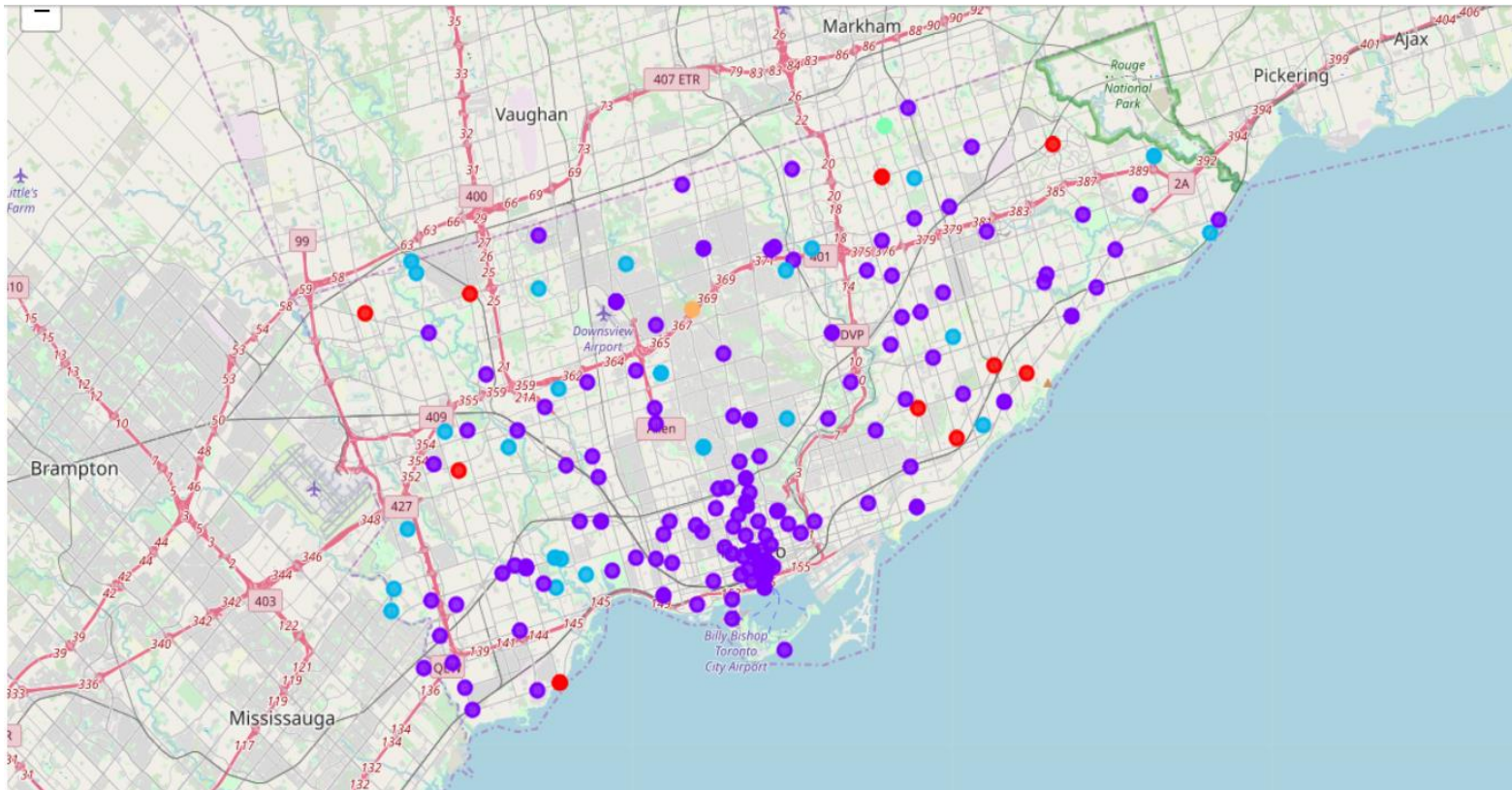# CAPSTONE PROJECT

TORONTO NEIGHBORHOOD CLUSTERS

INTRODUCTION

- When you would like to relocate to Toronto, are you asking:

    - Which neighborhood could be the candidate?

    - How the surroundings of this neighborhood look like?

    - Is this neighborhood similar to where I lived before?

- This project tries to cluster the neighborhoods in Toronto by venues, in order to:

    - Cluster similar neighborhoods

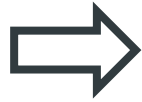   - Provide a first glance of the surroundings and life in each cluster

RESULTS

- **Cluster 0**: Area with plenty and big variety of restaurants

- **Cluster 1**: Area with comprehensive facilities, e.g. café, bar, hotel, Gym, etc.

- **Cluster 2**: Area for outdoor activities, e.g. park, playground, as well with restaurants

- **Cluster 3**: Area with playground and zoo

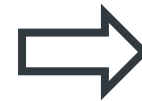- **Cluster 4**: Area with plenty of wine shop
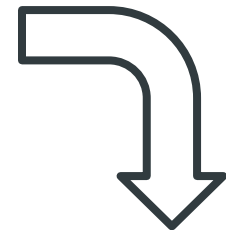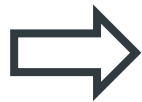
DATA AND METHODOLOGY

WIKIPEDIA
The Free Encyclopedia

List of
Neighborhoods

Geocoder

Coordinates of
Neighborhoods

Foursquare

Venues of
Neighborhoods

Clustering

K Means Clustering

DISCUSSION

Cluster 2

```
[40]: neighborhood_merged.loc[neighborhood_merged['Cluster Labels'] == 2, neighborhood_merged.columns[[0] + [11] + list(range(1, 10))]]
```

[40]:

	Neighborhood	Cluster Labels	1st Most Common Restaurant	2nd Most Common Restaurant	3rd Most Common Restaurant	4th Most Common Restaurant	5th Most Common Restaurant	6th Most Common Restaurant	7th Most Common Restaurant	8th Most Common Restaurant	9th Most Common Restaurant
5	Bathurst Manor	2	Playground	Convenience Store	Park	Baseball Field	Falafel Restaurant	Egyptian Restaurant	Electronics Store	Empanada Restaurant	Ethiopian Restaurant
9	Birch Cliff	2	Park	Gym	Gym Pool	Business Service	Drugstore	Eastern European Restaurant	Egyptian Restaurant	Electronics Store	Empanada Restaurant
20	Clarks Corners	2	Park	Convenience Store	Caribbean Restaurant	Drugstore	Eastern European Restaurant	Egyptian Restaurant	Electronics Store	Empanada Restaurant	Ethiopian Restaurant
43	Eringate	2	Park	Zoo	Falafel Restaurant	Eastern European Restaurant	Egyptian Restaurant	Electronics Store	Empanada Restaurant	Ethiopian Restaurant	Event Space
48	Forest Hill North	2	Playground	Bank	Park	Drugstore	Eastern European Restaurant	Egyptian Restaurant	Electronics Store	Empanada Restaurant	Ethiopian Restaurant
49	Forest Hill SE	2	Playground	Bank	Park	Drugstore	Eastern European Restaurant	Egyptian Restaurant	Electronics Store	Empanada Restaurant	Ethiopian Restaurant
50	Forest Hill West	2	Playground	Bank	Park	Drugstore	Eastern European Restaurant	Egyptian Restaurant	Electronics Store	Empanada Restaurant	Ethiopian Restaurant
60	Henry Farm	2	Tennis Court	Lawyer	Restaurant	Park	Zoo	Event Space	Eastern European Restaurant	Egyptian Restaurant	Electronics Store
64	Humber Bay	2	Construction & Landscaping	Pool	Harbor / Marina	Park	Exhibit	Dumpling Restaurant	Eastern European Restaurant	Egyptian Restaurant	Electronics Store

Issue:
- Certain neighborhoods with equivalent venues

Solutions:
- Reduce the radius for exploration
- Group close neighborhoods together before exploration