Housing Price at Toronto Area

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Motivation

- The growth of population at Toronto
  - ➢ Intend to buy estates – accessing information of nearby
  - ➢ Investor – Determine whether the estates are worth to invest

Data Applying

- Price of Estates
  - ➢ Web scraping from zoocasa.com which has tremendous posts

- Coordinates
  - ➢ Nominatim of Geopy

- Venues
  - ➢ Foursquare

Price of Estates

Dataframe Information

	Postal Code	Address	Home Type	Price	Latitude	Longitude
0	M9A	111 Poplar Heights Dr	4 beds4 baths	1650000	43.679590	-79.534897
1	M9B	106 Smithwood Dr	4 + 2 beds5 baths	2480000	43.639343	-79.549795
2	M5B	2612 - 210 Victoria St	1 beds1 baths	499000	44.227773	-76.502763
3	M4M	1007 - 1190 Dundas St E	0 beds1 baths	578800	43.497704	-79.708615
4	M5R	3002 - 32 Davenport Rd	2 + 1 beds2 baths	15880000	43.673388	-79.389952

Tabel1. Applied price of estates dataframe in the project

➢Address, Home type, and Price were collected by web scraping

➢Accessed Postal Code and the coordinate through Address

Venues

Dataframe information

	Postal Code	Neighborhood Latitude	Neighborhood Longitude	Venue	Venue Latitude	Venue Longitude	Venue Category
0	M9A	43.667856	-79.532242	Java Joe's Village Cafe	43.662461	-79.532054	Café
1	M9A	43.667856	-79.532242	St Georges Golf and Country Club	43.674395	-79.537142	Golf Course
2	M9A	43.667856	-79.532242	Ma Maison, Boulangerie - Patisserie - Traiteur	43.659490	-79.513624	French Restaurant
3	M9A	43.667856	-79.532242	James Gardens Park	43.671256	-79.513338	Garden
4	M9A	43.667856	-79.532242	Lambton Golf & Country Club	43.667522	-79.507117	Golf Course

Tabel2. Applied venues dataframe in the project

➢Having information of Postal code and coordinate
  ➢Cluster of each postal code area in K-mean
  ➢The cluster is determined by the most common venue categories

The Decision of Cluster

	Cluster Labels	Postal Code	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
6	5	M4E	Beach	Coffee Shop	Pub	Park	Breakfast Spot	Ice Cream Shop	BBQ Joint	Indian Restaurant	Bakery	Bar
7	5	M4G	Park	Indian Restaurant	Bakery	Grocery Store	Sushi Restaurant	Coffee Shop	Café	Gym	Dog Run	Thai Restaurant
10	5	M4L	Coffee Shop	Park	Beach	Café	Brewery	Bakery	Indian Restaurant	Pizza Place	Ice Cream Shop	American Restaurant
34	5	M5V	Park	Hotel	Coffee Shop	Brewery	Italian Restaurant	Dessert Shop	Japanese Restaurant	Beer Bar	Café	Caribbean Restaurant
45	5	M6S	Italian Restaurant	Bar	Bakery	Café	Park	Coffee Shop	Liquor Store	Dog Run	Seafood Restaurant	Scenic Lookout
47	5	M8V	Restaurant	Park	Coffee Shop	Sushi Restaurant	Breakfast Spot	Italian Restaurant	Pizza Place	Bakery	Café	Indian Restaurant
49	5	M8X	Italian Restaurant	Bakery	Café	Coffee Shop	Sushi Restaurant	Burger Joint	Pub	Pizza Place	Thai Restaurant	Liquor Store
50	5	M8Y	Sushi Restaurant	Coffee Shop	Italian Restaurant	Bakery	Café	Park	Thai Restaurant	Liquor Store	Burrito Place	Scenic Lookout
51	5	M8Z	Coffee Shop	Italian Restaurant	Bakery	Burger Joint	Restaurant	Sushi Restaurant	Ice Cream Shop	Pizza Place	Thai Restaurant	Breakfast Spot

Tabel1. Chosen cluster dataframe in the project

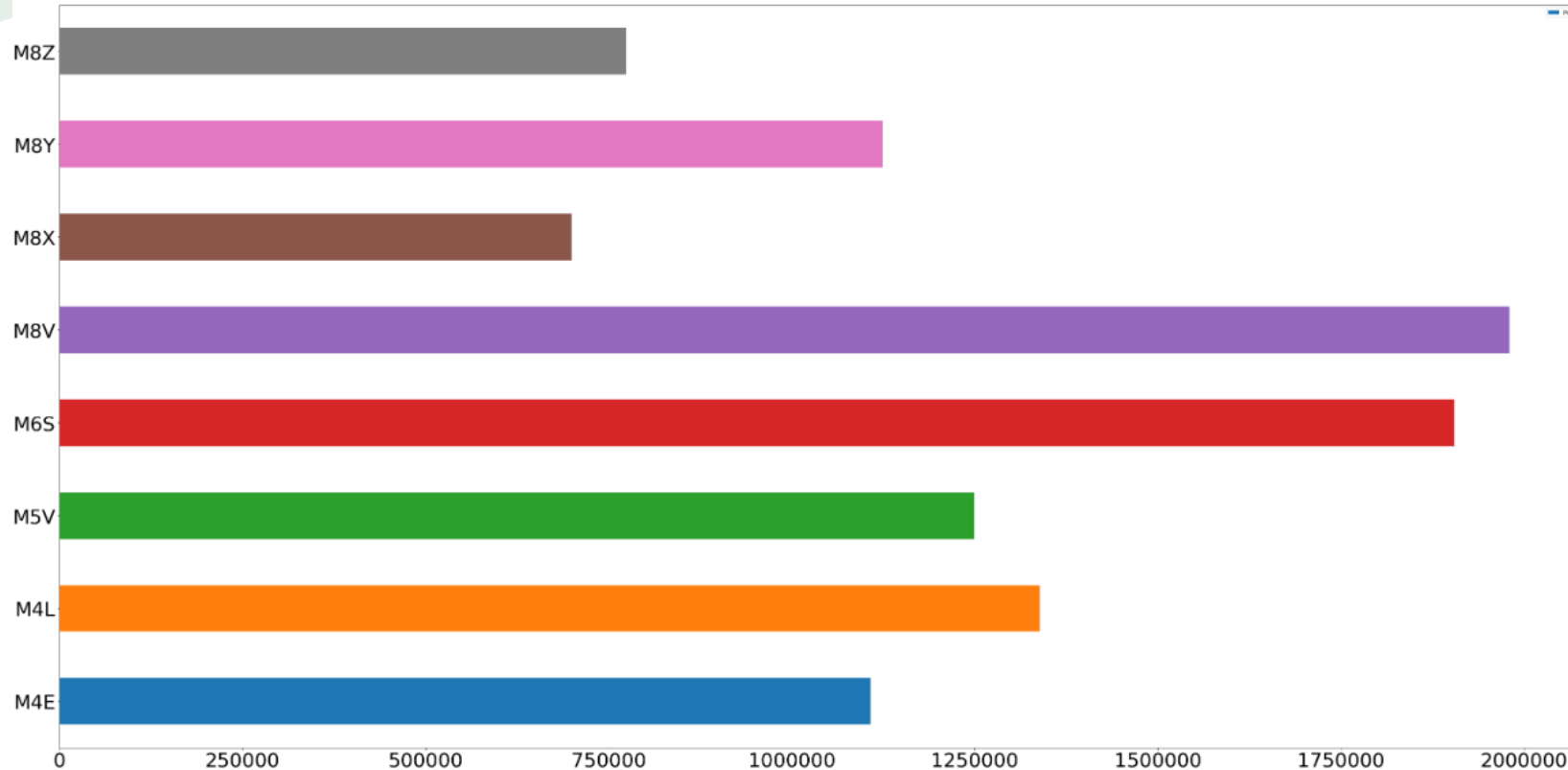➢Most common Venues in the cluster are attracting me

Median Price

Figure1. Median price of each postal code area in the cluster

➢Most postal code area prices are under my budget (120,000)

➢Next: List all houses under my budget

List of houses

Benefits

- Acquire further information from this lists

- Avoid to spent bunch of time on selecting suitable area from the websites

	Postal Code	Address	Bedroom	Bathroom	Price	Latitude	Longitude
1	M4E	288 Silver Birch Ave	3	2	879900	43.679220	-79.287836
3	M4E	30 Carnahan Terr	3	3	798800	43.687533	-79.291661
4	M4E	68 Daisy Ave E	3	2	1014990	43.597348	-79.529025
6	M4L	107 - 90 Edgewood Ave	3	2	678800	43.672804	-79.314750
9	M4L	2194 Wedgewood Rd	3	2	949900	43.588921	-79.587165
10	M4L	1835 Gerrard St E	3	3	1089000	43.678838	-79.313718
11	M4L	60 Glenmore Rd	3	2	929000	43.677410	-79.310765
12	M4L	305 - 1733 Queen St E	3	2	849900	43.667435	-79.311033
18	M4L	603 - 507 Kingston Rd	3	3	981815	43.677334	-79.302723
22	M5V	905 - 90 Queens Wharf Rd	3	2	999999	43.638642	-79.399078
24	M5V	3104 - 2045 Lake Shore Blvd W	3	3	1149000	43.631512	-79.474548
25	M5V	311 - 501 Adelaide St W	3	2	1179000	43.645496	-79.401281
31	M5V	310 - 2045 Lake Shore Blvd W	3	3	985000	43.631512	-79.474548
33	M5V	Ph03 - 355 King St W	3	2	1120000	43.645993	-79.392132
36	M5V	3611 - 355 King St W	3	2	910000	43.645993	-79.392132
37	M6S	23 Van Stassen Blvd	3	2	1158000	43.662167	-79.495932
45	M6S	19 Gair Dr	3 + 2	2	1198000	43.608713	-79.551494
49	M8V	170 Lake Shore Dr	3 + 2	2	1199000	43.594716	-79.508410
50	M8X	2516 - 1333 Bloor St	3	2	699900	43.616149	-79.596584
52	M8X	404 - 1333 Bloor St	3	2	649900	43.616149	-79.596584
54	M8Y	7 - 38 Mendota Rd	3	3	848800	43.624038	-79.498088
56	M8Y	2324 Hensall St	3 + 3	3	999000	43.584340	-79.596609
57	M8Z	Ph08 - 627 The West Mall	3	2	429900	43.655904	-79.570973
58	M8Z	583 Horner Ave	3	2	1049999	43.600374	-79.550719
60	M8Z	719 - 451 The West Mall	3	2	498000	43.646727	-79.566445

Future goals

- Create bigger database of estates price
- Add more information in the postal code area
  - Crime, Schools, Companies, etc.
- Applying machine learning for future prices estimate

Thanks for your time