

# **Choosing the Ideal Etobicoke Neighborhood to Open a New Pizza Place**

A Coursera Capstone Project

# Location is key to opening a restaurant

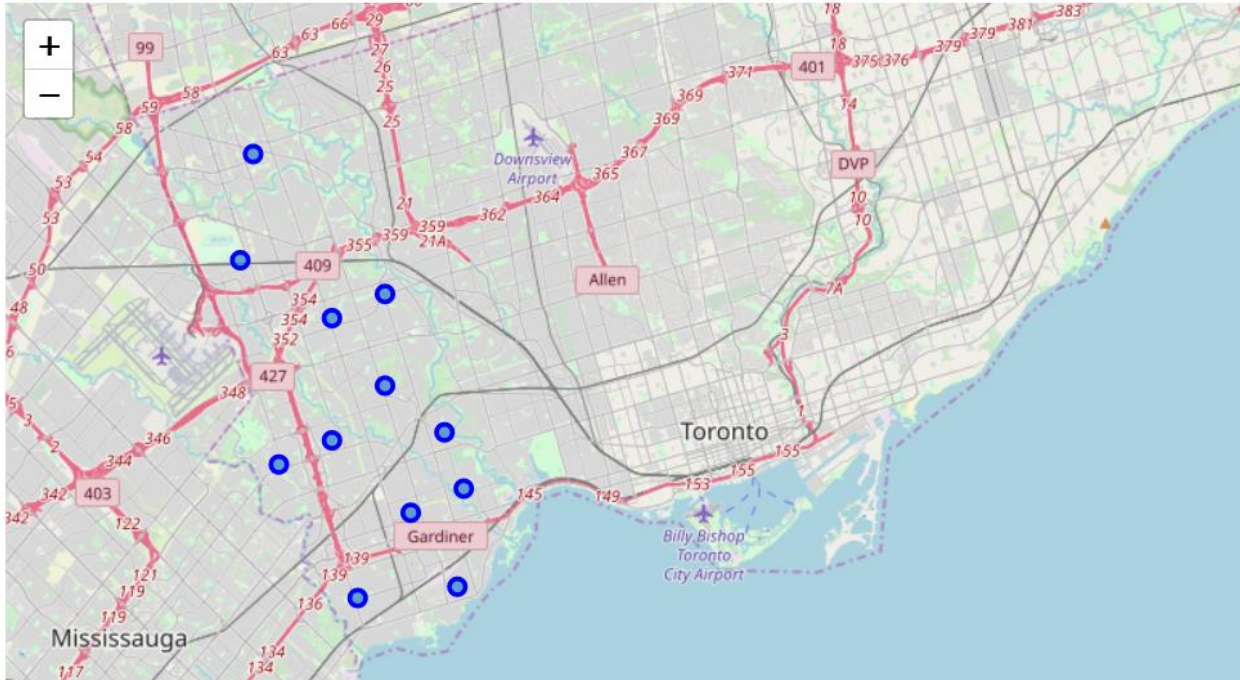
- ▶ Toronto's food scene is large and competitive
- ▶ Etobicoke is a borough west of Toronto, divided into multiple neighborhoods
- ▶ Etobicoke has a large European population from countries such as Italy, Poland, and Ukraine
- ▶ If you are a potential entrepreneur or chef interested in opening a pizza restaurant, what neighborhood within Etobicoke would you choose?
- ▶ What neighbourhood would offer the best location with minimal competition but and excellent foot traffic?

# Data Acquisition and Cleaning

- ▶ Scraped a dataset for Toronto that contains all the boroughs and the neighborhoods that exist in each borough using:  
[https://en.wikipedia.org/wiki/List\\_of\\_postal\\_codes\\_of\\_Canada:\\_M](https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M)
- ▶ Retrieved the latitude and longitude coordinates of each neighborhood using:  
[http://cocl.us/Geospatial\\_data](http://cocl.us/Geospatial_data)
- ▶ Removed rows missing information and grouped neighborhoods based on postal code and geographical coordinates
- ▶ Final dataset only includes neighborhoods for Etobicoke

	PostalCode	Borough	Neighborhood	Latitude	Longitude
0	M9A	Etobicoke	Islington Avenue	43.667856	-79.532242
1	M9B	Etobicoke	Cloverdale,Islington,Martin Grove,Princess Gar...	43.650943	-79.554724
2	M9C	Etobicoke	Bloordale Gardens,Eringate,Markland Wood,Old B...	43.643515	-79.577201
3	M9P	Etobicoke	Westmount	43.696319	-79.532242
4	M9R	Etobicoke	Kingsview Village,Martin Grove Gardens,Richvie...	43.688905	-79.554724

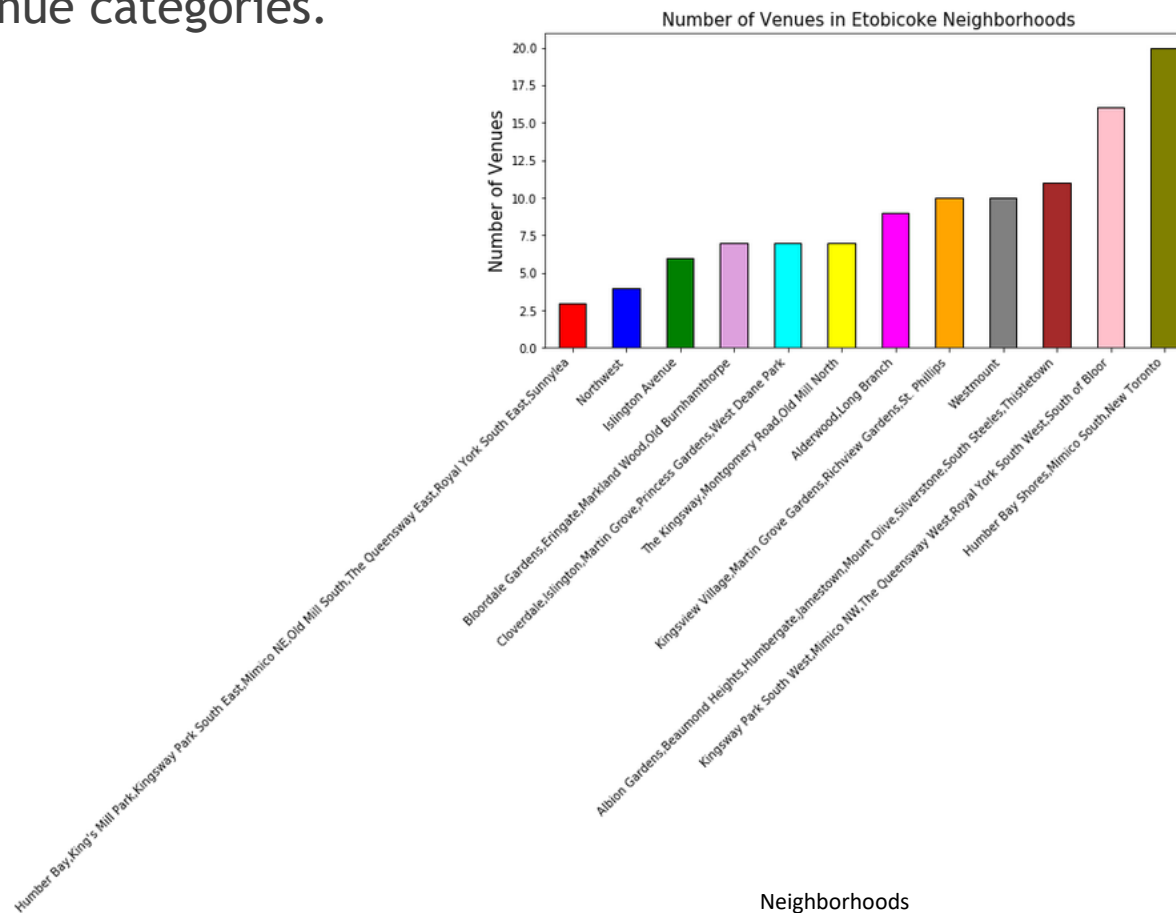
# Python folium library- Etobicoke



- ▶ Map of Etobicoke's 12 grouped Neighborhoods shown as blue circles in Toronto
- ▶ Use Foursquare API to explore all Etobicoke neighborhoods

# Foursquare Details about Etobicoke Neighborhoods

- ▶ 12 grouped neighborhoods in Etobicoke
- ▶ Total of 110 venues returned, of which 81 are unique venues and 54 are unique venue categories.



# Etobicoke Neighborhoods with and without Pizza Places

- ▶ 7 out of 12 Etobicoke neighborhoods have one or two pizza place
- ▶ In total Etobicoke had 10 pizza places as shown in the table below.

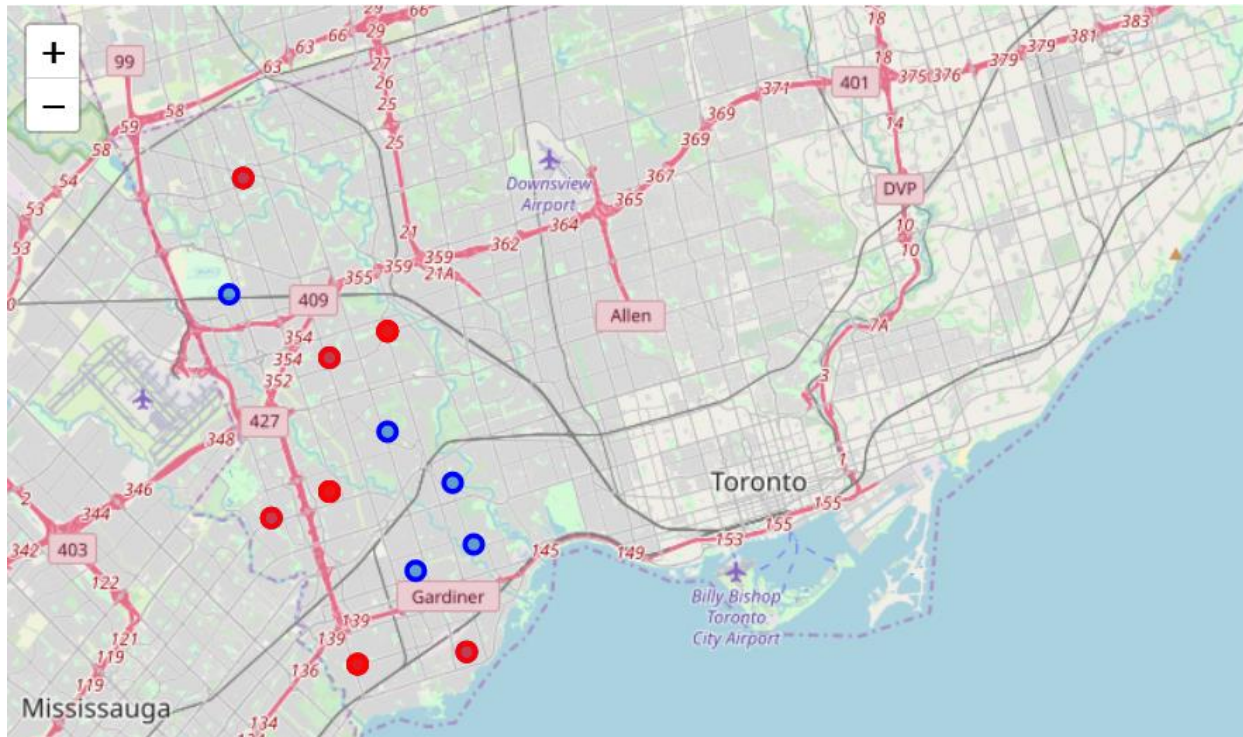
	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Category
8	Cloverdale,Islington,Martin Grove,Princess Gar...	43.650943	-79.554724	Pizza Pizza	Pizza Place
9	Cloverdale,Islington,Martin Grove,Princess Gar...	43.650943	-79.554724	Pizza Nova	Pizza Place
16	Bloordale Gardens,Eringate,Markland Wood,Old B...	43.643515	-79.577201	Pizza Hut	Pizza Place
22	Westmount	43.696319	-79.532242	Pizza Hut	Pizza Place
25	Westmount	43.696319	-79.532242	Pizza Nova	Pizza Place
35	Kingsview Village,Martin Grove Gardens,Richvie...	43.688905	-79.554724	Pizza Pizza	Pizza Place
43	Humber Bay Shores,Mimico South,New Toronto	43.605647	-79.501321	Domino's Pizza	Pizza Place
65	Albion Gardens,Beaumont Heights,Humbergate,Jam...	43.739416	-79.588437	Pizza Pizza	Pizza Place
71	Alderwood,Long Branch	43.602414	-79.543484	Il Paesano Pizzeria & Restaurant	Pizza Place
76	Alderwood,Long Branch	43.602414	-79.543484	Pizza Pizza	Pizza Place

- ▶ 5 neighborhoods with no pizza place:
  - ▶ Islington Avenue
  - ▶ Kingsway Park South West,Mimico NW,The Queensway West,Royal York South
  - ▶ NorthWest
  - ▶ The Kingsway,Montgomery Road,Old Mill North
  - ▶ Humber Bay,King's Mill Park,Kingsway Park South East,Mimico NE,Old Mill South,The Queensway East,Royal York South East,Sunnylea



# Map visualization of Pizza places in Etobicoke Neighborhoods

- ▶ Map displays Etobicoke neighborhoods with pizza places (red circles) and without pizza places (blue circles)
- ▶ Only 7 pizza places displayed because 3 of the neighborhoods had 2 pizza places each



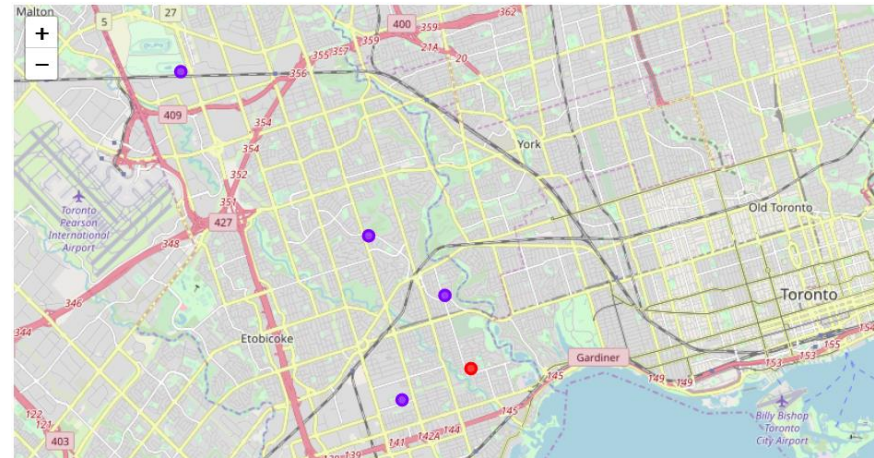
# Most common venues in the 5 Etobicoke neighborhoods without any pizza places

	Neighborhood	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	Humber Bay,King's Mill Park,Kingsway Park Sout...	Baseball Field	Park	Locksmith	Wings Joint	Furniture / Home Store
1	Islington Avenue	Pharmacy	Café	Shopping Mall	Grocery Store	Bank
2	Kingsway Park South West,Mimico NW,The Queensw...	Wings Joint	Thrift / Vintage Store	Bank	Burger Joint	Burrito Place
3	Northwest	Bar	Rental Car Location	Drugstore	Furniture / Home Store	Wings Joint
4	The Kingsway,Montgomery Road,Old Mill North	Coffee Shop	Bar	Smoke Shop	Liquor Store	River



# Clustering Neighborhoods

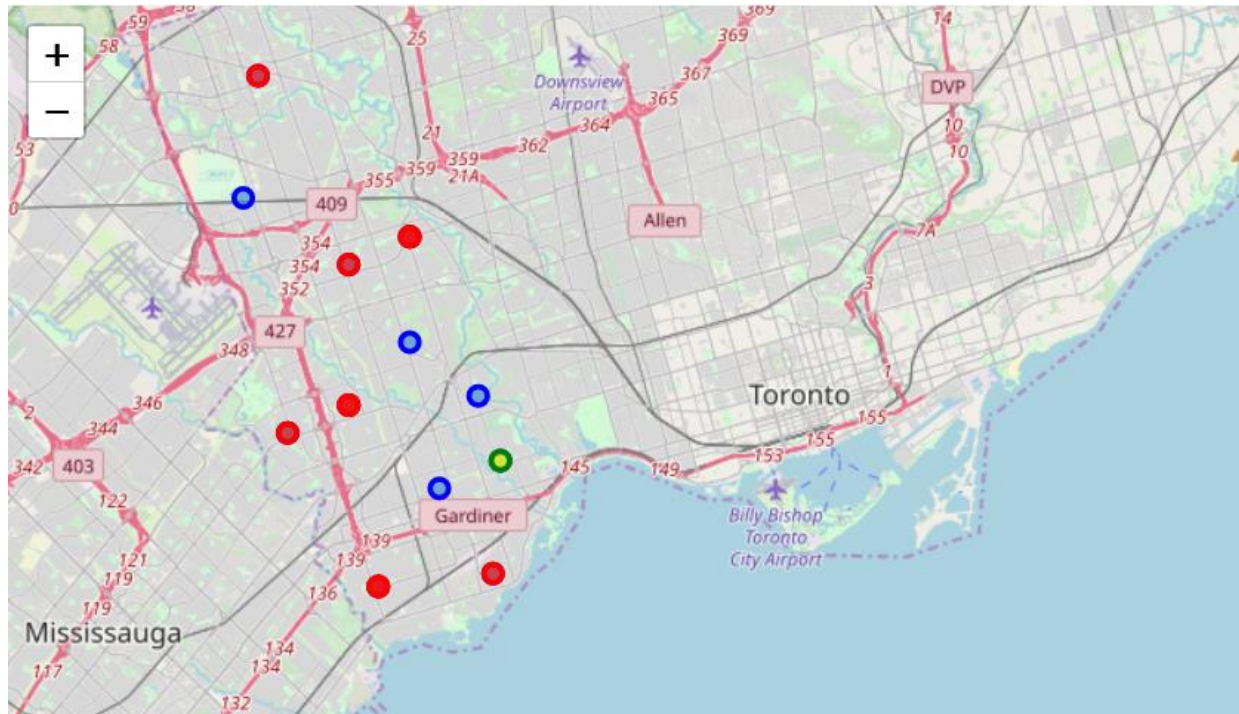
- ▶ Ran K-Means to cluster the 5 Etobicoke neighborhoods without a pizza place, into 2 clusters
- ▶ As shown on the map and table four out of the five neighborhoods were clustered into 1 cluster (purple circles)
- ▶ The neighborhood of "Humber Bay,King's Mill Park,Kingsway Park South East,Mimico NE,Old Mill South,The Queensway East, Royal York South East,Sunnylea" was clustered alone (red circle)



	Neighborhood	Neighborhood Latitude	Neighborhood Longitude	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue
0	Islington Avenue	43.667856	-79.532242	1	Pharmacy	Café	Shopping Mall	Grocery Store	Bank
6	Northwest	43.706748	-79.594054	1	Bar	Rental Car Location	Drugstore	Furniture / Home Store	Wings Joint
10	The Kingsway,Montgomery Road,Old Mill North	43.653654	-79.506944	1	Coffee Shop	Bar	Smoke Shop	Liquor Store	River
17	Humber Bay,King's Mill Park,Kingsway Park South East,Mimico NE,Old Mill South,The Queensway East, Royal York South East,Sunnylea	43.636258	-79.498509	0	Baseball Field	Park	Locksmith	Wings Joint	Furniture / Home Store
20	Kingsway Park South West,Mimico NW,The Queensway East	43.628841	-79.520999	1	Wings Joint	Thrift / Vintage Store	Bank	Burger Joint	Burrito Place

# Pizza place venues distribution in Etobicoke neighborhoods

- ▶ Mapped using folium and labeled the current pizza places in red circles
- ▶ Neighborhoods without any pizza place marked in blue circles
- ▶ Potential new pizza place in the neighborhood of "Humber Bay, King's Mill Park, Kingsway Park South East, Mimico NE, Old Mill South, The Queensway East, Royal York South East, Sunnylea" as green/yellow circle



# Results & Conclusion

- ▶ 4/5 Etobicoke neighborhoods without a pizza place were clustered into 1 group
  - ▶ They had a common trait of an eatery such as a cafe, bar, Coffee Shop, Wing's Joint as common 3 top venues
- ▶ Neighborhood: “Humber Bay, King's Mill Park, Kingsway Park South East, Mimico NE, Old Mill South, The Queensway East, Royal York South East, Sunnylea” clustered alone
  - ▶ Its top 3 most common venues were a baseball field, park and locksmith business
- ▶ This suggests to potential entrepreneurs/ chefs that this neighborhood would be an ideal location in Etobicoke to open a new pizza place
- ▶ There are no other eateries in the immediate area to offer immediate direct competition
- ▶ Venues such as a baseball field and park create high foot traffic area