# Toronto Area Clustering using K-Mean

#### Toronto





#### Data

	District	District Latitude	District Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	МЗА	43.753259	-79.329656	Brookbanks Park	43.751976	-79.332140	Park
1	МЗА	43.753259	-79.329656	Variety Store	43.751974	-79.333114	Food & Drink Shop
2	МЗА	43.753259	-79.329656	Corrosion Service Company Limited	43.752432	-79.334661	Construction & Landscaping
3	M4A	43.725882	-79.315572	Victoria Village Arena	43.723481	-79.315635	Hockey Arena
4	M4A	43.725882	-79.315572	Portugril	43.725819	-79.312785	Portuguese Restaurant

	Postal Code	Borough	Neighborhood	Latitude	Longitude
0	МЗА	North York	Parkwoods	43.753259	-79.329656
1	M4A	North York	Victoria Village	43.725882	-79.315572
2	M5A	Downtown Toronto	Regent Park, Harbourfront	43.654260	-79.360636
3	M6A	North York	Lawrence Manor, Lawrence Heights	43.718518	-79.464763
4	М7А	Downtown Toronto	Queen's Park, Ontario Provincial Government	43.662301	-79.389494

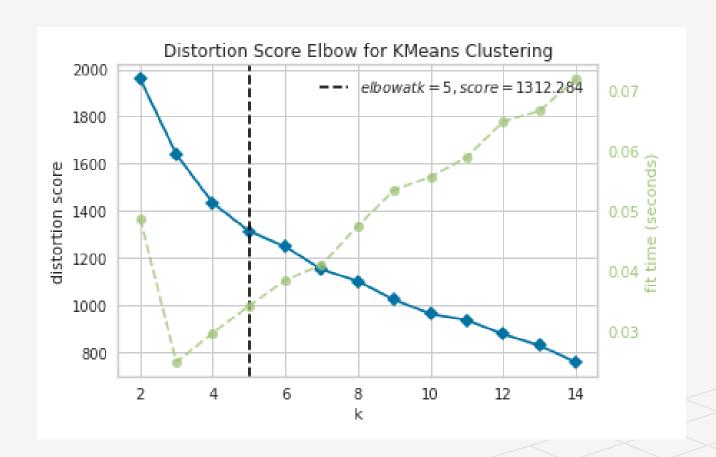
### Foursquare Venue

	District	District Latitude	District Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	МЗА	43.753259	-79.329656	Brookbanks Park	43.751976	-79.332140	Park
1	МЗА	43.753259	-79.329656	Variety Store	43.751974	-79.333114	Food & Drink Shop
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3	M4A	43.725882	-79.315572	Victoria Village Arena	43.723481	-79.315635	Hockey Arena
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#### Feature

Venue Category	American Restaurant	Art Gallery	Asian Restaurant		Bank	Bar		Beer Store	Bookstore	Breakfast Spot	Brewery	Bubble Tea Shop	Burger Joint	Burrito Place	Café	ı
District																
M1B	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
M1C	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
M1E	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	
M1G	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
M1H	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

#### K-Mean Elbow



Venue Category	Label	American Restaurant	Art Gallery	Asian Restaurant	Bakery	Bank	Bar	Beer Bar	Beer Store	Bookstore	Breakfast Spot	Brewery	Bubble Tea Shop	Burger Joint	Burrito Place	Café
District																
M2J	0	1.0	0.0	1.0	2.0	2.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0	0.0
M5B	0	0.0	1.0	0.0	1.0	1.0	1.0	1.0	0.0	2.0	0.0	0.0	3.0	1.0	1.0	3.0

Venue Category	Label	American Restaurant	Art Gallery	Asian Restaurant	Bakery	Bank	Bar	Beer Bar	Beer Store	Bookstore	Breakfast Spot	Brewery	Bubble Tea Shop	Burger Joint	Burrito Place	Café
District																
M1B	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M1C	1	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M1E	1	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
M1G	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M1H	1	0.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M1J	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M1K	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M1L	1	0.0	0.0	0.0	2.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M1M	1	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M1N	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
M1P	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M1R	1	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
M1S	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
M1T	1	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M1V	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M1W	1	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0
M2K	1	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
M2P	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
M2R	1	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
МЗА	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
мзв	1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0

Venue Category	Label	American Restaurant	Art Gallery	Asian Restaurant	Bakery	Bank	Bar	Beer Bar	Beer Store	Bookstore	Breakfast Spot	Brewery	Bubble Tea Shop	Burger Joint	Burrito Place	Café
District																
M5H	2	1.0	1.0	1.0	2.0	0.0	1.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	1.0	5.0
M5J	2	0.0	1.0	0.0	2.0	0.0	2.0	1.0	0.0	0.0	0.0	3.0	1.0	0.0	0.0	4.0
M5K	2	3.0	1.0	1.0	2.0	0.0	1.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	1.0	7.0
M5L	2	4.0	1.0	1.0	2.0	0.0	1.0	2.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	7.0
M5X	2	3.0	1.0	3.0	2.0	0.0	1.0	2.0	0.0	1.0	0.0	0.0	0.0	1.0	1.0	8.0

Venue Category District	Label	American Restaurant	Art Gallery	Asian Restaurant	Bakery	Bank	Bar	Beer Bar	Beer Store	Bookstore	Breakfast Spot	Brewery	Bubble Tea Shop	Burger Joint	Burrito Place	Café
M2N	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	2.0
M4G	3	0.0	0.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	2.0	0.0	0.0
M4K	3	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	2.0	0.0	1.0	1.0	0.0	0.0	1.0
M4M	3	2.0	0.0	0.0	2.0	1.0	1.0	0.0	0.0	1.0	0.0	2.0	0.0	0.0	0.0	4.0
M4S	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	2.0
M4X	3	1.0	0.0	0.0	2.0	1.0	0.0	0.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	3.0
M5M	3	1.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0
M5R	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	3.0
M5S	3	0.0	0.0	0.0	2.0	1.0	2.0	1.0	1.0	2.0	0.0	0.0	0.0	0.0	0.0	5.0
M5T	3	0.0	0.0	0.0	3.0	0.0	2.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	5.0
M6G	3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0
M6J	3	0.0	1.0	2.0	0.0	0.0	5.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	2.0
M6K	3	0.0	0.0	0.0	2.0	0.0	1.0	0.0	0.0	0.0	2.0	0.0	0.0	0.0	1.0	3.0
M6P	3	0.0	0.0	0.0	1.0	0.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	2.0
M6S	3	0.0	0.0	0.0	0.0	1.0	1.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	1.0	3.0

Venue Category	Label	American Restaurant	Art Gallery	Asian Restaurant	Bakery	Bank	Bar	Beer Bar	Beer Store	Bookstore	Breakfast Spot	Brewery	Bubble Tea Shop	Burger Joint	Burrito Place	Café
District																
M4Y	4	1.0	0.0	0.0	0.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	2.0	2.0	1.0	1.0
M5A	4	0.0	1.0	1.0	3.0	1.0	0.0	0.0	1.0	0.0	2.0	0.0	0.0	0.0	0.0	2.0
M5C	4	3.0	1.0	1.0	1.0	0.0	0.0	1.0	0.0	1.0	1.0	0.0	0.0	0.0	1.0	5.0
M5E	4	0.0	1.0	0.0	2.0	0.0	0.0	2.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	2.0
M5G	4	0.0	0.0	0.0	0.0	0.0	1.0	0.0	0.0	0.0	0.0	0.0	2.0	2.0	0.0	3.0
M5W	4	1.0	2.0	0.0	2.0	0.0	0.0	3.0	0.0	1.0	2.0	0.0	0.0	0.0	0.0	4.0
M7A	4	0.0	0.0	0.0	0.0	1.0	1.0	1.0	0.0	0.0	0.0	0.0	0.0	0.0	1.0	1.0

## Thankyou