

# The Best Neighborhood for the Chinese Restaurant in Toronto

Xiao Bing Ye

Oct. 29<sup>th</sup>, 2019



# Agenda

- Introduction
- Data
- Methodology
- Result
- Discussion
- Conclusion



# Introduction

---

- The target audiences
  - my friend and his team who would care about this problem - the best place for a new Chinese restaurant.
- The background
  - My friend is looking to open a Chinese restaurant in Toronto, and he is looking for the place.
  - asking for my help to recommend the best place where they can open it.

# Data

---

- Importing the dataset about postal code, borough and neighborhood in Toronto, and the latitude and longitude of each neighborhood.
- There are 103 neighborhoods.

	PostalCode	Borough	Neighborhood	Latitude	Longitude
0	M3A	North York	Parkwoods	43.753259	-79.329656
1	M4A	North York	Victoria Village	43.725882	-79.315572
2	M5A	Downtown Toronto	Harbourfront, Regent Park	43.654260	-79.360636
3	M6A	North York	Lawrence Heights, Lawrence Manor	43.718518	-79.464763
4	M7A	Queen's Park	Queen's Park	43.662301	-79.389494

# Data

---

- getting 10167 venues in Toronto by using Foursquare data
- using the Foursquare data to execute my idea.

	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue ID	Venue Name	Venue Latitude	Venue Longitude	Venue Category
0	Parkwoods	43.753259	-79.329656	4b8991cbf964a520814232e3	Allwyn's Bakery	43.759840	-79.324719	Caribbean Restaurant
1	Parkwoods	43.753259	-79.329656	4bd4846a6798ef3bd0c5618d	Donalda Golf & Country Club	43.752816	-79.342741	Golf Course
2	Parkwoods	43.753259	-79.329656	4b8ec91af964a520053733e3	Graydon Hall Manor	43.763923	-79.342961	Event Space
3	Parkwoods	43.753259	-79.329656	4b149ea4f964a52029a523e3	Darband Restaurant	43.755194	-79.348498	Middle Eastern Restaurant
4	Parkwoods	43.753259	-79.329656	4bdccf4cafe8c9b6da285185	LCBO	43.757774	-79.314257	Liquor Store

# Methodology

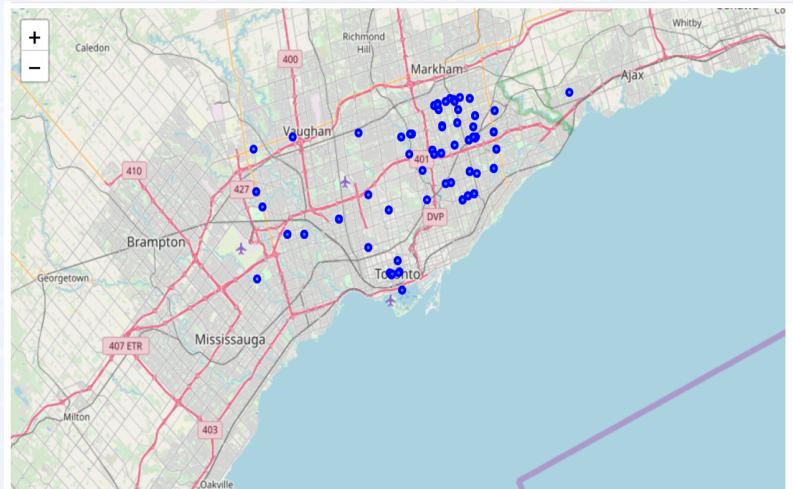
---

- By judging if the most common venues in a neighborhood include 'Chinese Restaurant' or not, I can choose some neighborhoods which are suitable for opening the Chinese restaurant.
- By using Foursquare data, I can get rating and tips of each restaurant in these neighborhoods.
- By using the number, avg. rating and tips of restaurants in each neighborhood, I can decide the best neighborhood for the Chinese restaurant based on the content-based recommendation system.

# Methodology

- Step 1: getting all 162 Chinese restaurant in Toronto, and showing them in the map.

	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue ID	Venue Name	Venue Latitude	Venue Longitude	Venue Category
0	Parkwoods	43.753259	-79.329656	5b6a321d340a58002cc0d9db	Omni Palace Noodle House	43.771047	-79.331570	Chinese Restaurant
1	Parkwoods	43.753259	-79.329656	584e235102b60e2d40263821	天天漁港 Captain's Catch	43.774961	-79.333873	Chinese Restaurant
2	Parkwoods	43.753259	-79.329656	4ae71b0cf964a52078a821e3	Noodle Delight	43.772399	-79.320209	Chinese Restaurant
3	Victoria Village	43.725882	-79.315572	55dded07498eecf46ed3e0d9	Hakka Legend	43.726046	-79.286561	Chinese Restaurant
4	Victoria Village	43.725882	-79.315572	5269be82498e1cf7de5d5dd4	Super Hakka Restaurant	43.742892	-79.304949	Chinese Restaurant



# Methodology

---

- Step 2: analyzing each neighborhood by venue category, and getting 3 common venues of each neighborhood
- If there is 'Chinese restaurant' within 3 common venues of a neighborhood, this neighborhood is suitable for my goal.
- There are total 10 neighborhoods which are suitable for my goal.

# Methodology

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue
0	Adelaide, King, Richmond	Coffee Shop	Café	Bar
1	Agincourt	Chinese Restaurant	Coffee Shop	Indian Restaurant
2	Agincourt North, L'Amoreaux East, Milliken, St...	Chinese Restaurant	Vietnamese Restaurant	Bubble Tea Shop
3	Albion Gardens, Beaumont Heights, Humbergate, ...	Coffee Shop	Fast Food Restaurant	Sandwich Place
4	Alderwood, Long Branch	Burger Joint	Coffee Shop	Breakfast Spot

	Neighborhood	OK for the Chinese restaurant
0	Agincourt	Y
1	Agincourt North, L'Amoreaux East, Milliken, St...	Y
2	Bayview Village	Y
3	Cedarae	Y
4	Clairlea, Golden Mile, Oakridge	Y

# Methodology

---

- Step 3: by analyzing Chinese restaurants of these 10 neighborhoods, deciding the best neighborhood.
- There are 75 Chinese restaurants within these 10 neighborhoods.

	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue Category	Venue ID	Venue Latitude	Venue Longitude	Venue Name
0	Agincourt	43.7942	-79.262029	Chinese Restaurant	58388814809a776da0e00646	43.797885	-79.270585	Grandeur Palace 華麗宮 (Grandeur Palace 華麗宮)
1	Agincourt	43.7942	-79.262029	Chinese Restaurant	5377a256498ea252667e0f7b	43.787392	-79.268387	Congee Me 小米粥鋪
2	Agincourt	43.7942	-79.262029	Chinese Restaurant	5aa5a8c85f68b930df32dc53	43.801909	-79.295409	Fishman Lobster Clubhouse Restaurant 魚樂軒
3	Agincourt	43.7942	-79.262029	Chinese Restaurant	4aedbb5df964a52069ce21e3	43.788068	-79.266768	Asian Legend 味香村
4	Agincourt	43.7942	-79.262029	Chinese Restaurant	4b2d6bcf964a5204ed624e3	43.784752	-79.277787	Maple Yip Seafood 陸羽海鮮酒家

# Methodology

---

- Step 4: getting rating and tips of each Chinese restaurant by using Foursquare data.

	Neighborhood	Name	rating	tips
0	Agincourt	Grandeur Palace 華麗宮 (Grandeur Palace 華麗宮)	7.6	0.0
1	Agincourt	Congee Me 小米粥舖	7.4	2.0
2	Agincourt	Fishman Lobster Clubhouse Restaurant 魚樂軒	8.8	7.0
3	Agincourt	Asian Legend 味香村	7.0	20.0
4	Agincourt	Maple Yip Seafood 陸羽海鮮酒家	7.2	12.0

# Methodology

---

- Step 5: Getting the number, avg rating and tips of Chinese restaurants for each neighborhood.

	Neighborhood	rating	tips	Num
0	Agincourt	7.177778	11.444444	9
1	Agincourt North, L'Amoreaux East, Milliken, St...	7.207692	14.538462	13
2	Bayview Village	7.260000	19.800000	5
3	Cedarbrae	7.233333	9.333333	6
4	Clairlea, Golden Mile, Oakridge	7.166667	10.000000	3
5	Clarks Corners, Sullivan, Tam O'Shanter	7.500000	6.777778	9
6	Dorset Park, Scarborough Town Centre, Wexford ...	7.350000	14.666667	6
7	Fairview, Henry Farm, Oriole	7.557143	13.142857	7
8	L'Amoreaux West	7.430000	7.700000	10
9	Maryvale, Wexford	7.100000	11.571429	7

# Methodology

---

- Step 6: Standardization and ordering by total score (score = rating + tips + num)

	Neighborhood	rating	tips	Num	score
0	Agincourt North, L'Amoreaux East, Milliken, St...	0.098759	0.122198	0.173333	0.394290
1	Bayview Village	0.099476	0.166422	0.066667	0.332564
2	Agincourt	0.098349	0.096192	0.120000	0.314541
3	Fairview, Henry Farm, Oriole	0.103547	0.110467	0.093333	0.307348
4	Dorset Park, Scarborough Town Centre, Wexford ...	0.100709	0.123275	0.080000	0.303984
5	L'Amoreaux West	0.101805	0.064719	0.133333	0.299858
6	Maryvale, Wexford	0.097283	0.097259	0.093333	0.287876
7	Clarks Corners, Sullivan, Tam O'Shanter	0.102764	0.056968	0.120000	0.279732
8	Cedarbrae	0.099110	0.078448	0.080000	0.257558
9	Clairlea, Golden Mile, Oakridge	0.098197	0.084051	0.040000	0.222248

# Result

---

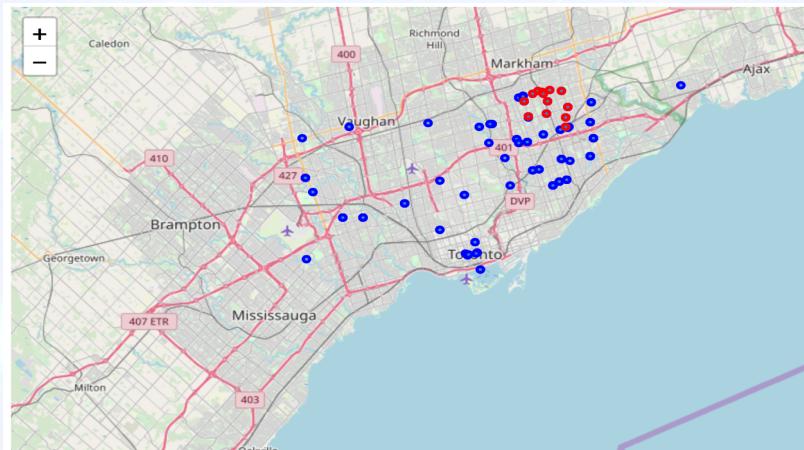
- The score of the neighborhood of Agincourt North, L'Amoreaux East, Milliken, Steeles East is the highest.

	Neighborhood	rating	tips	Num	score
0	Agincourt North, L'Amoreaux East, Milliken, St...	0.098759	0.122198	0.173333	0.394290
1	Bayview Village	0.099476	0.166422	0.066667	0.332564
2	Agincourt	0.098349	0.096192	0.120000	0.314541
3	Fairview, Henry Farm, Oriole	0.103547	0.110467	0.093333	0.307348
4	Dorset Park, Scarborough Town Centre, Wexford ...	0.100709	0.123275	0.080000	0.303984
5	L'Amoreaux West	0.101805	0.064719	0.133333	0.299858
6	Maryvale, Wexford	0.097283	0.097259	0.093333	0.287876
7	Clarks Corners, Sullivan, Tam O'Shanter	0.102764	0.056968	0.120000	0.279732
8	Cedarbrae	0.099110	0.078448	0.080000	0.257558
9	Clairlea, Golden Mile, Oakridge	0.098197	0.084051	0.040000	0.222248

# Discussion

---

- The neighborhood of Agincourt North, L'Amoreaux East, Milliken, Steeles East is the best place for opening a new Chinese restaurant.



# Conclusion

---

- By using Foursquare data, I can get the number, avg rating and tips of restaurants in each neighborhood.
- Based on content-based recommendation system, I can get the best score within neighborhoods.

A central graphic featuring the words "thank you" in large red letters, surrounded by numerous other languages expressing gratitude. The background is a dark blue with a white network of interconnected dots.

languages and their meanings:

- danke 謝謝 (Chinese)
- ngiyabonga 謝謝 (Xhosa)
- teşekkür ederim 謝謝 (Turkish)
- gracias 謝謝 (Spanish)
- merci 謝謝 (French)
- dank je 謝謝 (Dutch)
- go raibh maith agat 謝謝 (Irish)
- dakujem 謝謝 (Czech)
- arigato 謝謝 (Japanese)
- terima kasih 謝謝 (Indonesian)
- sukriya kop khun krap 謝謝 (Thai)
- 감사합니다 謝謝 (Korean)
- merci 謝謝 (Portuguese)
- obrigado 謝謝 (Portuguese)
- dziekuje 謝謝 (Polish)
- bedankt 謝謝 (German)
- спасибо 謝謝 (Russian)
- Баярлалаз 謝謝 (Mongolian)
- raoxam 謝謝 (Lao)
- ngiyabonga 謝謝 (Xhosa)
- teşekkür ederim 謝謝 (Turkish)
- gracias 謝謝 (Spanish)
- merci 謝謝 (French)
- dank je 謝謝 (Dutch)
- go raibh maith agat 謝謝 (Irish)
- dakujem 謝謝 (Czech)
- arigato 謝謝 (Japanese)
- terima kasih 謝謝 (Indonesian)
- sukriya kop khun krap 謝謝 (Thai)
- 감사합니다 謝謝 (Korean)
- merci 謝謝 (Portuguese)
- obrigado 謝謝 (Portuguese)
- dziekuje 謝謝 (Polish)
- bedankt 謝謝 (German)
- спасибо 謝謝 (Russian)
- Баярлалаз 謝謝 (Mongolian)
- raoxam 謝謝 (Lao)