

Comparing the neighborhoods of the two New York City and Toronto
Denny Thomas
27th November 2020



Compare the neighborhoods of the two cities

- Different Cities have different facilities . There fore compare the cities based on the facilities will bring a competitive advantages for the people
- Calculating the distance matrix
 - Helps to compare the similarity of neighborhoods
 - Helps to select the similar neighborhoods with respect to the present status



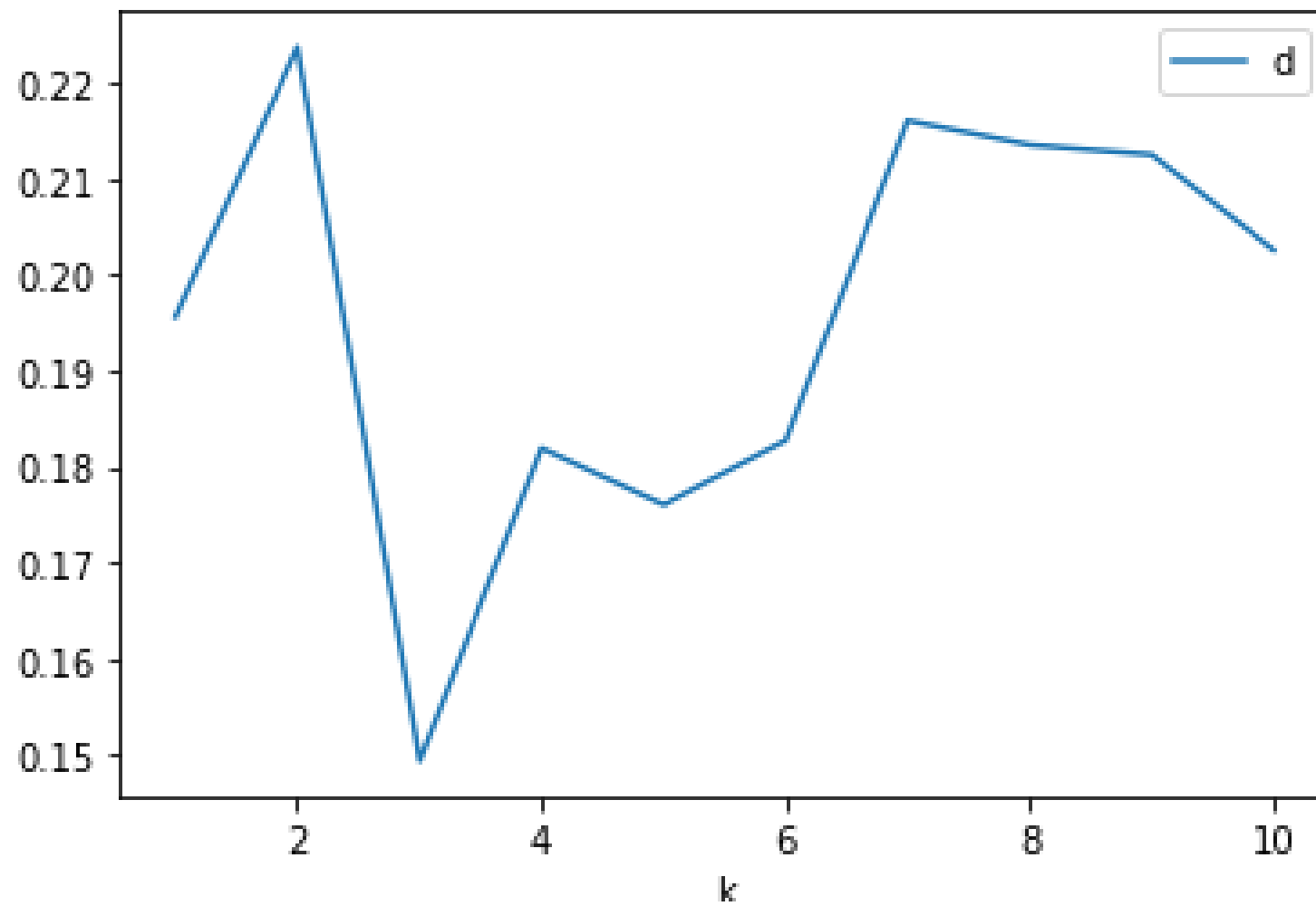


Data acquisition and cleaning

- Wikipedia: - Used for identifying the neighborhoods of the cities and analyzing the demographic and climatic data, this data will be used for clustering the neighbor hood
- Foursquare API- Used for exploring the venue and venue type, this data will be used for clustering the neighbor hood
- Total 14,549 venues grouped in to 463 categories are extracted

Relationship with the Neighborhoods

Borough	City	Neighborhood	Allerton	Baychester	Bedford Park	Deer Park	Forest Hill Road Park	Forest Hill SE
Bronx	New York City, NY	Allerton	0.0000	0.2593	0.2264	0.2809	0.5270	0.6055
Bronx	New York City, NY	Baychester	0.2593	0.0000	0.2631	0.2877	0.5104	0.5958
Bronx	New York City, NY	Bedford Park	0.2264	0.2631	0.0000	0.2794	0.5212	0.6111
Central Toronto	Toronto, Canada	Deer Park	0.2809	0.2877	0.2794	0.0000	0.5000	0.5963
Central Toronto	Toronto, Canada	Forest Hill Road Park	0.5270	0.5104	0.5212	0.5000	0.0000	0.6667
Central Toronto	Toronto, Canada	Forest Hill SE	0.6055	0.5958	0.6111	0.5963	0.6667	0.0000



Clustering (K
means)

Cluster 0: -455 no's of Neighborhoods

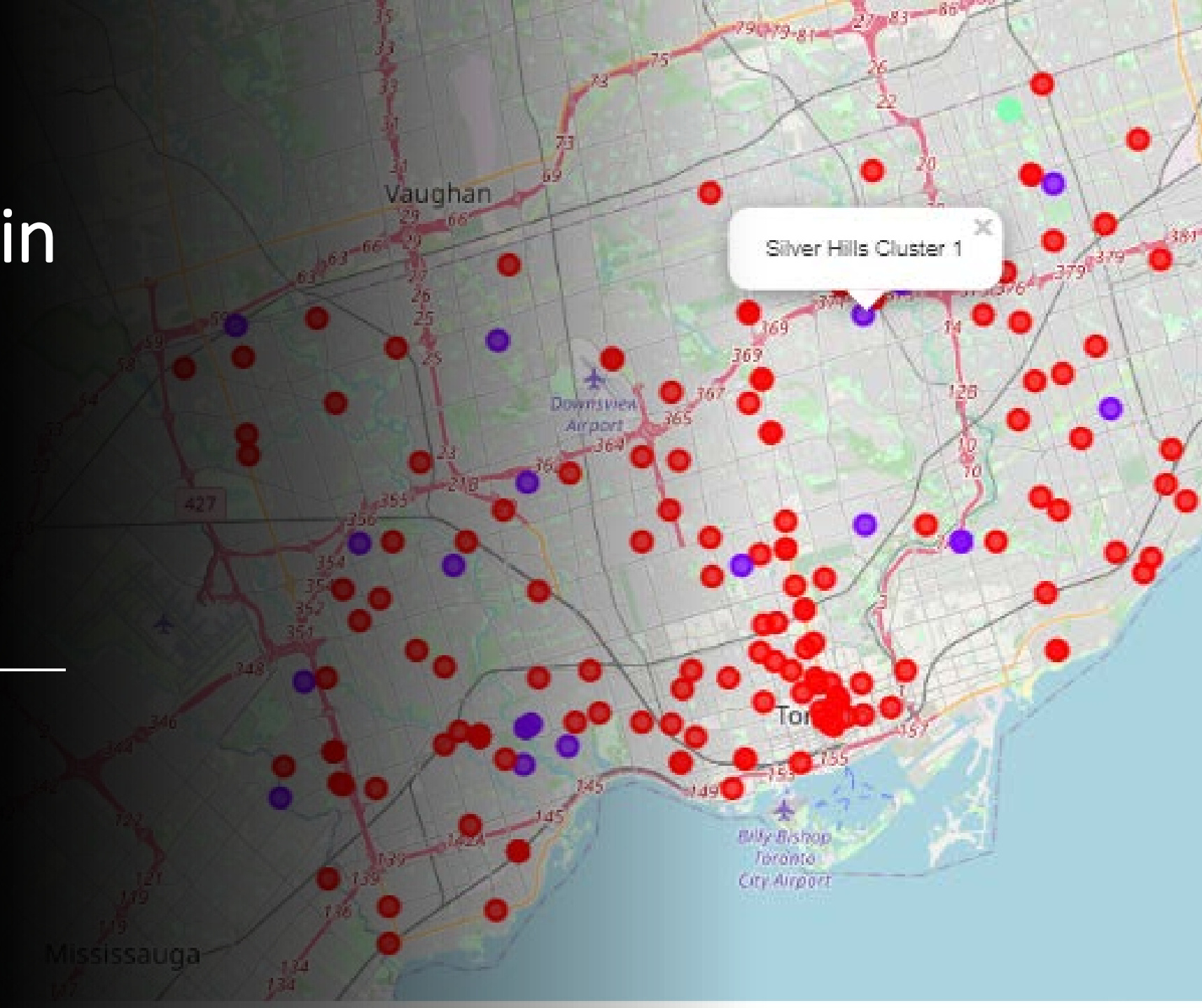
Cluster1: - 27 Nos of Neighborhoods

Cluster2:- 3 Nos of Neighborhoods

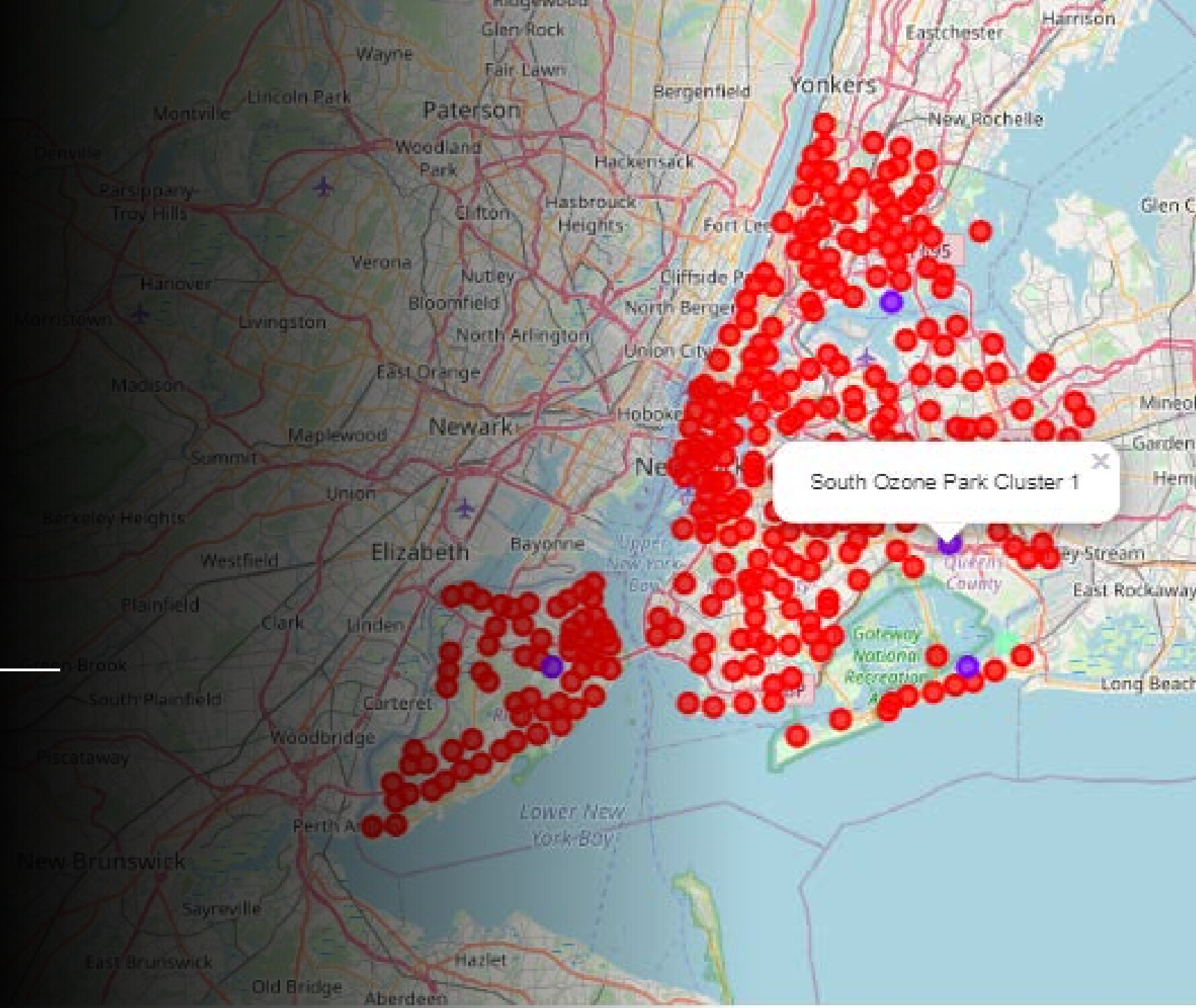
Table with first 5 common venues

Cluster Labels	Borough	City	Neighbourhood	Neighbourhood Latitude	Neighbourhood Longitude	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	
0	0	Bronx	New York City, NY	Allerton	40.865788	-73.859319	Pizza Place	Deli / Bodega	Spa	Supermarket	Chinese Restaurant
1	0	Bronx	New York City, NY	Baychester	40.868858	-73.835798	Donut Shop	Fried Chicken Joint	Pizza Place	Shopping Mall	Men's Store
2	0	Bronx	New York City, NY	Bedford Park	40.870185	-73.885512	Diner	Pizza Place	Mexican Restaurant	Chinese Restaurant	Deli / Bodega
3	0	Bronx	New York City, NY	Belmont	40.857277	-73.888452	Italian Restaurant	Pizza Place	Deli / Bodega	Bakery	Bank
4	0	Bronx	New York City, NY	Bronxdale	40.852723	-73.861726	Italian Restaurant	Pizza Place	Spanish Restaurant	Breakfast Spot	Gym

Visualizing the Neighborhoods in Folium Toronto Neighborhoods



Visualizing the Neighborhoods in Folium New York Neighborhoods



Conclusion and future directions

- Analyzed the similarity neighborhoods Toronto and New York City
- Grouped the neighborhoods in to 3 clusters
- Generated the This distance matrix
- Ideas include:
 - Climate
 - Population,
 - Per capita income