

I am moving out, what's
next?

Introduction

- The aim of this project is to get a tool to find neighbourhoods with specific characteristics. When people move on to a different city there usually are some essential venues and services they want on the new neighbourhood. For example, some people may want to have a train station, or schools near their new home or, maybe, they only want to find a neighbourhood with similar characteristics than their actual neighbourhood. In this project we will try the Foursquare Api to explore the city of Toronto in order to find the more suitable neighbourhood for someone moving from a specific place.

Data

- The data used to investigate Toronto neighbourhood is extracted from [https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada: M.](https://en.wikipedia.org/wiki/List_of_postal_codes_of_Canada:_M) and adapted to perform the experiment.

	Postal Code	Borough	Neighbourhood	Latitude	Longitude
0	M3A	North York	Parkwoods	43.75188	-79.33036
1	M4A	North York	Victoria Village	43.73042	-79.31282
2	M5A	Downtown Toronto	Regent Park, Harbourfront	43.65514	-79.36265
3	M6A	North York	Lawrence Manor, Lawrence Heights	43.72321	-79.45141
4	M7A	Downtown Toronto	Queen's Park, Ontario Provincial Government	43.66449	-79.39302

Postal code, Borough and Neighbourhood are directly extracted from the webpage and the latitude and longitude is obtained by using the Goecoder Python library

Data

- Using the Foursquare API the venues information from every neighbourhood in Totoronto is extracted

[illegible]

Methodology

- To find similar neighbourhoods to an original one we first need to establish the initial conditions. In this case, we assume that the user wants to move from the Riverdale neighbourhood in New York to another with similar characteristics in Toronto.
- The venues in Riverdale:

```
1]:
```

name	
categories	
Bank	1
Baseball Field	1
Bus Station	2
Food Truck	1
Gym	1
Park	2
Plaza	1

Methodology

- Select the same venues in every neighbourhood in Toronto

	Venue Category	Bank	Baseball Field	Bus Station	Food Truck	Gym	Park	Plaza
Neighborhood								
Agincourt		NaN	NaN	NaN	NaN	NaN	1.0	NaN
Alderwood, Long Branch		NaN	NaN	NaN	NaN	1.0	NaN	NaN
Bathurst Manor, Wilson Heights, Downsview North		NaN	NaN	NaN	NaN	NaN	1.0	NaN
Bayview Village		NaN	NaN	NaN	NaN	NaN	1.0	NaN
Bedford Park, Lawrence Manor East		NaN	NaN	NaN	NaN	NaN	NaN	NaN
...	
Willowdale, Willowdale West		1.0	NaN	NaN	NaN	NaN	1.0	NaN
Woburn		NaN	NaN	NaN	NaN	NaN	1.0	NaN
Woodbine Heights		NaN	NaN	NaN	NaN	NaN	NaN	NaN
York Mills West		NaN	NaN	NaN	NaN	NaN	1.0	NaN
York Mills, Silver Hills		NaN	NaN	NaN	NaN	NaN	NaN	NaN

Results

- Once the distance between the original neighbourhood and the Toronto neighbourhoods is computed we can obtain the neighbourhood with m
- ore similar venues than the original one.

categories	Bank	Baseball Field	Bus Station	Food Truck	Gym	Park	Plaza
Neighborhood							
Harbourfront West, Bathurst Quay, South Niagara, Island airport	1.0	0.0	0.0	0.0	2.0	2.0	0.0
Central Bay Street	1.0	0.0	0.0	0.0	1.0	1.0	2.0
Dufferin, Dovercourt Village	1.0	0.0	0.0	0.0	0.0	2.0	0.0
India Bazaar, The Beaches West	0.0	0.0	0.0	0.0	1.0	2.0	0.0
St. James Town	0.0	0.0	0.0	1.0	2.0	2.0	0.0
St. James Town, Cabbagetown	1.0	0.0	0.0	0.0	0.0	2.0	0.0

Conclusions

- In this project a tool for search similar neighbourhoods in different cities is presented. The project uses the Foursquare API and the Euclidian distance to select the neighbourhoods with more similar venues. This allows to the user to explore the new city and to search for different options taking into account his personal preferences.