Dessert Island:

Recommendations for New Restaurant Locations in New York City

Introduction and Business Problem

- Client: Dessert Island
  - small chain of boutique dessert cafes in Toronto
- Plans: expansion to New York City (NYC)
- Problem: identifying potential successful locations
- Proposed Solution: find location similarities between Toronto and NYC based on data about their neighbourhoods

Current Situation

- Client has successful and unsuccessful locations in Toronto

| Location ID	Neighbourhood	Success level
1	Annex	High
2	Roncesvales	High
3	Woodbine Corridor	Low

Methodology

- For both cities, collect data on:
  - neighbourhood locations
  - existing venues and their locations
- Cluster neighbourhoods based on venue mix
  - use venue categories as feature set for each neighbourhood
  - compute proportion of each venue category in each neighbourhood
 - use k-means clustering algorithm
  - group into 7 clusters

Data

- Sources
  - Neighbourhood names and locations:
    - Toronto: Toronto Open Data Portal (https://open.toronto.ca/)
    - New York City: New York University Spatial Data Repository (https://geo.nyu.edu/)
  - Venues: Foursquare.com RestAPI functions
    - `explore`: queries venues nearby given coordinates
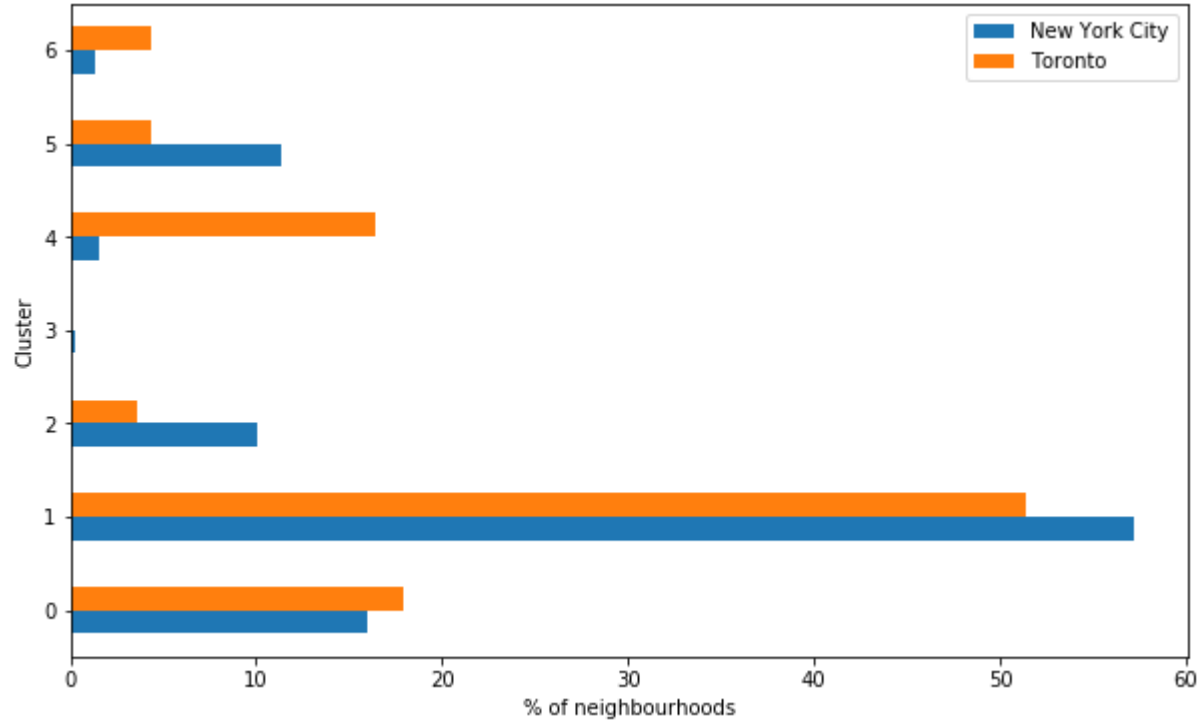   - `category`: returns venue category hierarchy
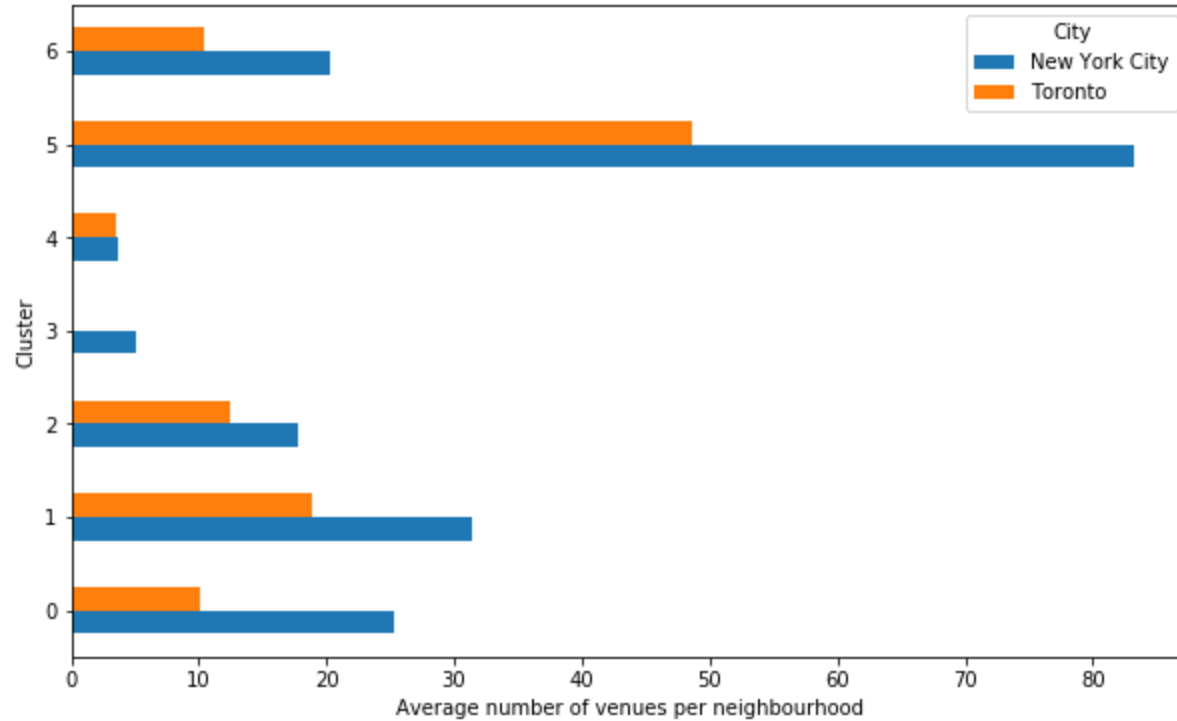
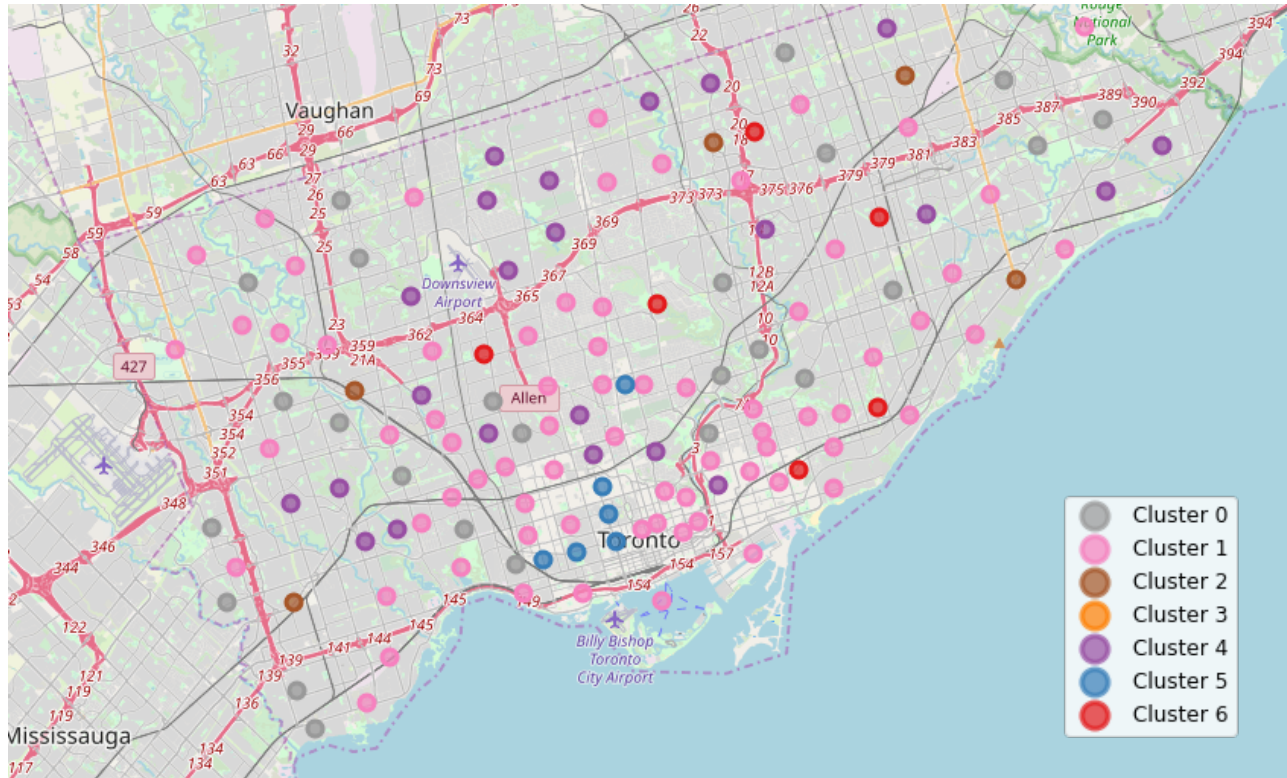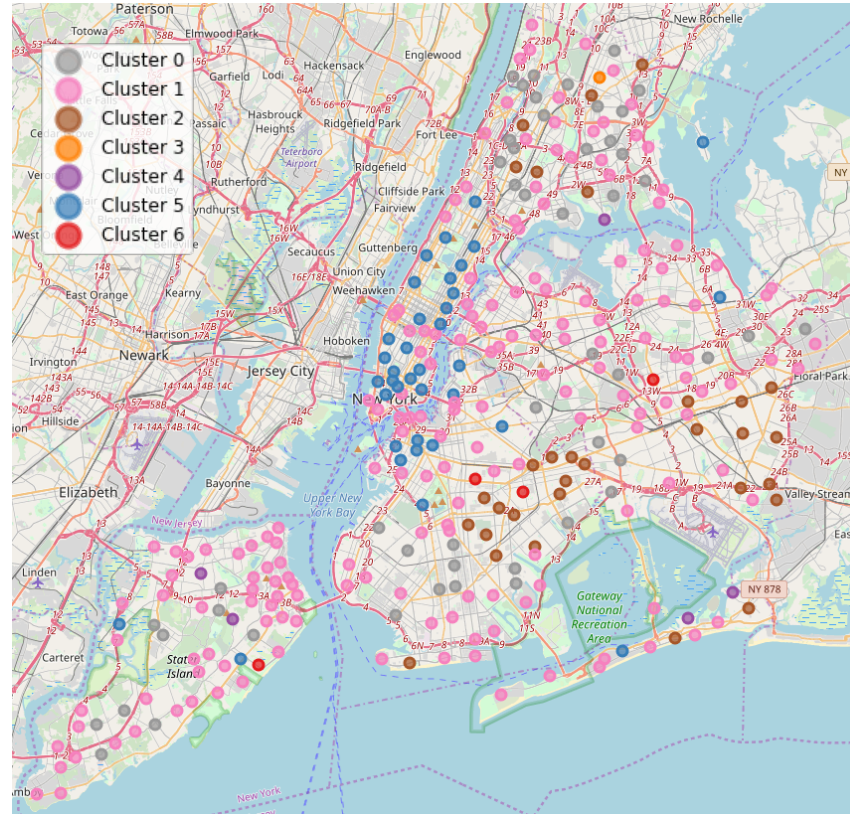# Neighbourhood Locations: Toronto
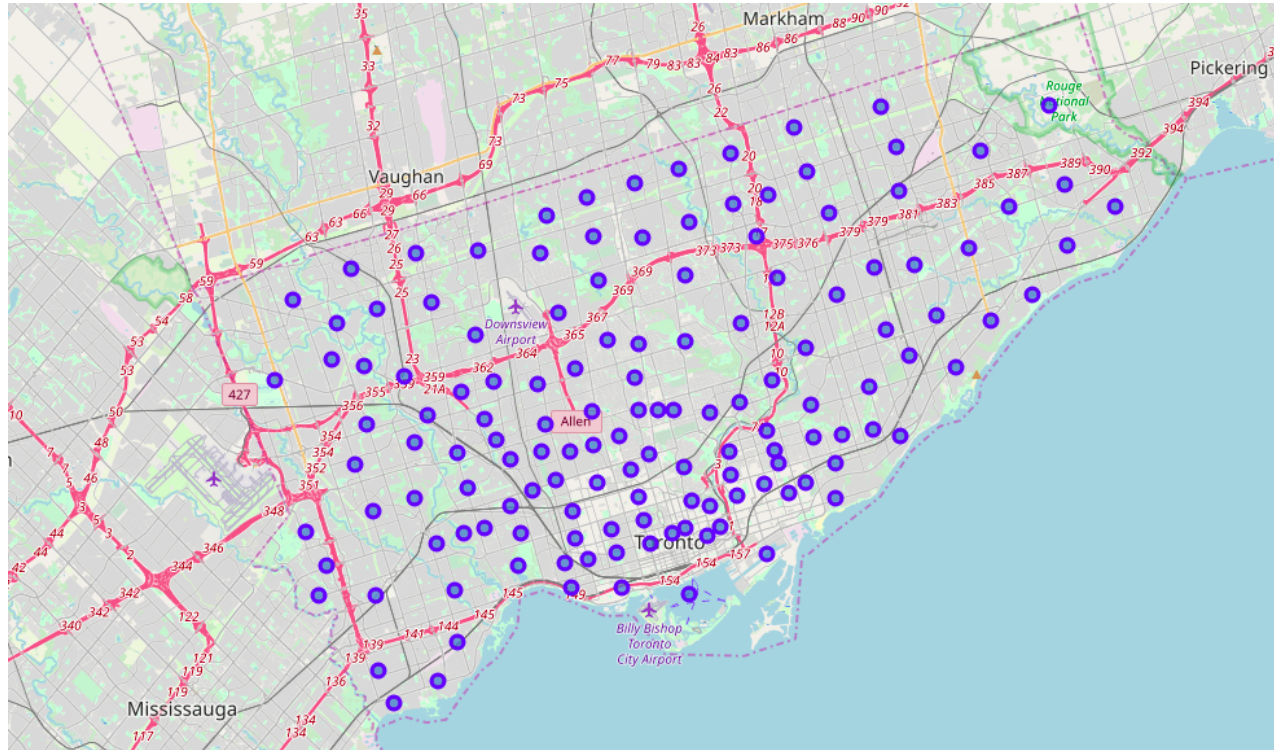
Neighbourhood Locations: New York City
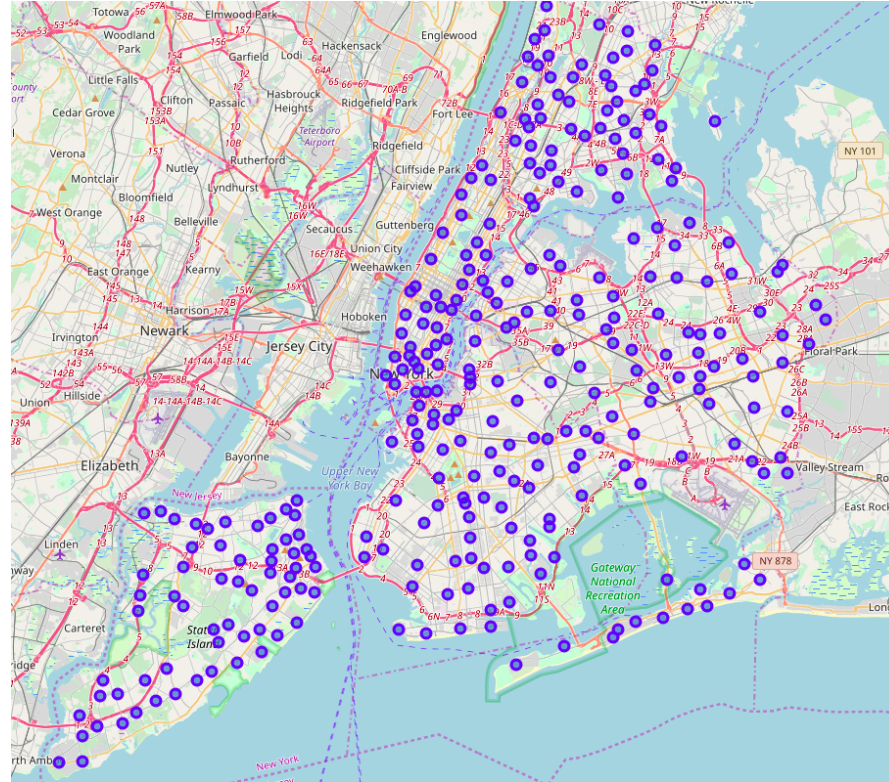
Results: Neighbourhood Clusters

Results: Venues per Neighbourhood

Neighbourhood Clusters in Toronto
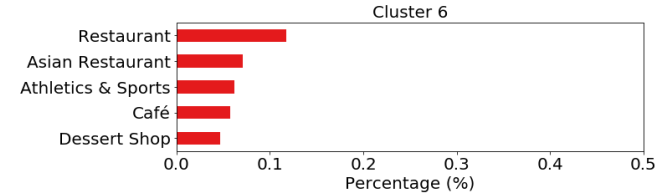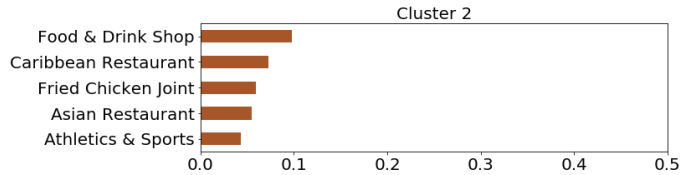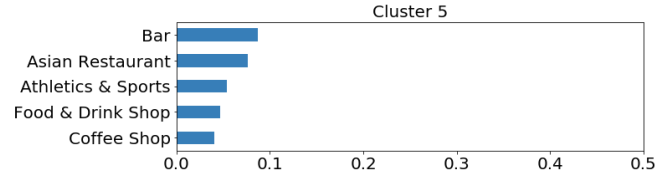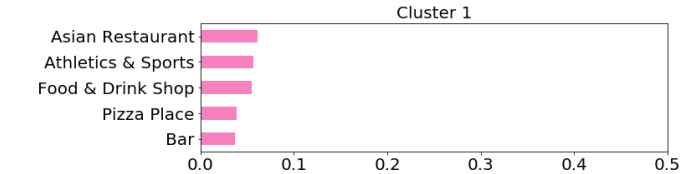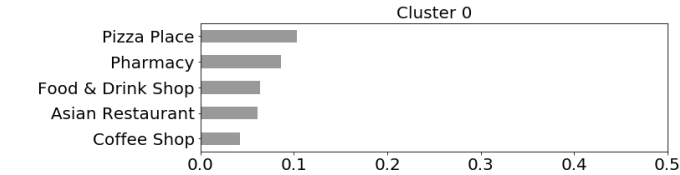
Neighbourhood Clusters in New York City

Top 5 Venue Categories
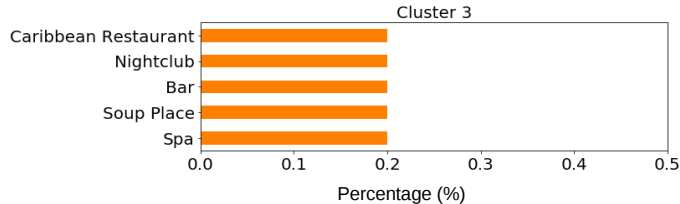
Summary of Findings

- Client's successful cafes found in Cluster 0 and Cluster 5
  - Has Pizza Places and Bars, possible complimentary businesses
- Client's unsuccessful cafes found in Cluster 6
  - Has number of Cafes and Dessert Shops, likely competitors

Recommendations

- Client build locations in NYC neighbourhood Clusters 0 and 5

- Client should not build in Cluster 6 neighbourhoods

Conclusions

- Compared neighbourhoods in Toronto and NYC

- Used location data on neighbourhoods and existing venues

- Recommended neighbourhoods in NYC that are similar to Toronto neighbourhoods with successful current locations