The Battle of Neighborhoods (Week 2) Presentation

A Chinese Restaurants Food Delivery platform

Introduction

- A business start up is looking WHERE to start with Chinese restaurant food delivery platform in Greater Toronto Area.

- The platform targets the Chinese population living in Toronto with some unique features that other platforms lack.

Business Problem

But WHERE ?

Toronto

- Start in area where most Chinese population (Scarborough) live ?

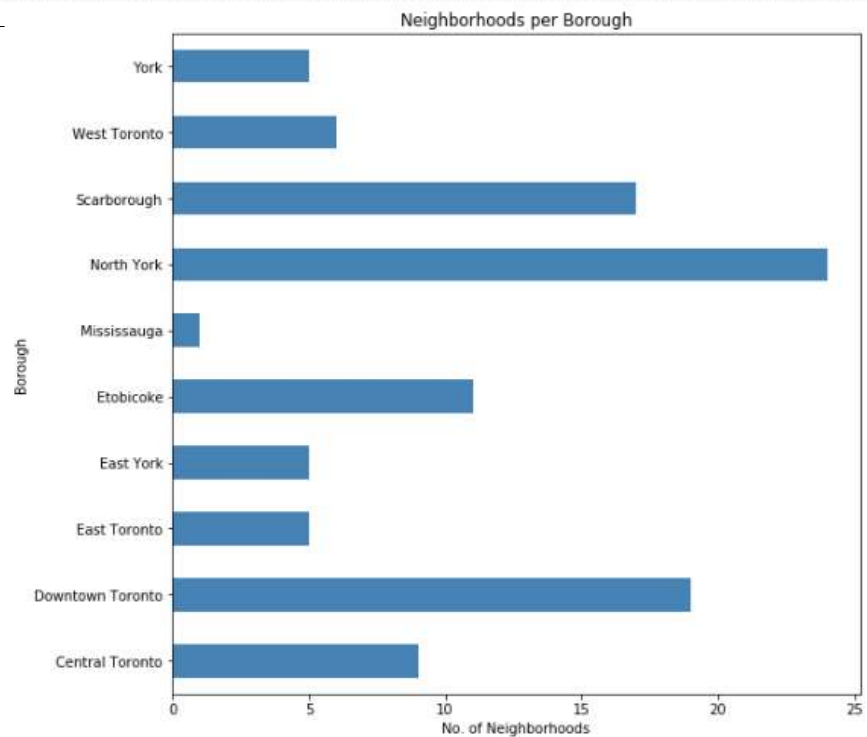- Does Scarborough have enough Chinese restaurants to join the network ?

Some Background

- Toronto is the largest city in Canada with over 6 millions residents in GTA.

- Chinese is the largest ethnic group in Toronto with a population of 332,830

- 120,000 Chinese live in Scarborough. 47% of Scarborough populations

Toronto

Data Descriptions:

- Wikipedia provides a postal code table for Toronto with its borough and neighborhoods. We scrape it and clean them to a dataframe. The summary of boroughs with its neighborhoods

Borough	
Central Toronto	9
Downtown Toronto	19
East Toronto	5
East York	5
Etobicoke	11
Mississauga	1
North York	24
Scarborough	17
West Toronto	6
York	5

Neighborhoods per Borough

Data:

- We merge the postalcode dataframe with a CSV file containing the coordinates of the city.

	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
10	M1P	Scarborough	Dorset Park, Scarborough Town Centre, Wexford ...	43.757410	-79.273304

A map of Toronto

- With neighborhoods superimposed on top

Methodology:

Neighborhoods per borough

- "Downtown Toronto", "York" and "Scarborough" have the most neighborhoods within its boundary.

```
Borough
Central Toronto       9
Downtown Toronto     19
East Toronto          5
East York             5
Etobicoke            11
Mississauga           1
North York           24
Scarborough          17
West Toronto          6
York                  5
```

Methodology:

Foursquare API Search approaches

- Search all nearby venues of every neighborhood and filter out those with venue category of "Chinese Restaurant" (Disappointed search result)

- A categoryId 4bf58dd8d48988d145941735 was used in the search request for "Chinese restaurant" (Excellent search result).It finds all the Chinese restaurant and its sub–category as well. This approach is selected for the analysis.
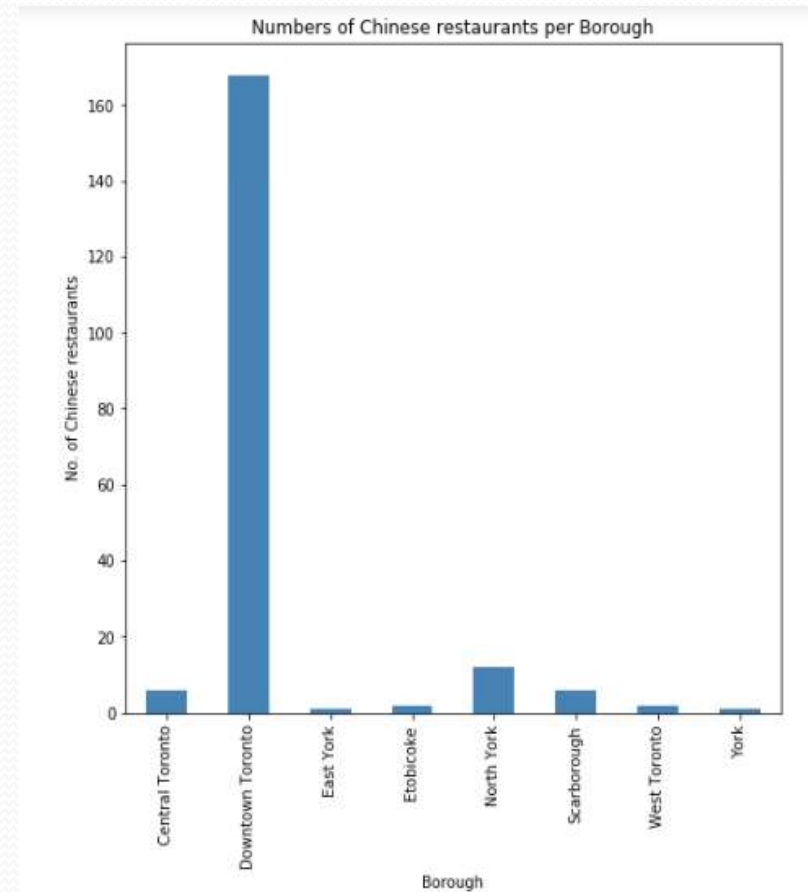
Search Result

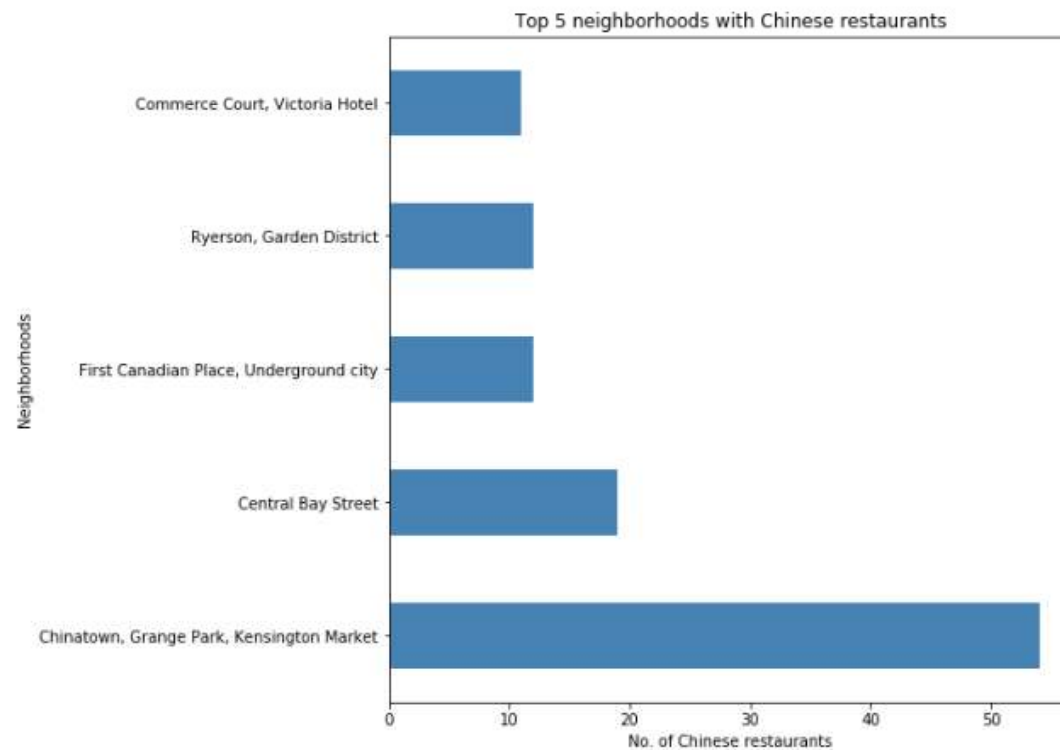|								
12	6	North York	Flemingdon Park, Don Mills South	43.725900	-79.340923	Congee Star 帝王名粥	43.726586	-79.341833	Chinese Restaurant
13	7	North York	Flemingdon Park, Don Mills South	43.725900	-79.340923	Asian Legend	43.726591	-79.342188	Dim Sum Restaurant
14	8	North York	Bathurst Manor, Downsview North, Wilson Heights	43.754328	-79.442259	China Court	43.755780	-79.437437	Chinese Restaurant
15	9	North York	Northwood Park, York University	43.767980	-79.487262	Carribean Heat	43.764155	-79.490227	Chinese Restaurant
16	10	North York	Northwood Park, York University	43.767980	-79.487262	Yunnan Kitchen Delights Restaurant	43.764600	-79.489271	Chinese Restaurant
17	11	North York	Downsview Northwest	43.761631	-79.520999	China Wok	43.758039	-79.519970	Chinese Restaurant
18	0	East York	Leaside	43.709060	-79.363452	Tao Northern Chinese Cuisine	43.712281	-79.364335	Peking Duck Restaurant
19	0	Central Toronto	Lawrence Park	43.728020	-79.388790	Dim Sum Deluxe	43.726953	-79.394260	Dim Sum Restaurant
20	1	Central Toronto	North Toronto West	43.715383	-79.405678	C'est Bon	43.716785	-79.400406	Chinese Restaurant
21	2	Central Toronto	Davisville	43.704324	-79.388790	South China Restaurant	43.701899	-79.387649	Chinese Restaurant
22	3	Central Toronto	Deer Park, Forest Hill SE, Rathnelly, South Hi...	43.686412	-79.400049	SuperBuffet	43.685091	-79.397906	Chinese Restaurant

Analyze the result

- The summary of the FourSquare API search result
- Downtown Toronto has the highest numbers.

```
Borough
Central Toronto        6
Downtown Toronto     168
East York              1
Etobicoke              2
North York            12
Scarborough            6
West Toronto           2
York                   1
```


Numbers of Chinese restaurants per Borough

Analyze the result

- Top 5 neighborhoods with Chinese restaurants. All of them are in Downtown Toronto borough

Top 5 neighborhoods with Chinese restaurants

Conclusion:

- Scarborough has the largest Chinese population but fewer Chinese restaurants.

- Downtown Toronto has a wide margin lead over other boroughs in terms of numbers.

- The numbers suggest people consume Chinese food from Downtown area Chinese restaurants.

- It's critical for the food delivery platform to signs up more Chinese restaurants in downtown area as its partners even though most Chinese live in Scarborough.

Conclusion:

- By signing up more Chinese restaurants in Downtown Toronto, it greatly expands the choice of menus and greater variety items for its app users to choose from.

- This analysis is highly depended on the adequacy and accuracy of FourSquare's data. A more comprehensive analysis and future work is needed to incorporate data from other external databases as well.

THE END