BEST PLACE FOR RESTAURANT IN TORONTO

INTRODUCTION

- Find the best place to start a restaurant in Toronto

- K-means clustering
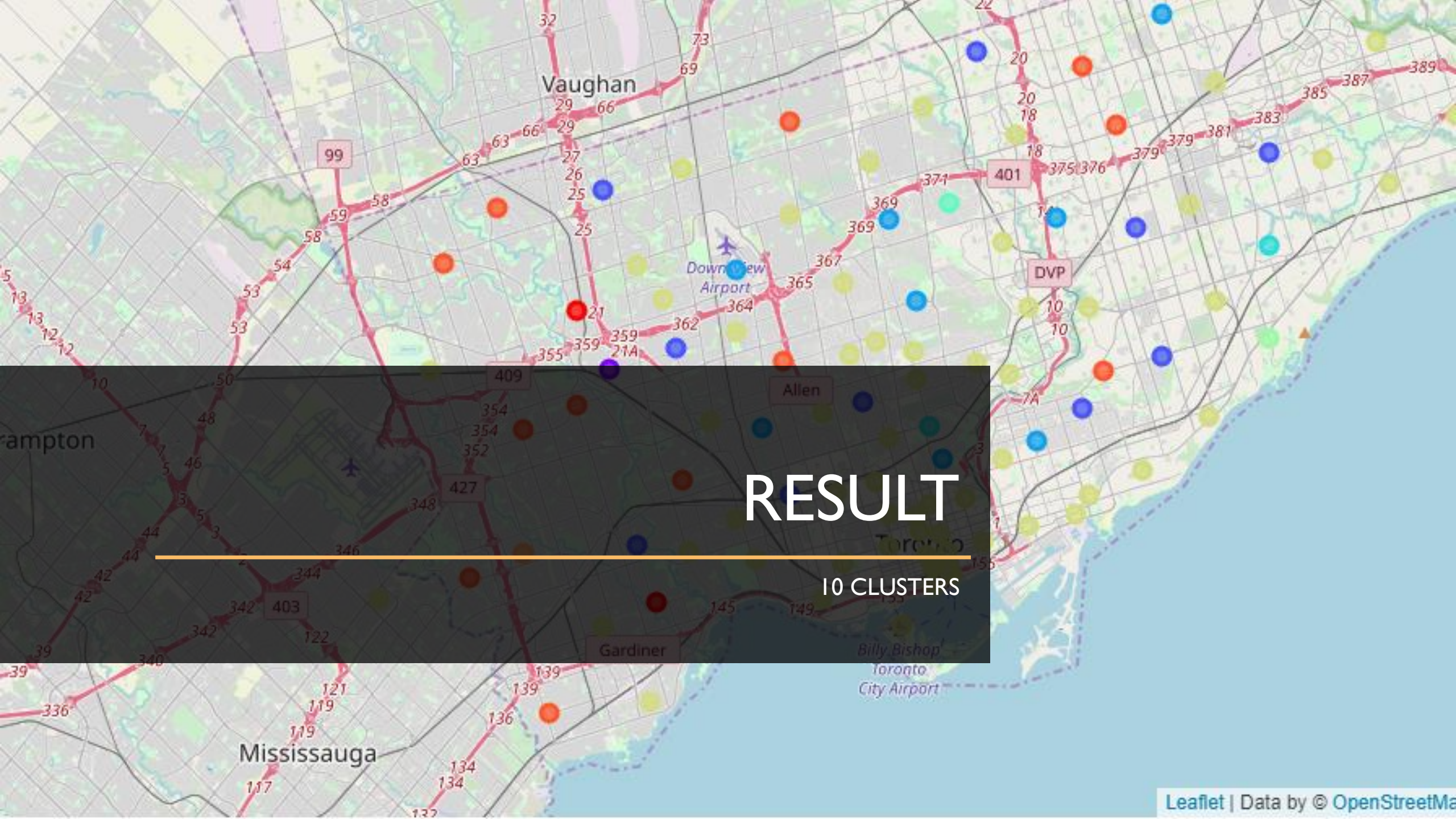
DATA

- Location data of Toronto

- Foursquare venue data

Postcode	Borough	Neighbourhood
M4N	Central Toronto	Lawrence Park
M6B	North York	Glencairn
M9C	Etobicoke	Bloordale Gardens,Eringate,Markland Wood,Old B...
M2H	North York	Hillcrest Village
M6K	West Toronto	Brockton,Exhibition Place,Parkdale Village
M8Z	Etobicoke	Kingsway Park South West,Mimico NW,The Queensw...
M4B	East York	Woodbine Gardens,Parkview Hill
M6N	York	The Junction North,Runnymede
M1X	Scarborough	Upper Rouge
M5P	Central Toronto	Forest Hill North,Forest Hill West
M5G	Downtown Toronto	Central Bay Street
M4W	Downtown Toronto	Rosedale
M3H	North York	Bathurst Manor,Downsview North,Wilson Heights
M2K	North York	Bayview Village

METHODOLOGY

- K-means clustering is a method of vector quantization, originally from signal processing, that is popular for cluster analysis in data mining.

- use the frequency of the venues of a place as the feature

venue	freq
Clothing Store	0.12
Fast Food Restaurant	0.09
Coffee Shop	0.08
Restaurant	0.05
Toy / Game Store	0.03

RESULT

10 CLUSTERS

RESULT

	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 Ven
7	Scarborough	7	Intersection	Spa	Electronics Store	Pizza Place	Breakfast Spot	Tech Startup	Medical Center	Rental Car Location	Mexican Restauran
8	North York	7	Restaurant	Coffee Shop	Ramen Restaurant	Japanese Restaurant	Café	Sandwich Place	Sushi Restaurant	Bubble Tea Shop	Ice Cream Shop
9	Etobicoke	7	Gym	Coffee Shop	Café	Fried Chicken Joint	Restaurant	Mexican Restaurant	Sandwich Place	American Restaurant	Seafood Restauran
13	East Toronto	7	Health Food Store	Trail	Neighborhood	Pub	Diner	Discount Store	Dog Run	Doner Restaurant	Donut Sho
14	Scarborough	7	Fast Food Restaurant	Print Shop	Dessert Shop	Diner	Discount Store	Dog Run	Doner Restaurant	Donut Shop	Drugstore
17	East York	7	Coffee Shop	Sporting Goods Shop	Sushi Restaurant	Burger Joint	Furniture / Home Store	Grocery Store	Gym	Beer Store	Supermar
21	Scarborough	7	Construction & Landscaping	Bar	Yoga Studio	Eastern European Restaurant	Dog Run	Doner Restaurant	Donut Shop	Drugstore	Dumpling Restaurar
22	East Toronto	7	Yoga Studio	Fast Food Restaurant	Restaurant	Butcher	Skate Park	Auto Workshop	Burrito Place	Light Rail Station	Garden
24	Mississauga	7	Coffee Shop	Hotel	American Restaurant	Gym / Fitness Center	Fried Chicken Joint	Mediterranean Restaurant	Sandwich Place	Burrito Place	Dumpling Restaurar
25	Central Toronto	7	Pizza Place	Dessert Shop	Sandwich Place	Sushi Restaurant	Restaurant	Café	Thai Restaurant	Coffee Shop	Italian Restauran
26	Downtown Toronto	7	Café	Vegetarian / Vegan Restaurant	Mexican Restaurant	Bar	Bakery	Coffee Shop	Dumpling Restaurant	Chinese Restaurant	Vietnames Restauran

	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
1	East York	9	Fast Food Restaurant	Pizza Place	Pet Store	Gastropub	Café	Bank	Athletics & Sports	Intersection	Breakfast Spot	Gym / Fitness Center
30	Etobicoke	9	Pizza Place	Intersection	Sandwich Place	Coffee Shop	Chinese Restaurant	Donut Shop	Diner	Discount Store	Dog Run	Doner Restaurant
37	Scarborough	9	Pizza Place	Italian Restaurant	Fast Food Restaurant	Pharmacy	Fried Chicken Joint	Bank	Noodle House	Thai Restaurant	Chinese Restaurant	Doner Restaurant
41	Etobicoke	9	Pharmacy	Pizza Place	Beer Store	Liquor Store	Convenience Store	Café	Dumpling Restaurant	Discount Store	Dog Run	Doner Restaurant
44	North York	9	Pharmacy	Pizza Place	Empanada Restaurant	Drugstore	Dim Sum Restaurant	Diner	Discount Store	Dog Run	Doner Restaurant	Donut Shop
46	Etobicoke	9	Pizza Place	Park	Mobile Phone Shop	Bus Line	Yoga Studio	Drugstore	Discount Store	Dog Run	Doner Restaurant	Donut Shop
53	North York	9	Park	Pizza Place	Japanese Restaurant	Pub	Yoga Studio	Donut Shop	Diner	Discount Store	Dog Run	Doner Restaurant
59	Etobicoke	9	Grocery Store	Fast Food Restaurant	Pizza Place	Sandwich Place	Beer Store	Coffee Shop	Liquor Store	Fried Chicken Joint	Video Store	Pharmacy
62	Scarborough	9	Fast Food Restaurant	Chinese Restaurant	Breakfast Spot	Grocery Store	Pharmacy	Pizza Place	Coffee Shop	American Restaurant	Thrift / Vintage Store	Sandwich Place
71	North York	9	Pharmacy	Pizza Place	Discount Store	Grocery Store	Coffee Shop	Dumpling Restaurant	Diner	Dog Run	Doner Restaurant	Donut Shop
72	York	9	Pizza Place	Grocery Store	Bus Line	Convenience Store	Yoga Studio	Dumpling Restaurant	Discount Store	Dog Run	Doner Restaurant	Donut Shop

CONCLUSION

- 2 clusters are good to start a restaurant

- Downtown Toronto and North York are best places