similar neighborhoods together for which the KMeans clustering method was used.
- The clusters represent the similar neighbour that could be found in the cities.



CONCLUSION AND FUTURE SCOPE

- Thus, a successful analysis between the neighborhoods has been performed with the help of location data and the foursquare API by leveraging the data analysis and machine learning techniques.
- This study can be further extended to finding out similar cities as we did for neighborhoods which would help to find out which cities have similar cultural, food, social, life, etc.