

TORONTO

SELECTING NEIGHBORHOOD FOR HAVING FUN

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Coursera Capstone Project

Problem description

We will analyze Toronto, Ontario (Canada) to determine the optimal place have fun.

We will imagine that we want to recommend to a tourist those places.

Data used in the project

This project will require the following data:

- TorontoNeighborhood Data
- 'https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada'
- Foursquare Location Data

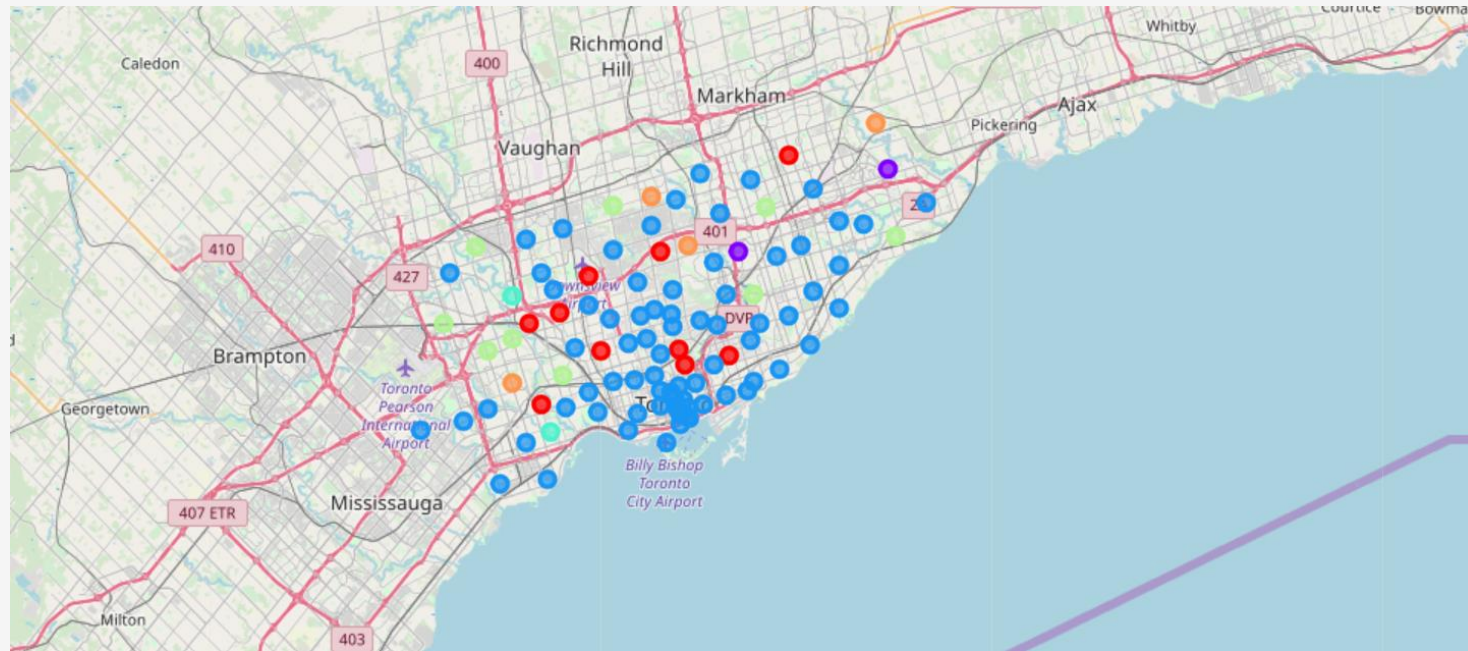
Methodology

How we will solve the problem:

- 1 Toronto borough neighborhood addresses are converted into their equivalent latitude and longitude
- 2 We explore neighborhoods in Toronto borough.
- 3 We determine the least common venues. Criteria for choosing an optimal place to have fun:
 - We have to find areas that have a park
 - Food
- 4 The venue categories feature is used to group the neighborhoods into clusters using the **k-means algorithm**. We will visualize the solution with Folium library.

Toronto Map

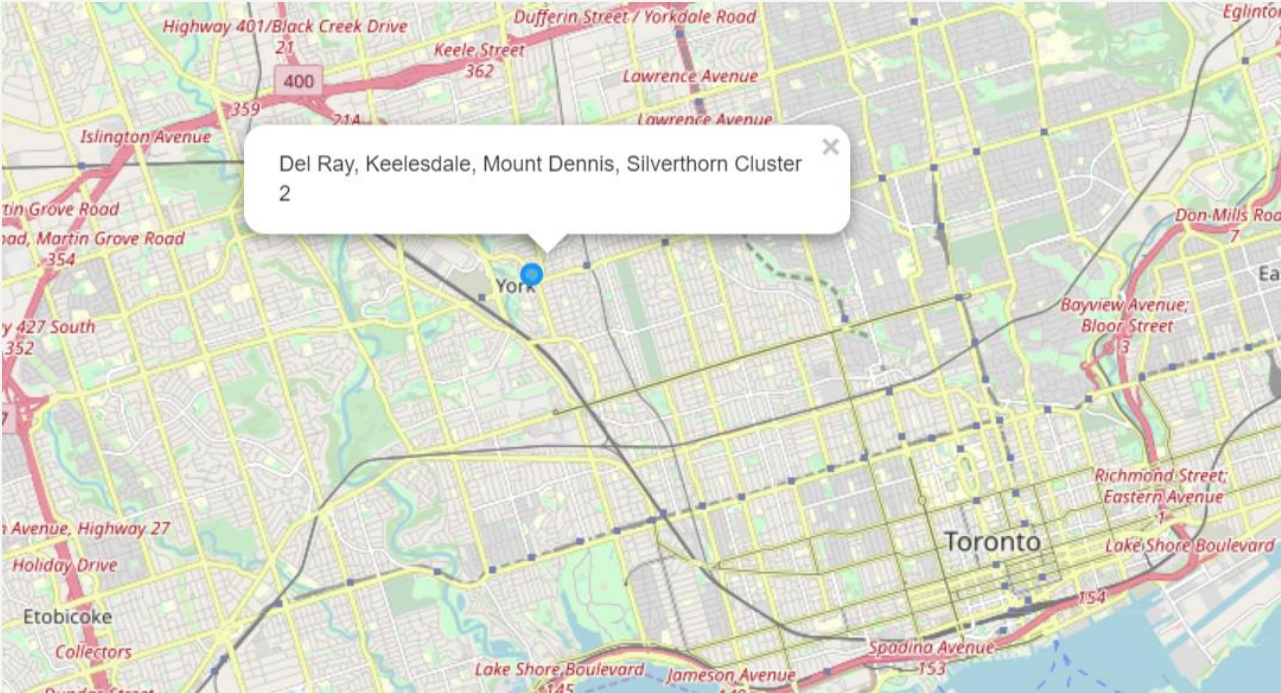
Using the k-means algorithm this is the map of Toronto segmented into 4 clusters:



The first criteria: it must have plenty of restaurants

```
combined.loc[combined['1st Most Common Venue']=='Restaurant']
```

	Motel	Movie Theater	Moving Target	Museum	Music Venue	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue
	0.0	0.0	0.0	0.0	0.0	2	Restaurant	Sandwich Place	Discount Store	Fried Chicken Joint

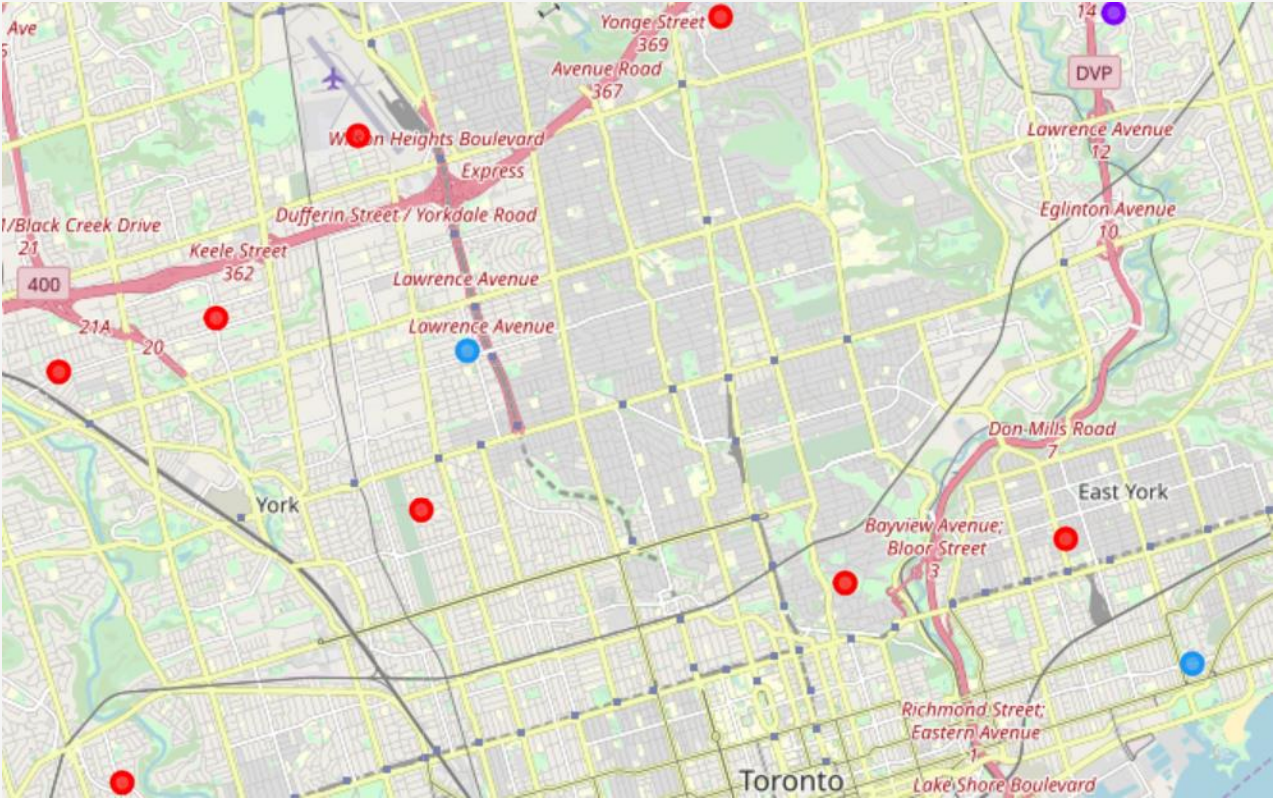


This is the area has the most restaurants in Toronto.

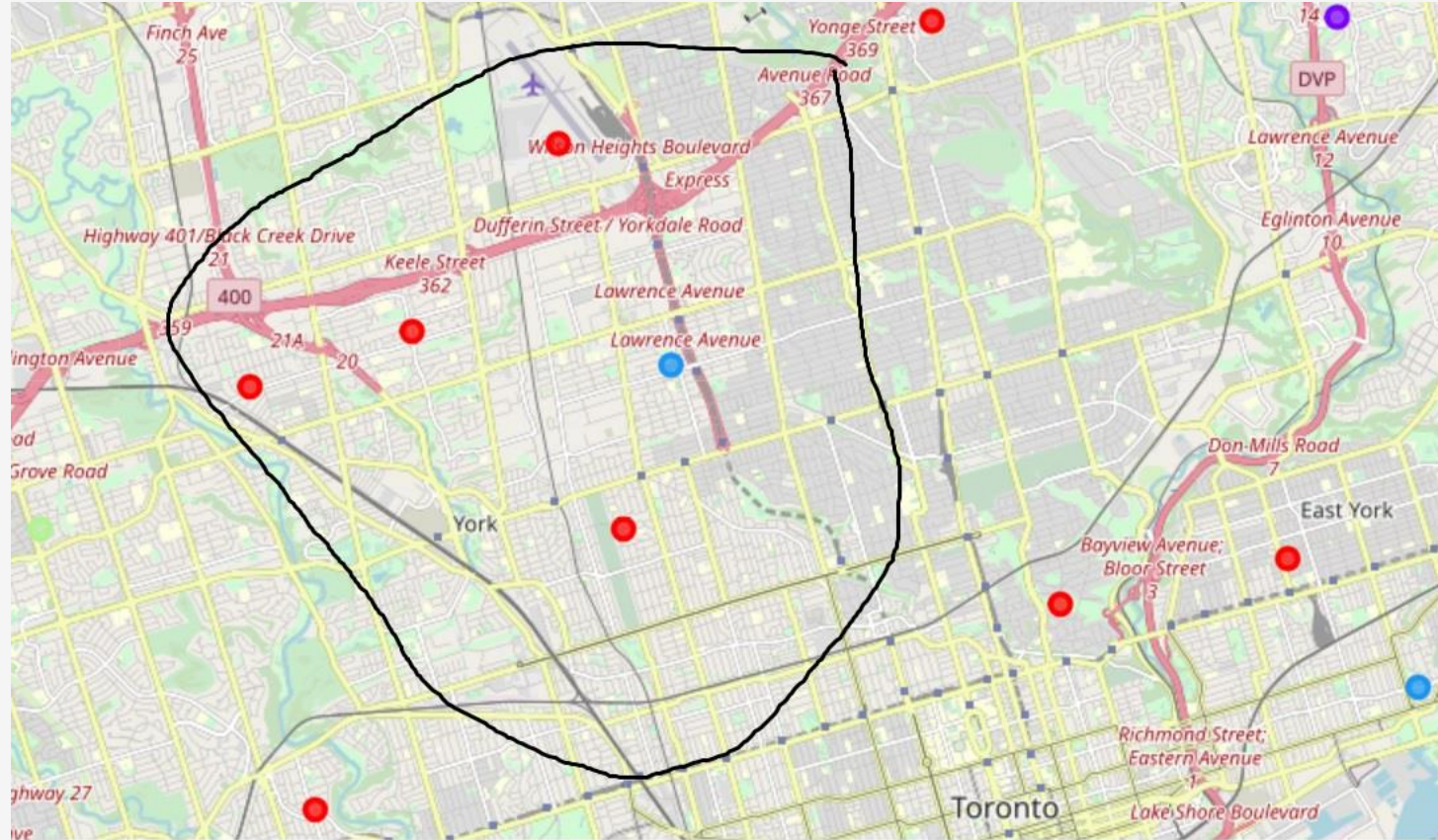
The second criteria: it must have parks

```
combined.loc[combined['1st Most Common Venue']=='Park']
```

	Motel	Movie Theater	Moving Target	Museum	Music Venue	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue
	0.0	0.00	0.0	0.0	0.0	0	Park	Playground	Coffee Shop	Antique Shop
	0.0	0.00	0.0	0.0	0.0	0	Park	Bank	Electronics Store	Antique Shop
	0.0	0.00	0.0	0.0	0.0	1	Park	Bus Stop	Fast Food Restaurant	Food & Drink Shop
	0.0	0.00	0.0	0.0	0.0	0	Park	Bus Stop	Electronics Store	Airport



Solution & Conclusion



This is the optimal area for a tourist to visit. It has plenty of restaurants and parks to have fun and enjoy life.

Thank you for your time!

