Capstone Project - The Battle of Neighborhoods (Week 2)

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Find the best location to open a Burrito Place in Ontario, Canada

Introduction:

This project can help people who want to open a restaurant like Burrito Place. In this project they can find the process to find the best location using different tools and data science.

Background:

Planning every detail of a business is vital to its success. Start a new business is very difficult and requires proper planning like select business location. Ontario has many neighborhoods; each one has different activities. For this reason, is important know each Borough and neighborhood. Then, we can select Best business location.

Problem:

I will help my client find the best location to open a Burrito Place in Ontario, Canada. First, is important know each Borough to select the best with low competition and high potential clients. Then, is important know the neighborhood and finally select the best location.

Data:

I will use List of postal codes of province of Ontario, Canada from the following link in Wikipedia: https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M, it contains 10 borough in Ontario.

I will use the Google Maps Geocoding API to get the latitude and the longitude coordinates of each Borough and neighborhood in Ontario. After, I will use Foursquare API to get the information about Borough and neighborhood and I will perform analysis of this. http://cocl.us/Geospatial_data
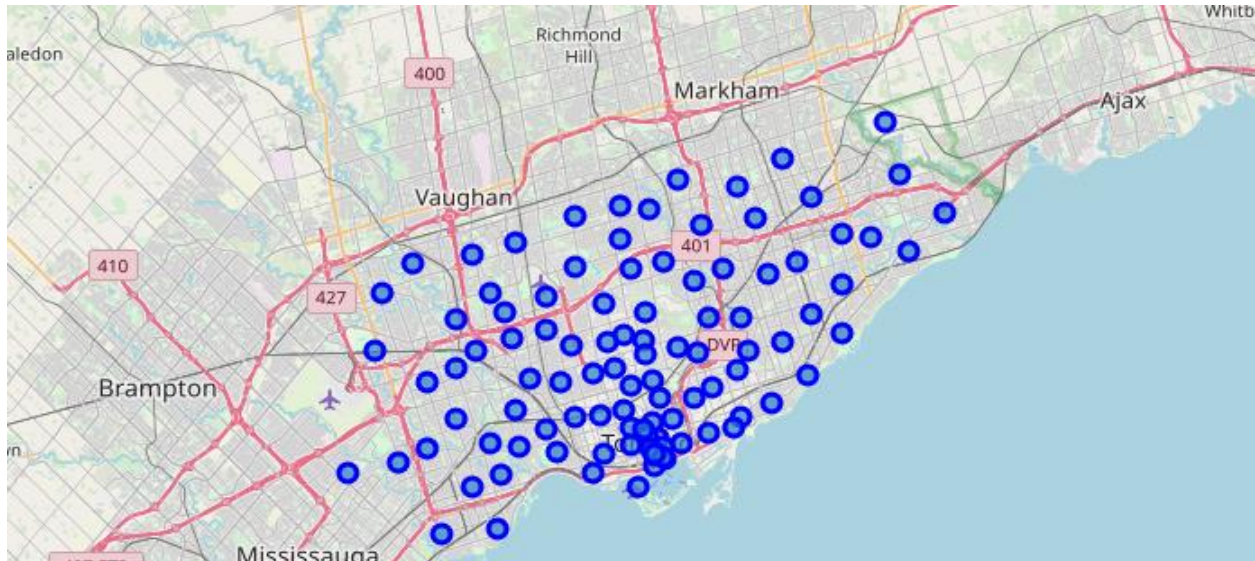
Methodology:

1. Collect postal codes of province of Ontario,Canada from the following link in Wikipedia: https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M

2. Use the Google Maps Geocoding API to get the latitude and the longitude coordinates of each Borough and neighborhood in Ontario
3. Using FourSquare API to find venues for each neighborhood.
4. Find the borough with greater amount of burrito places (biggest potential customers)
5. Find neighborhood no burrito places and large number of stores
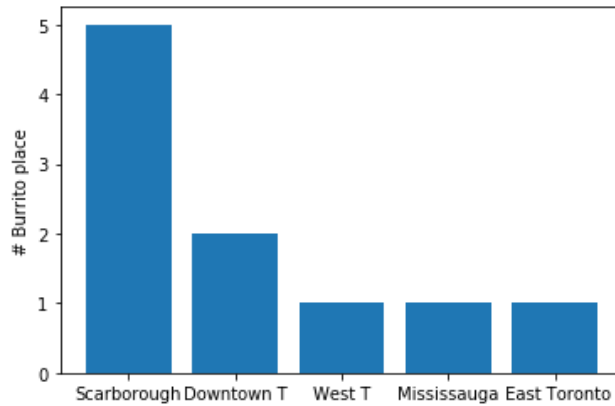
Results:

First, neighborhoods in Ontario:

Find the borough with greater amount of burrito places (biggest potential customers):

Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
Central Toronto	57	57	57	57	57	57
Downtown Toronto	184	184	184	184	184	184
East Toronto	44	44	44	44	44	44
East York	40	40	40	40	40	40
Etobicoke	69	69	69	69	69	69
Mississauga	10	10	10	10	10	10
North York	122	122	122	122	122	122
Scarborough	85	85	85	85	85	85
West Toronto	60	60	60	60	60	60
York	18	18	18	18	18	18

The borough with greater amount of burrito places (biggest potential customers) is Scarborough with large number of restaurants but only 5 burrito places:

Burrito place

5
4
3
2
1
0

Scarborough Downtown T West T Mississauga East Toronto

```
----Scarborough----
                  venue  freq
0       Chinese Restaurant  0.06
1   Fast Food Restaurant  0.05
2                  Bakery  0.05
3             Pizza Place  0.05
4          Breakfast Spot  0.05
```

Now, find a neighborhood in scarborough no burrito places and large number of stores(biggest potential customers):

Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
Neighborhood						
Agincourt	5	5	5	5	5	5
Agincourt North, L'Amoreaux East, Milliken, Steeles East	3	3	3	3	3	3
Birch Cliff, Cliffside West	4	4	4	4	4	4
Cedarbrae	8	8	8	8	8	8
Clairlea, Golden Mile, Oakridge	10	10	10	10	10	10
Clarks Corners, Sullivan, Tam O'Shanter	10	10	10	10	10	10
Cliffcrest, Cliffside, Scarborough Village West	3	3	3	3	3	3
Dorset Park, Scarborough Town Centre, Wexford Heights	6	6	6	6	6	6
East Birchmount Park, Ionview, Kennedy Park	5	5	5	5	5	5
Guildwood, Morningside, West Hill	7	7	7	7	7	7
Highland Creek, Rouge Hill, Port Union	2	2	2	2	2	2
L'Amoreaux West	10	10	10	10	10	10
Maryvale, Wexford	7	7	7	7	7	7
Rouge, Malvern	1	1	1	1	1	1
Scarborough Village	1	1	1	1	1	1
Woburn	3	3	3	3	3	3

Next, use cluster to reduce the number of options:

Cluster1:

	Borough	Cluster Labels	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
1	Scarborough	0.0	Bar	Construction & Landscaping	Vietnamese Restaurant	Coffee Shop	Grocery Store	General Entertainment	Gas Station
2	Scarborough	0.0	Intersection	Electronics Store	Rental Car Location	Breakfast Spot	Pizza Place	Medical Center	Mexican Restaurant
3	Scarborough	0.0	Coffee Shop	Korean Restaurant	Vietnamese Restaurant	Grocery Store	General Entertainment	Gas Station	Fried Chicken Joint
4	Scarborough	0.0	Thai Restaurant	Athletics & Sports	Hakka Restaurant	Bakery	Bank	Gas Station	Fried Chicken Joint
6	Scarborough	0.0	Coffee Shop	Department Store	Bus Station	Convenience Store	Chinese Restaurant	Vietnamese Restaurant	Grocery Store
7	Scarborough	0.0	Bakery	Bus Line	Metro Station	Park	Soccer Field	Ice Cream Shop	Intersection
8	Scarborough	0.0	American Restaurant	Movie Theater	Motel	General Entertainment	Gas Station	Fried Chicken Joint	Fast Food Restaurant
9	Scarborough	0.0	Skating Rink	General Entertainment	Café	College Stadium	Vietnamese Restaurant	Coffee Shop	Grocery Store
10	Scarborough	0.0	Indian Restaurant	Pet Store	Chinese Restaurant	Light Rail Station	Vietnamese Restaurant	Sculpture Garden	Sandwich Place
11	Scarborough	0.0	Middle Eastern Restaurant	Auto Garage	Shopping Mall	Bakery	Sandwich Place	Breakfast Spot	Electronics Store
12	Scarborough	0.0	Clothing Store	Skating Rink	Latin American Restaurant	Breakfast Spot	Lounge	Coffee Shop	General Entertainment
13	Scarborough	0.0	Pizza Place	Chinese Restaurant	Thai Restaurant	Gas Station	Italian Restaurant	Bank	Fried Chicken Joint
14	Scarborough	0.0	Sculpture Garden	Playground	Park	Vietnamese Restaurant	Clothing Store	General Entertainment	Gas Station
15	Scarborough	0.0	Fast Food Restaurant	Chinese Restaurant	Grocery Store	Coffee Shop	Sandwich Place	Breakfast Spot	Pizza Place

Cluster2:

	Borough	Cluster Labels	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
5	Scarborough	1.0	Playground	Vietnamese Restaurant	Clothing Store	Grocery Store	General Entertainment	Gas Station	Fried Chicken Joint	Fast Food Restaurant

Discussion:

According to the results the best place to open a Burrito place is the cluster 1, the neighborhood is Scarborough Village, it has a large number of stores and restaurants different to Burrito Place.

Conclusion:

- Scarborough have potential Burrito Market
- The project depends of the accuracy of the foursquare data