



# THE BATTLE OF NEIGHBOURHOODS

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# INTRODUCTION

## **Business Approach:**

- Explore Neighbourhoods in Toronto
- User wishes to shift
- Look for similar venues in all parts of Toronto

## **Success Criterion:**

- Compare the neighbourhoods



# TORONTO CITY FACTS

- Toronto, city, capital of the province of Ontario, south eastern Canada.
- Most populous city in Canada.
- A multicultural city, and the country's financial and commercial centre.
- The city is positioned on the edge of some of the best farmland in Canada, with a climate favourable to growing a wide range of crops, thereby making Toronto a transportation, distribution, and manufacturing centre.
- Most importantly, its central location, along with a host of political policies favoring international trade, places this city with the greatest economic ties to, and influence from, the United States.

# BUSINESS UNDERSTANDING

- Project aims at Exploring neighbourhoods in Toronto.
- User finds it convenient to use
- It should help user to take decision

# ANALYTIC APPROACH

- Toronto has 4 Boroughs- East Toronto , West Toronto , Downtown Toronto, Central Toronto
- Explore Queen's Park and Ontario Provincial Government and then the rest.
- We get Parkwoods latitude and longitude values .
- We find top 100 venues that are in Parkwoods within a radius of 500 meters.

# EXPLORATORY DATA ANALYSIS

- We use K means clustering for training the model.
- We divide the city Toronto into two clusters.
- Cluster 1 has 20 neighbourhoods in it which have 20 parks, 13 Farmers Market, 13 Fast Food Restaurant, 12 Ethiopian Restaurants and 12 Falafel Restaurants.

```
Out[181]: Park                20  
          Farmers Market      13  
          Fast Food Restaurant 13  
          Ethiopian Restaurant 12  
          Falafel Restaurant   12  
          Name: index, dtype: int64
```

Out[179]:

	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	Parkwoods	Food & Drink Shop	Fireworks Store	Park	Farmers Market	Eastern European Restaurant	Electronics Store	Ethiopian Restaurant	Falafel Restaurant	Farm	Fast Food Restaurant
5	Islington Avenue, Humber Valley Village	Park	Baseball Field	Skating Rink	Fast Food Restaurant	Ethiopian Restaurant	Falafel Restaurant	Farm	Farmers Market	Women's Store	Eastern European Restaurant
16	Humewood-Cedarvale	Hockey Arena	Field	Grocery Store	Trail	Park	Fireworks Store	Film Studio	Fish & Chips Shop	Fast Food Restaurant	Donut Shop
21	Caledonia-Fairbanks	Park	Women's Store	Gym	Sporting Goods Shop	Bakery	Mexican Restaurant	Beer Store	Ethiopian Restaurant	Falafel Restaurant	Farm
27	Hillcrest Village	Dog Run	Residential Building (Apartment / Condo)	Park	Fish Market	Fish & Chips Shop	Fireworks Store	Film Studio	Field	Fast Food Restaurant	Donut Shop
...	...	...	...	...	...	...	...	...	...	...	...
83	Moore Park, Summerhill East	Gym	Convenience Store	Park	Donut Shop	Eastern European Restaurant	Electronics Store	Ethiopian Restaurant	Falafel Restaurant	Farm	Farmers Market
88	New Toronto, Mimico South, Humber Bay Shores	Yoga Studio	Grocery Store	Park	Skating Rink	Tennis Court	Convenience Store	Hawaiian Restaurant	Dog Run	Fireworks Store	Film Studio
91	Rosedale	Playground	Grocery Store	Candy Store	Park	Fireworks Store	Film Studio	Field	Fast Food Restaurant	Farmers Market	Donut Shop
98	The Kingsway, Montgomery Road, Old Mill North	Lounge	Park	Ethiopian Restaurant	Falafel Restaurant	Farm	Farmers Market	Fast Food Restaurant	Field	Women's Store	Eastern European Restaurant
101	Old Mill South, King's Mill Park, Sunnylea, Hu...	Tennis Court	Baseball Field	Park	Bank	Fast Food Restaurant	Electronics Store	Ethiopian Restaurant	Falafel Restaurant	Farm	Farmers Market

## NEIGHBOURHOODS OF CLUSTER 1

# EXPLORATORY DATA ANALYSIS

- Cluster 2 has 82 neighbourhoods, which have 56 Coffee shops, 31 Fast Food Restaurant, 29 Cafes, 26 Falafel Restaurants , 26 Pizza Places.

```
Out[184]: Coffee Shop          56
          Fast Food Restaurant  31
          Café                  29
          Falafel Restaurant    26
          Pizza Place           26
          Name: index, dtype: int64
```



Out[182]:

	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
1	Victoria Village	Intersection	Pizza Place	Portuguese Restaurant	French Restaurant	Park	Coffee Shop	Women's Store	Eastern European Restaurant	Electronics Store	Ethiopian Restaurant
2	Regent Park, Harbourfront	Pub	Coffee Shop	Café	Athletics & Sports	Mexican Restaurant	Tech Startup	Bakery	Thai Restaurant	Theater	Bank
3	Lawrence Manor, Lawrence Heights	Clothing Store	Women's Store	Toy / Game Store	Restaurant	Men's Store	Food Court	Bookstore	Furniture / Home Store	Cosmetics Shop	American Restaurant
4	Queen's Park, Ontario Provincial Government	Coffee Shop	Café	Sushi Restaurant	Smoothie Shop	Italian Restaurant	Bookstore	Fried Chicken Joint	Creperie	Burrito Place	Yoga Studio
6	Malvern, Rouge	Trail	Women's Store	Fast Food Restaurant	Electronics Store	Ethiopian Restaurant	Falafel Restaurant	Farm	Farmers Market	Field	Dumpling Restaurant
...	...	...	...	...	...	...	...	...	...	...	...
96	St. James Town, Cabbagetown	Pizza Place	Coffee Shop	Café	Restaurant	Bakery	Chinese Restaurant	Pub	Italian Restaurant	Park	Diner
97	First Canadian Place, Underground city	Coffee Shop	Café	Hotel	Gym	Restaurant	American Restaurant	Japanese Restaurant	Asian Restaurant	Seafood Restaurant	Steakhouse
99	Church and Wellesley	Coffee Shop	Japanese Restaurant	Restaurant	Sushi Restaurant	Café	Pub	Gay Bar	Grocery Store	Mediterranean Restaurant	Bubble Tea Shop
100	Business reply mail Processing Centre, South C...	Coffee Shop	Hotel	Japanese Restaurant	Restaurant	Café	Asian Restaurant	Taco Place	Sushi Restaurant	Bar	Sandwich Place
102	Mimico NW, The Queensway West, South of Bloor,...	Burrito Place	Bank	Gym / Fitness Center	Mattress Store	Thai Restaurant	Sushi Restaurant	Coffee Shop	Gym	Miscellaneous Shop	Middle Eastern Restaurant

## NEIGHBOURHOODS OF CLUSTER2

# RESULT

The results show that cluster 1 has many parks, farmers markets and Ethiopian restaurants while cluster 2 has many coffee shops/café and Pizza place. Both places have many Fast Food and Falafel restaurants.

# DISCUSSION

Both the clusters have mostly the same venues in its neighbourhoods, cluster 1 has more entertainment and sport facilities while cluster 2 has more hangout places and both the places have equal amount of restaurants.

# CONCLUSION

This analysis is performed on a limited data.

This may be right or wrong.

But if more amount of data is available there is scope of better results.