

Capstone Project: The Battle of the Neighborhoods

YogaBear: mindful beginning, one day at a time

The Background

YogaBear, a Chinese yoga company looking to expand overseas.

(1) New York, the most populous city in the United States (US) with an estimated population of 8,398,748 as of 2018

(2) Toronto, the most populous city in Canada with a population of 2,731,571 as of 2016.

Which is the right city to open a new YogaBear studio?



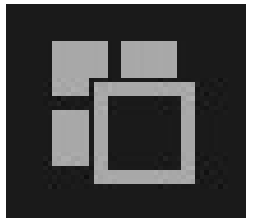
The Critical Success Factors

(1) The competition - who's around the corner?



(2) Good location - where should we go?

(3) Good surrounding venues - who is around us?



The Data

- New York Dataset
- Toronto Wikipedia Data and Geospatial_Coordinates.csv
- Include Latitudes and longitudes
- Foursquare location data
- Focus on Manhattan and Toronto boroughs

	Borough	Neighborhood	Latitude	Longitude
0	Manhattan	Marble Hill	40.876551	-73.910660
1	Manhattan	Chinatown	40.715618	-73.994279
2	Manhattan	Washington Heights	40.851903	-73.936900
3	Manhattan	Inwood	40.867684	-73.921210
4	Manhattan	Hamilton Heights	40.823604	-73.949688

	Postcode	Borough	Neighborhood	Latitude	Longitude
0	M5A	Downtown Toronto	Harbourfront	43.654260	-79.360636
1	M7A	Downtown Toronto	Queen's Park	43.662301	-79.389494
2	M5B	Downtown Toronto	Ryerson, Garden District	43.657162	-79.378937
3	M5C	Downtown Toronto	St. James Town	43.651494	-79.375418
4	M4E	East Toronto	The Beaches	43.676357	-79.293031

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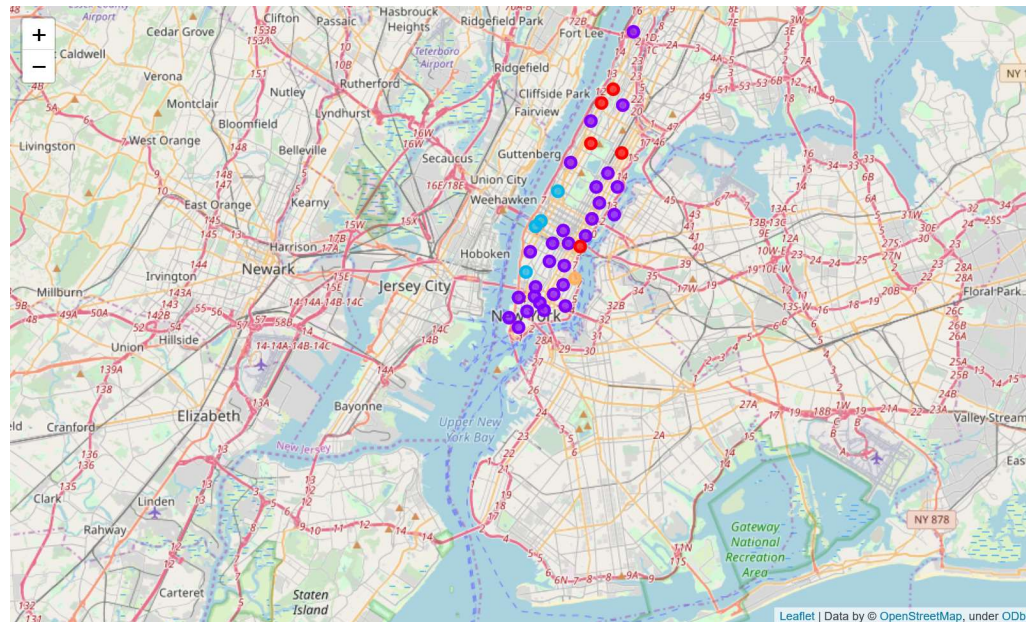
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Analysis

	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	Memorial Site	BBQ Joint	Women's Store	Gourmet Shop	Italian Restaurant
1	Carnegie Hill	Coffee Shop	Pizza Place	Café	Yoga Studio	French Restaurant	Japanese Restaurant	Italian Restaurant	Bakery	Gym	Bookstore
2	Central Harlem	Chinese Restaurant	Bar	Seafood Restaurant	African Restaurant	American Restaurant	Cosmetics Shop	Art Gallery	French Restaurant	Spa	Gym / Fitness Center
3	Chelsea	Coffee Shop	Italian Restaurant	Bakery	Ice Cream Shop	American Restaurant	Art Gallery	Nightclub	Hotel	Theater	Market
4	Chinatown	Chinese Restaurant	Cocktail Bar	American Restaurant	Vietnamese Restaurant	Salon / Barbershop	Spa	Bakery	Optical Shop	Hotpot Restaurant	Ice Cream Shop
5	Civic Center	Gym / Fitness Center	Coffee Shop	Hotel	French Restaurant	Spa	Italian Restaurant	Bakery	Sandwich Place	Cocktail Bar	Yoga Studio

- Gym and yoga studio are two of the most common venues in Manhattan
- There are actually 35 yoga studios and 58 gyms in the area

Analysis



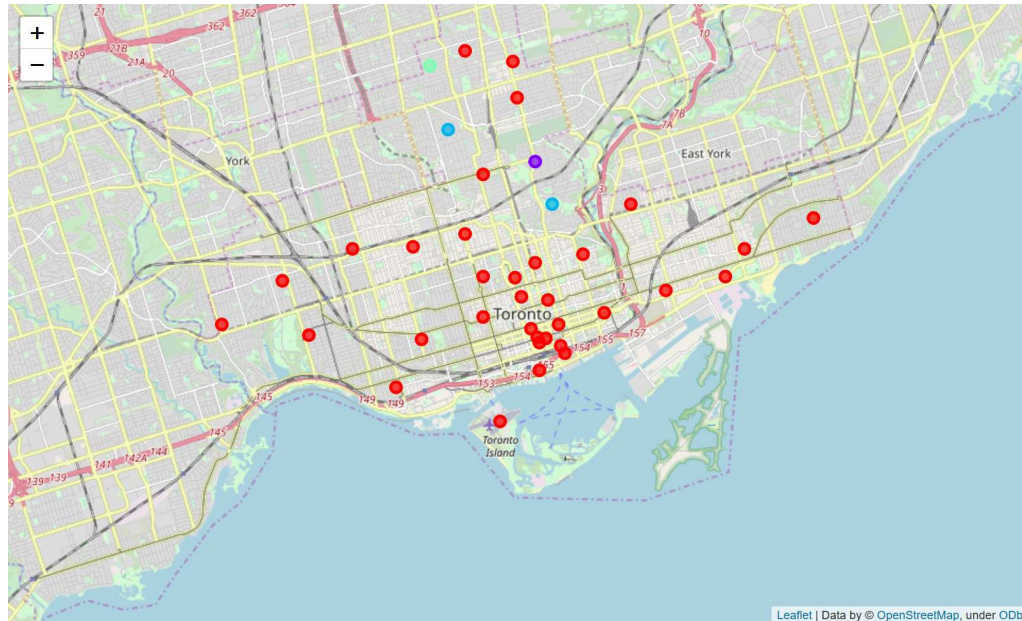
- K-means clustering to identify 5 clusters in Manhattan, New York
- the biggest cluster is around Chinatown, Upper West Side and Lower East Side of Manhattan. There is a lot of gyms and yoga studios in these areas, making Manhattan not the most attractive place to open up another yoga studio

Analysis

	Neighborhood	1st Least Common Venue	2nd Least Common Venue	3rd Least Common Venue	4th Least Common Venue	5th Least Common Venue	6th Least Common Venue	7th Least Common Venue	8th Least Common Venue	9th Least Common Venue	10th Least Common Venue
0	Adelaide, King, Richmond	Yoga Studio	Gift Shop	Spa	Gourmet Shop	Southern / Soul Food Restaurant	Grocery Store	Wings Joint	Snack Place	Harbor / Marina	Health & Beauty Service
1	Berczy Park	Yoga Studio	Latin American Restaurant	Light Rail Station	Lingerie Store	Lounge	Mac & Cheese Joint	Market	Massage Studio	Mediterranean Restaurant	Men's Store
2	Brockton, Exhibition Place, Parkdale Village	Yoga Studio	Liquor Store	Lounge	Mac & Cheese Joint	Market	Massage Studio	Mediterranean Restaurant	Men's Store	Mexican Restaurant	Middle Eastern Restaurant
3	Business Reply Mail Processing Centre 969 Eastern	Gym	Lingerie Store	Liquor Store	Lounge	Mac & Cheese Joint	Market	Massage Studio	Mediterranean Restaurant	Men's Store	Mexican Restaurant

- Yoga studio and gym are the two least common venues in Toronto
- There are 11 yoga studios and 25 gyms in Toronto

Analysis



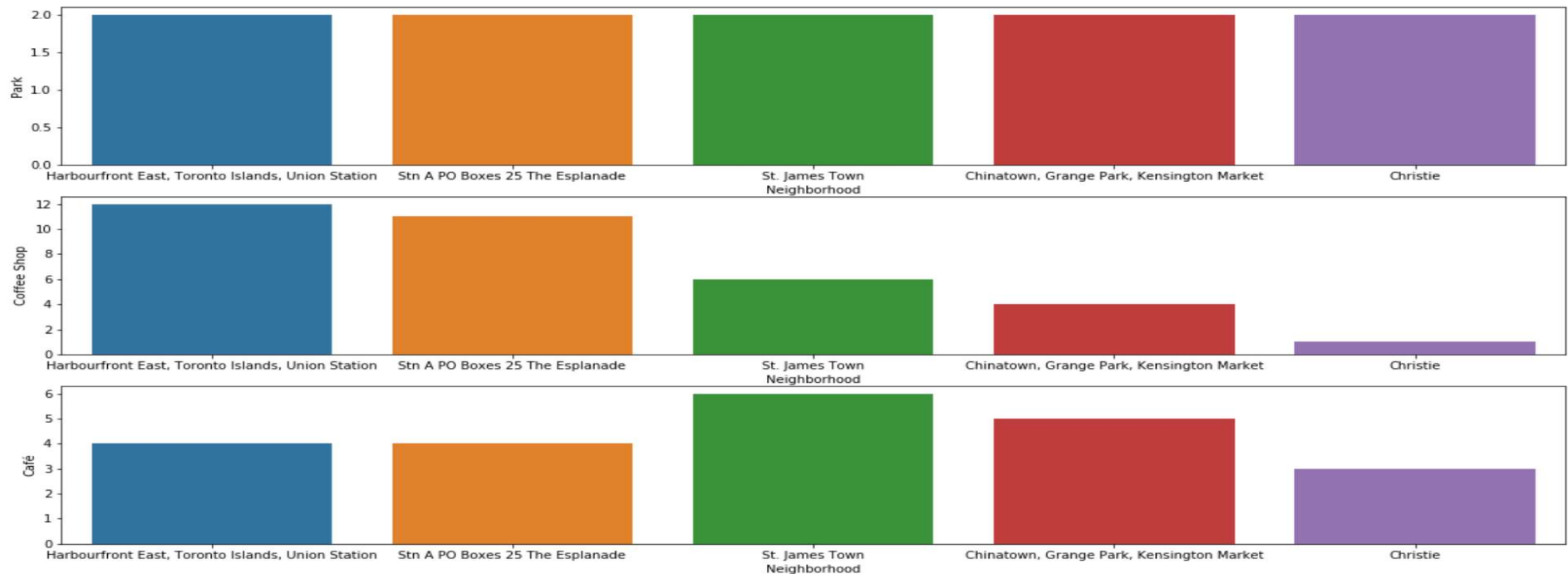
- K-means clustering to identify 5 clusters in Toronto
- It shows more spread out clusters, with the biggest cluster centered around Downtown and West Toronto. Whilst there are a lot of parks and coffee shops/cafes in these areas, there is not as many gyms or yoga studios

Analysis

	Neighborhood	Yoga Studio	Park	Coffee Shop	Café
20	Harbourfront East, Toronto Islands, Union Station	0	2	12	4
33	Stn A PO Boxes 25 The Esplanade	0	2	11	4
32	St. James Town	0	2	6	6
7	Chinatown, Grange Park, Kensington Market	0	2	4	5
8	Christie	0	2	1	3
37	The Beaches West, India Bazaar	0	2	1	0
28	Rosedale	0	2	0	0
10	Commerce Court, Victoria Hotel	0	1	11	7
1	Berczy Park	0	1	4	2
5	Cabbagetown, St. James Town	0	1	3	2

- The top 10 neighborhoods in Toronto that do not have yoga studios yet, but surrounded by parks and cafes/coffee shops – the two of the most critical success according to YogaBear

Analysis



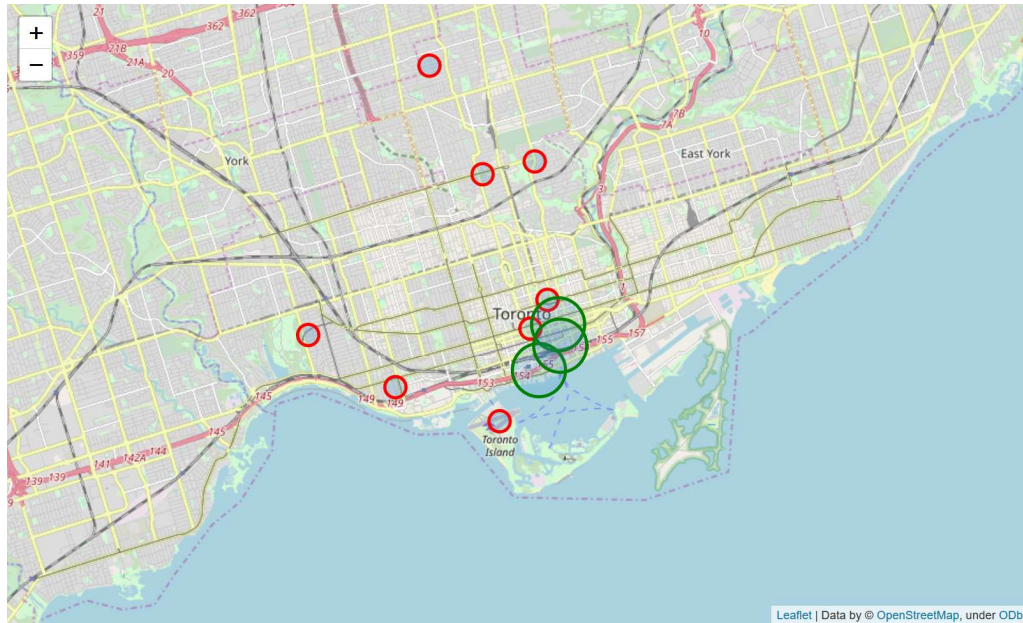
- Barplots of top 5 neighborhoods in Toronto that have no yoga studios, showing the number of parks, cafes and coffee shops in those neighborhoods

Recommendations

	Postcode	Borough	Neighborhood	Latitude	Longitude	Yoga Studio	Park	Coffee Shop	Café
0	M5C	Downtown Toronto	St. James Town	43.651494	-79.375418	0	2	6	6
1	M5J	Downtown Toronto	Harbourfront East, Toronto Islands, Union Station	43.640816	-79.381752	0	2	12	4
2	M5W	Downtown Toronto	Stn A PO Boxes 25 The Esplanade	43.646435	-79.374846	0	2	11	4

- These three neighborhoods in Downtown Toronto do not have any yoga studios open yet and they are surrounded by the parks and cafes/coffee shops

Recommendations



- Map of our proposed locations.
- The green markers above are the recommended places for our new yoga studio. YogaBear can choose one of them to begin their first overseas investment.
- The smaller red markers show the places we do not recommend, at least at this stage



The End

"Yoga is the journey of the self, through the self, to the self." -- The Bhagavad Gita

Thank you for your attention