

# Capstone Project - The Battle of Neighborhoods

# Introduction

My capstone projects looks at the **neighborhood of different cities in different countries** and compares them by building clusters.

The idea is to check, whether the neighborhoods of one city will end up in one cluster or whether there are similar neighborhood structures that exists in different countries. This can be a signal of whether the **national culture** is dominant or **local cultures** develop on their own.

The two cities analyzed are **New York** and **Toronto**.

# Data

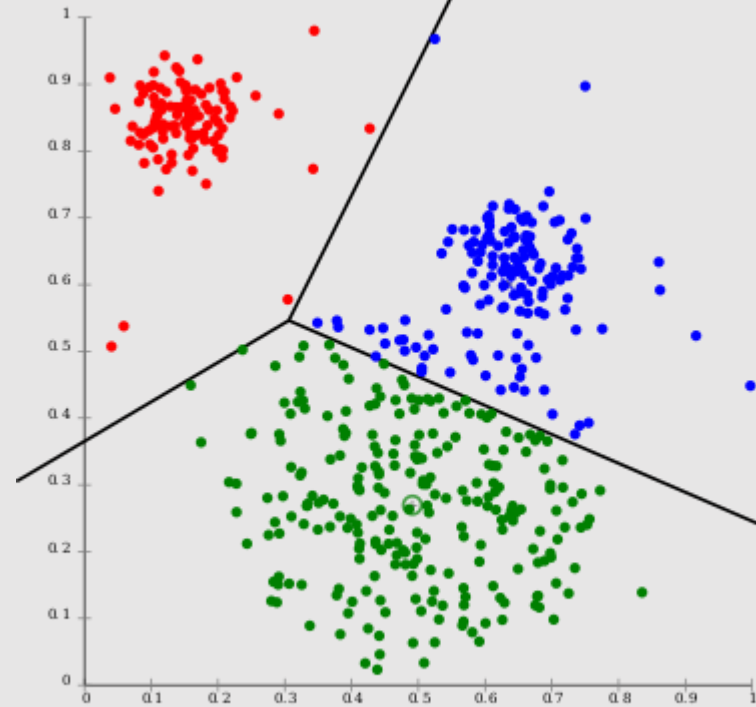
The data used in this capstone are the **foursquare location data for developers**. The data are accessible via API.



<https://developer.foursquare.com/>

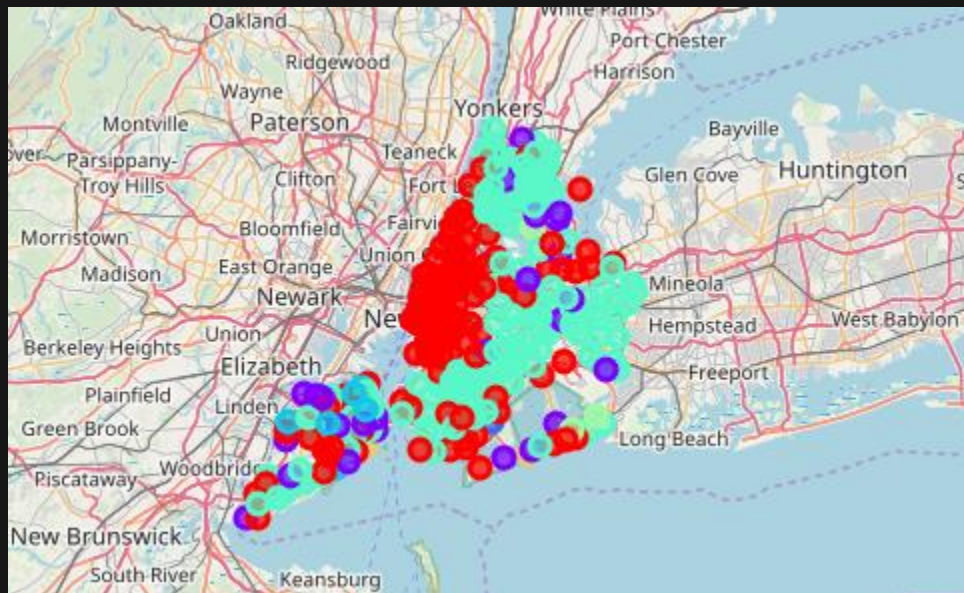
# Methods

**K means Clustering** is used to cluster the neighborhoods into 8 clusters based on their most common venues.



# Results

New York



Toronto



Main Clusters

● Cluster 0 („North American“)

● Cluster 4 („Urban US“)

# Special Clusters

**Cluster 5** is small but appears both in Toronto and New York. It contains neighborhoods whose most dominant venues are parks

Borough	Neighborhood	Latitude	Longitude	Cluster Labels	1st Most Common Venue	2nd Most Common Venue	3rd Most Common Venue	4th Most Common Venue	5th Most Common Venue	6th Most Common Venue	7th Most Common Venue	8th Most Common Venue	9th Most Common Venue	10th Most Common Venue
Bronx	Clason Point	40.806551	-73.854144	5	Park	Home Service	Grocery Store	Boat or Ferry	Pool	Bus Stop	South American Restaurant	Factory	Egyptian Restaurant	Electronics Store
Queens	Somerville	40.597711	-73.796648	5	Park	Yoga Studio	Food Court	Duty-free Shop	Eastern European Restaurant	Egyptian Restaurant	Electronics Store	Empanada Restaurant	English Restaurant	Ethiopian Restaurant
Staten Island	Todt Hill	40.597069	-74.111329	5	Park	Yoga Studio	Food Court	Duty-free Shop	Eastern European Restaurant	Egyptian Restaurant	Electronics Store	Empanada Restaurant	English Restaurant	Ethiopian Restaurant
Queens	Bayswater	40.611322	-73.765968	5	Park	Tennis Court	Playground	Yoga Studio	Exhibit	Duty-free Shop	Eastern European Restaurant	Egyptian Restaurant	Electronics Store	Empanada Restaurant
Central Toronto	Lawrence Park	43.728020	-79.388790	5	Park	Swim School	Bus Line	Yoga Studio	Farm	Egyptian Restaurant	Electronics Store	Empanada Restaurant	English Restaurant	Ethiopian Restaurant
Central Toronto	Summerhill East, Moore Park	43.689574	-79.383160	5	Summer Camp	Park	Playground	Yoga Studio	Factory	Duty-free Shop	Eastern European Restaurant	Egyptian Restaurant	Electronics Store	Empanada Restaurant

# Conclusion and Outlook

We can conclude that **a type of culture exists, that is not bond to national borders**. We find this neighborhoods (red clustered dot) both in Toronto and New York. Apart from that both cities have neighborhoods which are very special and have no common part in the other city. This is for example Staten Island which seems to have strong local subculture.

Extending the analysis may help to find more interesting results.

I recommend analyzing at least two cities for each country and also analyzing a country that differs from Canada and US. E.g. adding a central European country and an Asian one.