

# Moving to Toronto

Capstone project

# Content

1. Introduction
2. Data
3. Methodology
4. Results
5. Discussion
6. Conclusion

# Introduction

A client would like to find a neighborhood in Toronto that is similar to her previous neighborhood Flatiron in New York.

# Data

A list of neighborhoods of Toronto with their coordinates was built from data collected online.

	Postcode	Borough	Neighborhood	Latitude	Longitude
0	M1B	Scarborough	Rouge, Malvern	43.806686	-79.194353
1	M1C	Scarborough	Highland Creek, Rouge Hill, Port Union	43.784535	-79.160497
2	M1E	Scarborough	Guildwood, Morningside, West Hill	43.763573	-79.188711
3	M1G	Scarborough	Woburn	43.770992	-79.216917
4	M1H	Scarborough	Cedarbrae	43.773136	-79.239476
5	M1J	Scarborough	Scarborough Village	43.744734	-79.239476
6	M1K	Scarborough	East Birchmount Park, Ionview, Kennedy Park	43.727929	-79.262029
7	M1L	Scarborough	Clairlea, Golden Mile, Oakridge	43.711112	-79.284577
8	M1M	Scarborough	Cliffcrest, Cliffside, Scarborough Village West	43.716316	-79.239476
9	M1N	Scarborough	Birch Cliff, Cliffside West	43.692657	-79.264848

# Data

Venue data of the neighborhoods were obtained with the Foursquare API

- Get up to 100 venues within 1000m around a location
- Total of 336 venue categories.
- The frequency of venue categories form the profile of a neighborhood.

----Flatiron----

	venue	freq
0	Gym / Fitness Center	0.06
1	American Restaurant	0.06
2	New American Restaurant	0.05
3	Cycle Studio	0.04
4	Japanese Restaurant	0.04
5	Hotel	0.03
6	Café	0.03
7	Wine Shop	0.03
8	Mediterranean Restaurant	0.02
9	Bookstore	0.02

# Methodology

A Flatiron-index is calculated for each neighborhood in Toronto

- Sum of the product of its venue category frequencies and Flatiron's
- Higher value means the neighborhood is more similar to Flatiron

Neighborhoods with fewer than 20 venues are filtered out.

# Results

15 neighborhoods in Toronto with highest Flatiron-index

	Flatiron	Venue
Neighborhood		
Stn A PO Boxes 25 The Esplanade	0.012500	100
Commerce Court, Victoria Hotel	0.012400	100
First Canadian Place, Underground city	0.012300	100
Mimico NW, The Queensway West, Royal York South West, South of Bloor	0.012143	56
Design Exchange, Toronto Dominion Centre	0.011900	100
St. James Town	0.011900	100
Forest Hill North, Forest Hill West	0.011333	45
Don Mills North	0.011290	31
Deer Park, Forest Hill SE, Rathnelly, South Hill, Summerhill West	0.010741	81
Flemingdon Park, Don Mills South	0.010698	43
Downsview Northwest	0.010606	33
Adelaide, King, Richmond	0.010300	100
Berczy Park	0.010000	100
Brockton, Exhibition Place, Parkdale Village	0.009900	100
Church and Wellesley	0.009900	100

# Results

The neighborhoods resemble Flatiron

----Flatiron----

	venue	freq
0	Gym / Fitness Center	0.06
1	American Restaurant	0.06
2	New American Restaurant	0.05
3	Cycle Studio	0.04
4	Japanese Restaurant	0.04
5	Hotel	0.03
6	Café	0.03
7	Wine Shop	0.03
8	Mediterranean Restaurant	0.02
9	Bookstore	0.02

----Stn A P0 Boxes 25 The Esplanade----

	venue	freq
0	Coffee Shop	0.12
1	Café	0.07
2	Hotel	0.05
3	Restaurant	0.04
4	Beer Bar	0.04
5	Japanese Restaurant	0.04
6	Breakfast Spot	0.03
7	Seafood Restaurant	0.03
8	Gastropub	0.03
9	Art Gallery	0.02

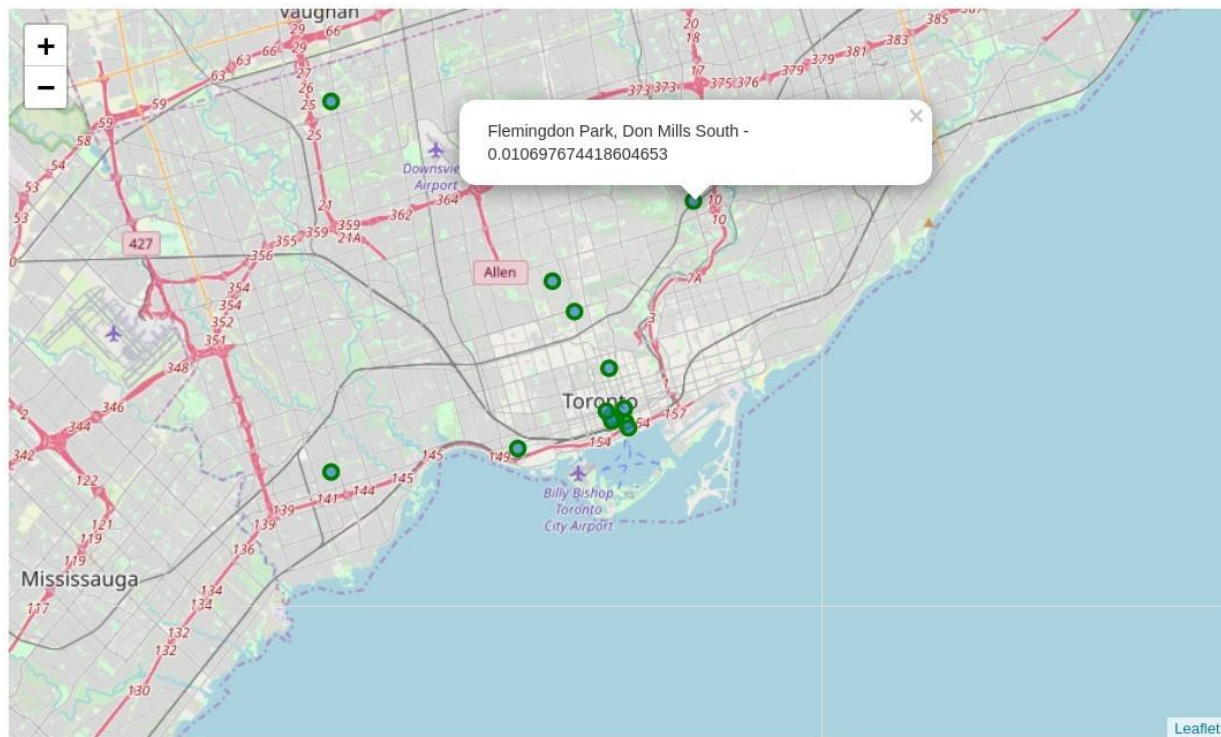
----Commerce Court, Victoria Hotel----

	venue	freq
0	Coffee Shop	0.10
1	Café	0.07
2	Hotel	0.05
3	Restaurant	0.04
4	Steakhouse	0.03
5	Gastropub	0.03
6	Concert Hall	0.03
7	Beer Bar	0.03
8	Japanese Restaurant	0.03
9	Vegetarian / Vegan Restaurant	0.02



# Results

The top 15 neighborhoods rare shown on Toronto map



# Discussion

The method is effective in showing the neighborhoods with characteristics matching the Flatiron neighborhood in New York

- High frequency of Flatiron's top venue categories

Venue categories that are not relevant to local residents, e.g. hotel, could be dropped to improve accuracy.

Index does not take into account the count of venues, so filtering is needed

# Conclusion

Geodata and Venue data of neighborhoods in Toronto collected

Index calculated for each neighborhood, reflecting their similarity to Flatiron neighborhood in New York.

A list and map of the top 15 neighborhoods presented for the client's consideration