

Coursera Capstone

Vancouver Vs. Toronto



Vancouver and Toronto are two of the biggest cities in Canada

Vancouver

Toronto

2.5 million (# 3)

Population

6.5 million (# 1)

5492 (# 1)

Population Density (/km²)

4334 (# 8)

99600 (# 4)

Median Income (CAD)

99000 (# 5)

Pacific coast

Location

Lake Ontario

Different living experience between two cities

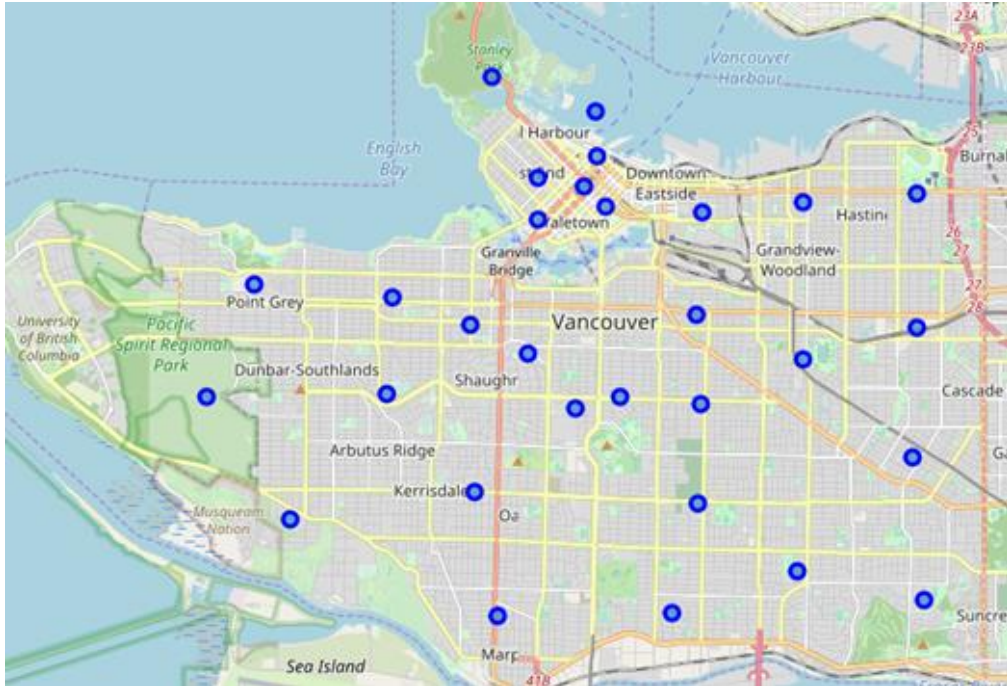
Data acquisition and cleaning

- Postal code and neighborhood data from Wikipedia. Only select neighborhood's borough is Vancouver or contain Toronto
- Geographical coordinate data from GeoNames. Assign coordinates according to postal code.
- Venue data requested from Foursquare API. Venue list within 100 meters radius for each neighborhood

Methodology

- Web scraping for neighborhood list
- Foursquare API for venue information
- Python script for data analysis
- K-means clustering method for neighborhood cluster
- Folium and Matplotlib for data visualization

Neighborhood Distribution



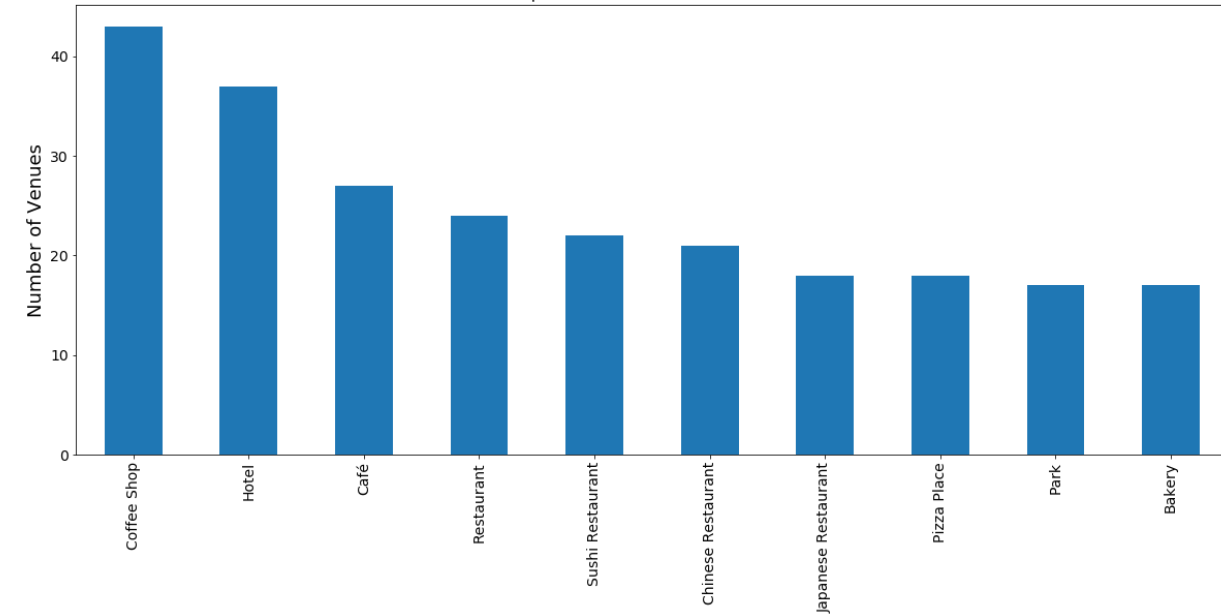
Vancouver
31 neighborhoods



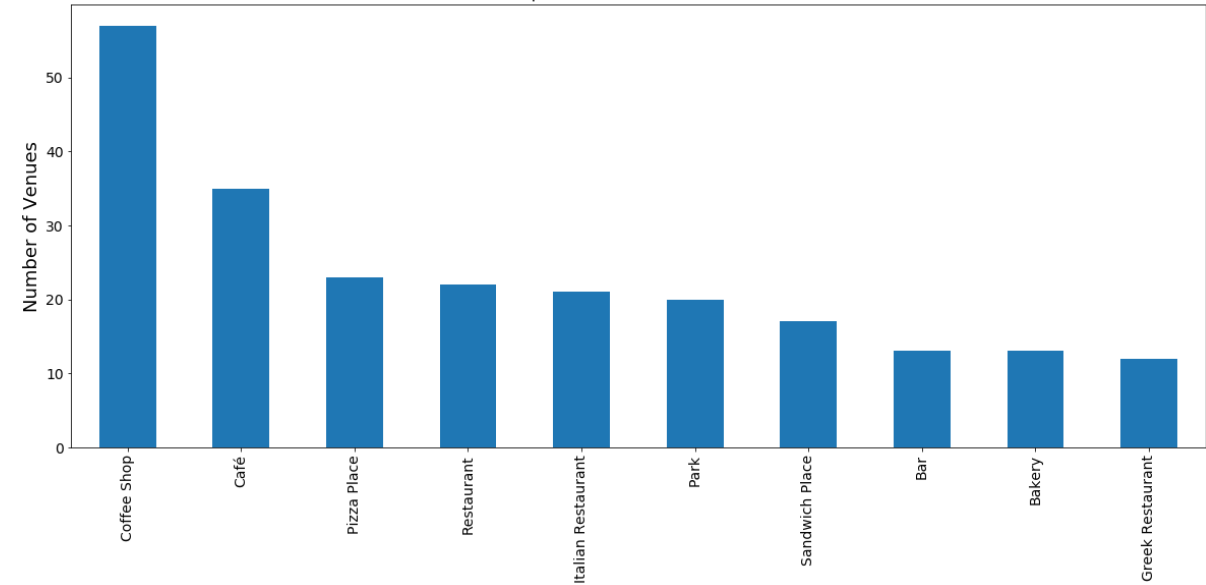
Toronto
39 neighborhoods

Venue category distribution

Top 10 Venues in Vancouver Area

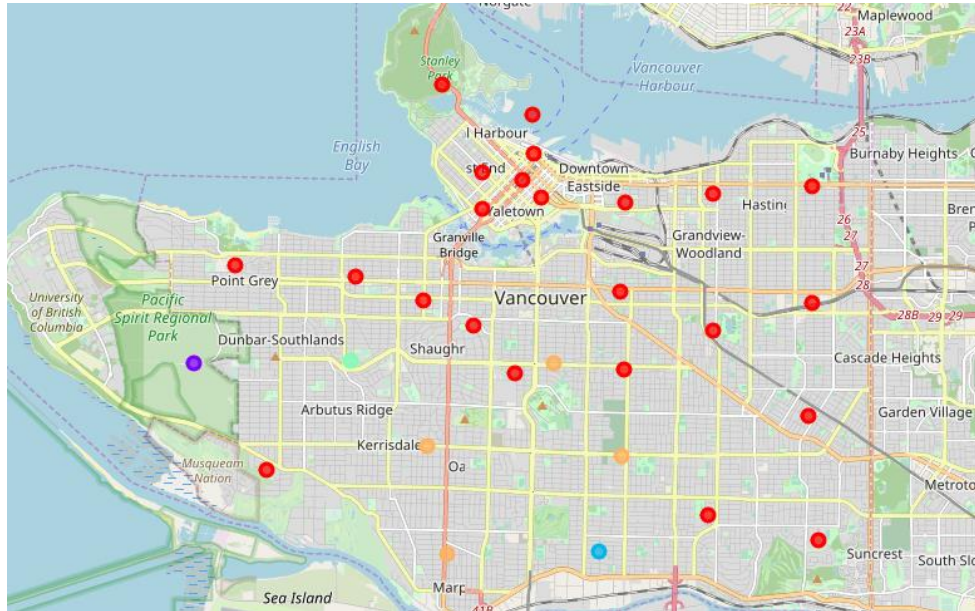


Top 10 Venues in Toronto Area



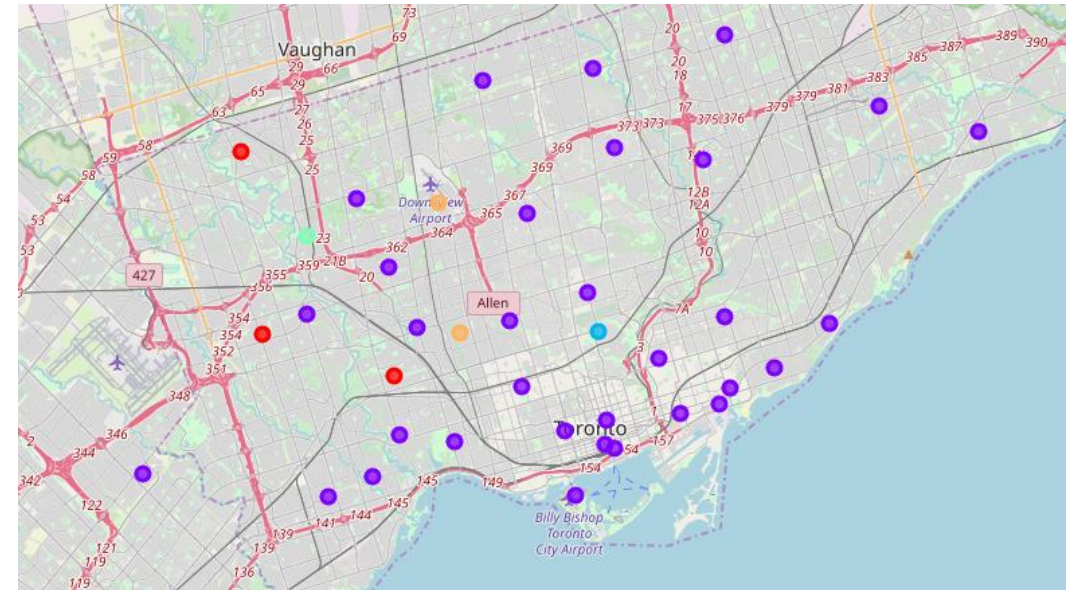
- Coffee Shop and Café in top 3 for both cities
- Vancouver has more hotels near neighborhood than Toronto
- Toronto has more western restaurants than Vancouver
- Vancouver has more Asian restaurants than Toronto

Neighborhood Cluster



Vancouver

North side has more similar lifestyle



Toronto

South side has more similar lifestyle

Results

- Vancouver has 25.51 venues per neighborhood and Toronto 19.89 venues per neighborhood
- Vancouver has 1.38 Coffee Shop per neighborhood and Toronto has 1.46
- Vancouver has 0.54 park per neighborhood and Toronto has 0.51
- Vancouver has 0.16 gym per neighborhood and Toronto has 0.31

If you are like this, then you should choose Vancouver

- Don't care about venue type, just want to have a venue close to your neighborhood.
- Have visitors very often and want them to stay closer to your neighborhood.
- Like Asian food a lot and want to eat Asian food frequently.
- Like to go to parks that are close to your neighborhood.

If you are like this, then you should choose Toronto

- Don't want to go same type of venue every time, what to have more diverse experiences.
- Like western food than Asian food, especially like pizza.
- Want to have a Coffee Shop close to your neighborhood.
- Like to work out in gyms that are close to your neighborhood

Conclusion

- Both city seems similar by venue numbers, but venue category is different
- Restaurant cuisine popularity shown people's food preference
- Venue number difference shown different lifestyle. People in Vancouver like casual and similar life everyday. People in Toronto like new experiences.