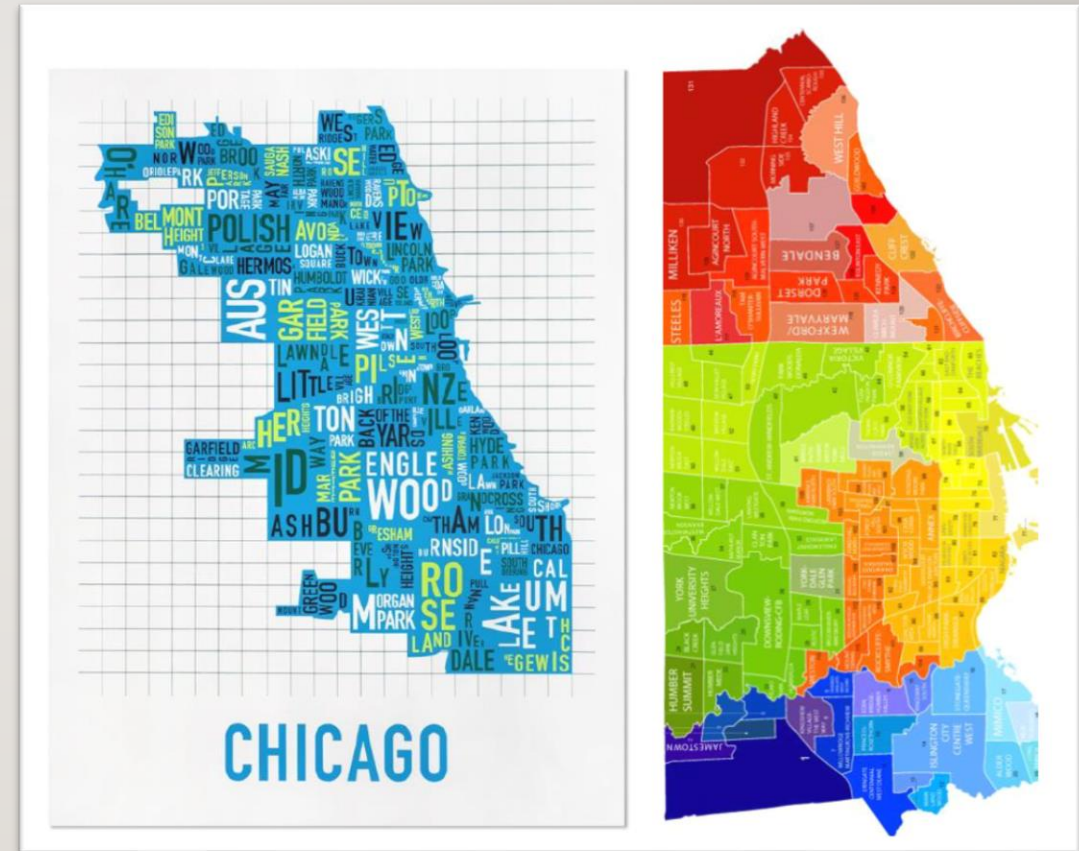# THE BATTLE OF NEIGHBORHOODS

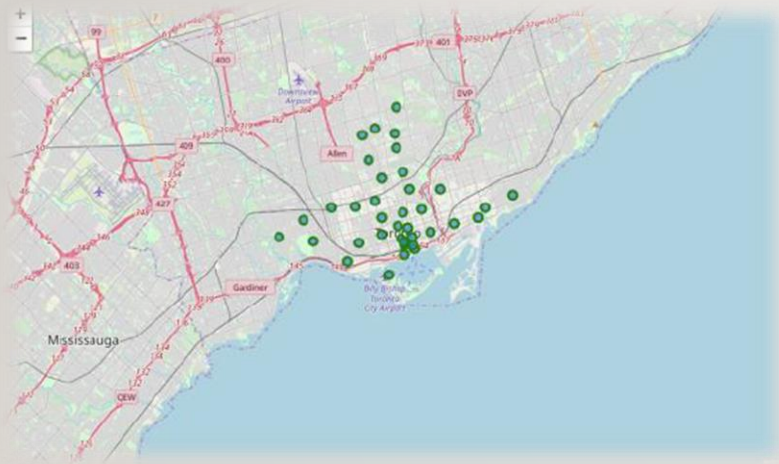BY: ADITYA SINHA

CHICAGO VS. TORONTO

- Chicago and Toronto were both built in similar times and have similar populations.
  - Both have experienced an influx of immigrants and have a diverse food culture.

- The goal of this project:
  - Help a businessman choose which city to open a restaurant in
  - After picking a city, help him find which neighborhood to open the restaurant in
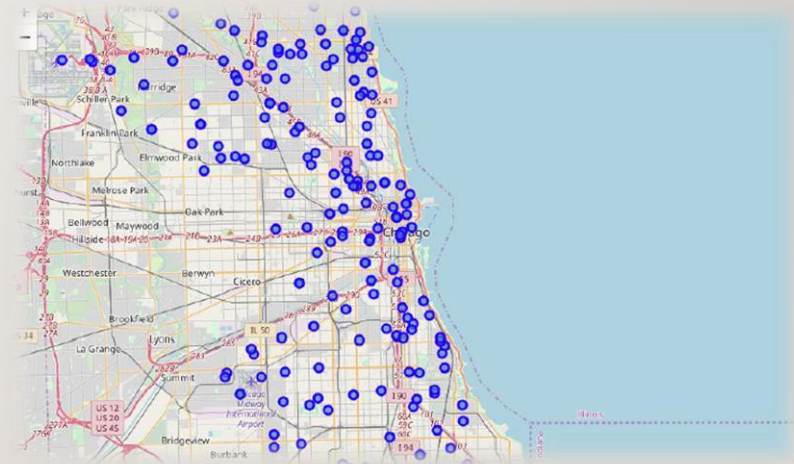
DATA ACQUISITION AND CLEANING

- Chicago dataset obtained from:

  - https://public.opendatasoft.com/

- Toronto dataset obtained from:

  - https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M/

- Multiple neighborhoods for particular postal codes were grouped

- 'not assigned' and null values were removed

- Both sets of data were read into a pandas dataframe that included coordinates as well

DATA PROCESSING AND VISUALIZING

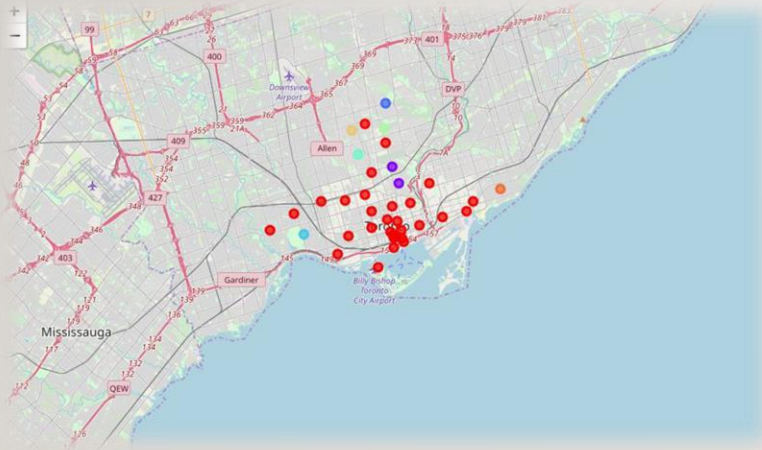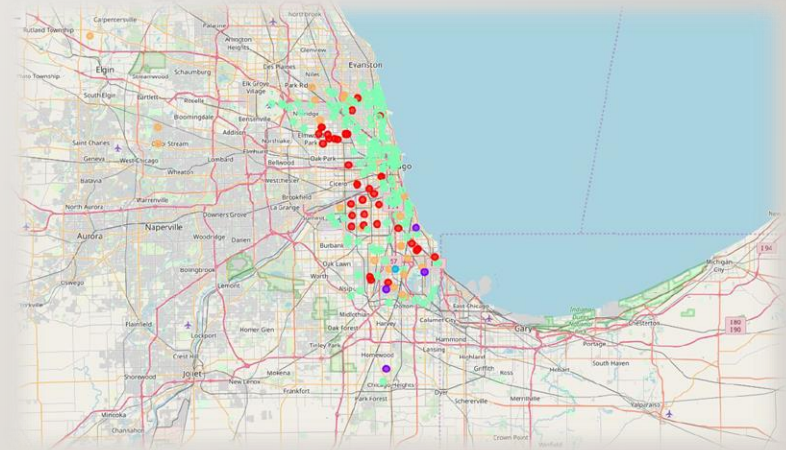- Displayed all neighborhoods for each city on a leaflet map:

Toronto

Chicago

DATA PROCESSING AND VISUALIZING

- Using k-means clustering to determine discriminating venue categories:

Toronto

Chicago

RESULTS

- Compared to Chicago, Toronto has very few restaurants in the '1ˢᵗ most common venue'.

- The yellow highlights are all restaurants.

Toronto

Chicago

RESULTS

- Even in the other clusters, Toronto has far less restaurants in the '1st most' or '2nd most' visited columns:

	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	9th Most Common Venue	10th Most Common Venue
8	Central Toronto	1	Gym	Playground	Trail	Wings Joint	Dumpling Restaurant	Diner	Discount Store	Dog Run	Doner Restaurant	Donut Shop

	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	9th Most Common Venue	10th Most Common Venue
22	Central Toronto	2	Pool	Garden	Wings Joint	Dessert Shop	Falafel Restaurant	Event Space	Ethiopian Restaurant	Electronics Store	Eastern European Restaurant	Dumpling Restaurant

	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	9th Most Common Venue	10th Most Common Venue
4	Central Toronto	3	Bus Line	Park	Swim School	Wings Joint	Falafel Restaurant	Event Space	Ethiopian Restaurant	Electronics Store	Eastern European Restaurant	Dumpling Restaurant

	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	9th Most Common Venue	10th Most Common Venue
10	Downtown Toronto	4	Park	Playground	Trail	Building	Wings Joint	Donut Shop	Diner	Discount Store	Dog Run	Doner Restaurant

CONCLUSION

- Toronto would be an overall better city to open a restaurant in – due to less competition

- The neighborhood would be downtown Toronto near the Rosedale cluster.