



The Battle of Neighborhoods: New York vs Toronto

Hanning Gu

1-Jan-2020

Motivations

- Toronto & New York: global centre of finance, culture, arts and business
- Attract lots of businesses and tourists
- Which city is better for
 - Migration
 - Travelling
 - Opening a business
- Let's explore how different or similar they are!

Data Acquisition, Cleaning & Processing



Data of New York's neighbourhoods from [NYU Spatial Data Repository](#)



Data of Toronto's neighbourhoods from [Wikipedia](#)



Data of venues from Foursquare location data



Incomplete data are dropped and duplicate data dropped



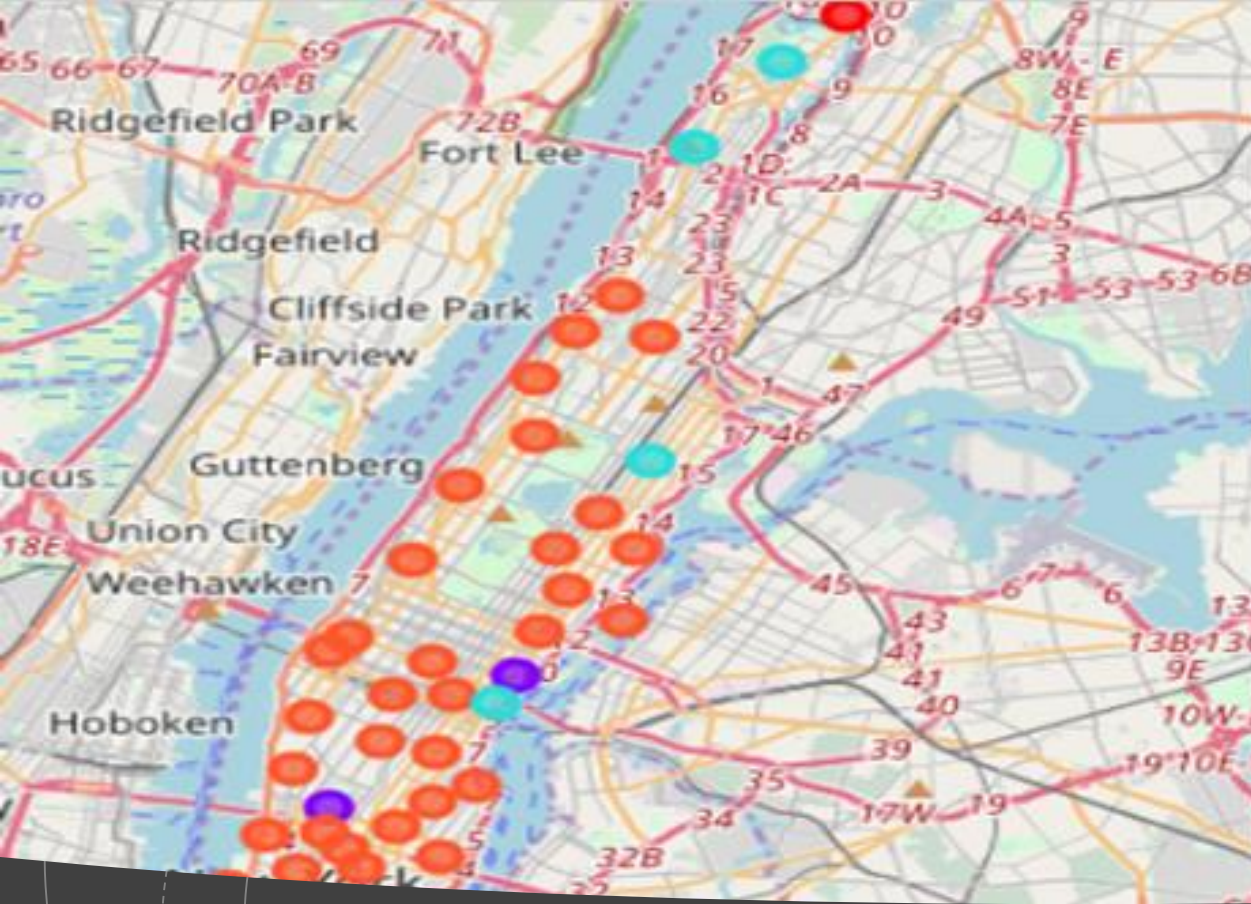
Venue data in every neighbourhood is aggregated



Data frame contains summary of venue data of all neighbourhoods created



K-means clustering used to divide neighbourhoods into different groups



Clustering Results

- Each colour represents a cluster
- Manhattan (left) : One single dominant cluster
- Toronto (right): Multiple important clusters

Findings

Restaurant is everywhere in Manhattan.

Toronto is more diverse:

Torontonians love coffee, they also like bakery and sandwich

Indoor and outdoor activities also popular in some neighbourhoods

Recommendations

Which city to go? A life-style choice

Manhattan: Open a restaurant or try all kinds of cuisines

Toronto: Open a coffee shop or enjoy a relaxing day with some physical exercises!

Conclusion and Future Work

- Analysed and compared Manhattan and Toronto using Foursquare location data
- Used K-means clustering machine learning
- Made recommendations for business plans and travelling
- Potential Improvements for Future Work
 - Include more data including \$cost, demographic statistics
 - Use density-based clustering method