BATTLE OF THE NEIGHBORHOODS

BY STACEY YANG

PROBLEM STATEMENT

❖ Find out the best neighborhood to release a new food delivering application between neighborhoods in New York City, US and neighborhoods in Toronto, Canada.

❖ Character of good neighborhood:
   ❖ High density (High Population, Low Land Area)
   ❖ Diversity in Restaurants
   ❖ Number of Restaurants

OBJECTIVES

❖ Collect the population and density information for each boroughs

❖ Identify high density boroughs

❖ Collect the neighborhoods top restaurants venues and top all categories venues using Foursquare

❖ Analyze on venue data on venue categories using unsupervised k-means clustering algorithm

❖ Identify the numbers of restaurants within one neighborhood, and the types of cuisine are providing within one neighborhood

❖ Identify and understand the similarities and differences between two selected neighborhoods to obtain insights

DATA UNDERSTANDING - POPULATION

❖ New York City has more population than City of Toronto

❖ West Toronto has the highest population density in City of Toronto

❖ Manhattan has the highest population density in New York City

Borough	Total Area (km2)	Total Population	Density (Person / km2)
West Toronto	19	151,860	7,992.63
Downtown Toronto	23.8	162,505	6,827.94
York	13.8	88,340	6,401.45
Central Toronto	13.7	86,560	6,318.25
N/A	110.8	575,640	5,195.31
East Toronto	23.4	118,565	5,066.88
East York	18	80,335	4,463.06
North York	115	370,990	3,226.00
Scarborough	177.2	559,985	3,160.19
Etobicoke	118.59	306,725	2,586.43
City of Toronto	633.29	2,501,505	3,950.02

From Wikipedia for Toronto population

| New York City's five boroughs							
Jurisdiction	Population	Gross Domestic Product		Land area		Density	
Borough	Estimate	billions	per capita (USD)	square (miles)	square(km)	persons / (sq.mi)	persons / (km2)
The Bronx	1,418,207	42.695	30,100	42.1	109.04	33,867	13,006
Brooklyn	2,559,903	91.559	35,800	70.82	183.42	36,147	13,957
Manhattan	1,628,706	600.244	368,500	22.83	59.13	71,341	27,544
Queens	2,253,858	93.31	41,400	108.53	281.09	20,767	8,018
Staten Island	476,143	14.514	30,500	58.37	151.18	8,157	3,150
City of New York	8,336,817	842.343	101,000	302.64	783.83	27,547	10,636

From Wikipedia for City of New York population

DATA UNDERSTANDING – WEST TORONTO

❖ 6 neighborhoods in West Toronto
❖ Little Portugal, Trinity has the most number of restaurants (17).
❖ Within those restaurants, Asian Restaurants is the most popular one, it has 3 restaurants, Vegan is the second popular one, with 2 restaurants.
❖ There are 2 restaurants did not categorized themselves.
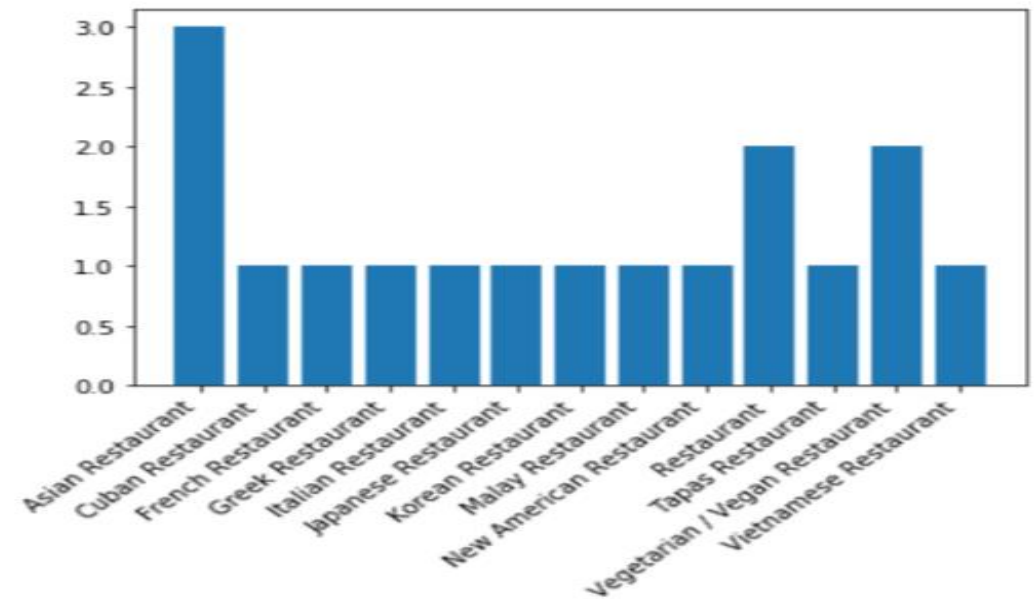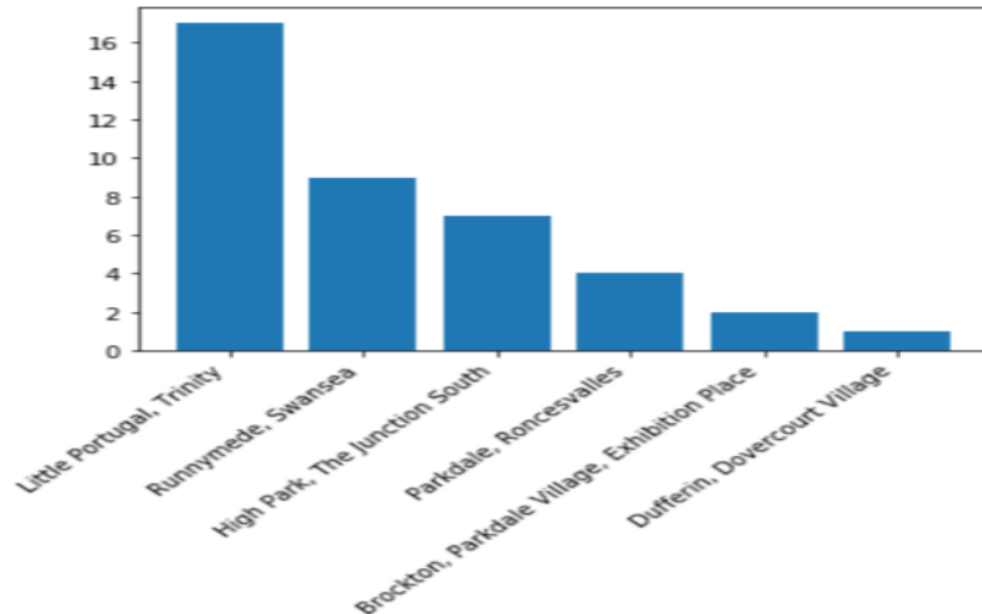
DATA UNDERSTANDING – NEW YORK CITY

❖ 39 neighborhoods within Manhattan
❖ Top 10 neighborhoods have more than 25 restaurants within its own neighborhood
❖ Greenwich Village has the most restaurants (37)
❖ The most popular cuisine is Italian, it has 10 restaurants, the second pace is Japanese/ Sushi restaurants, with 5 restaurants.
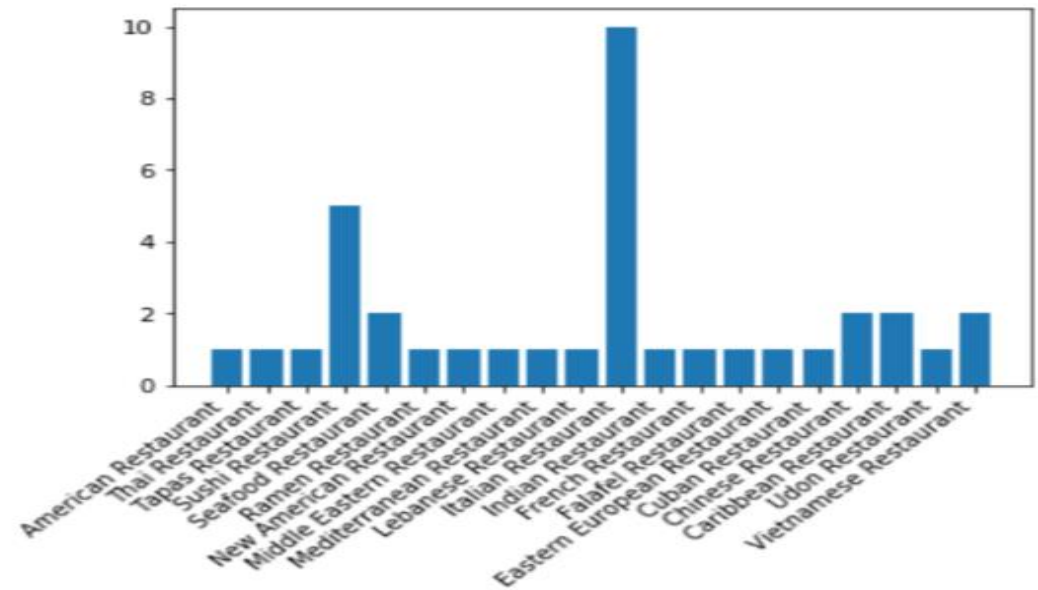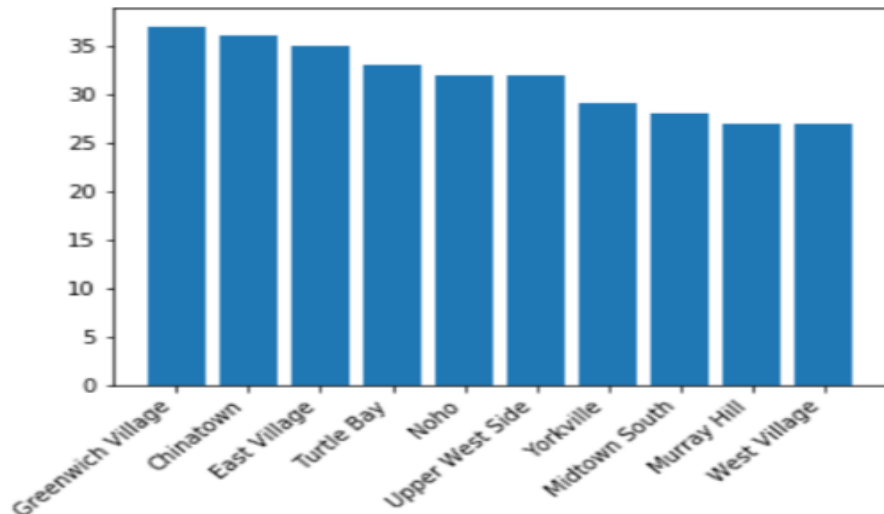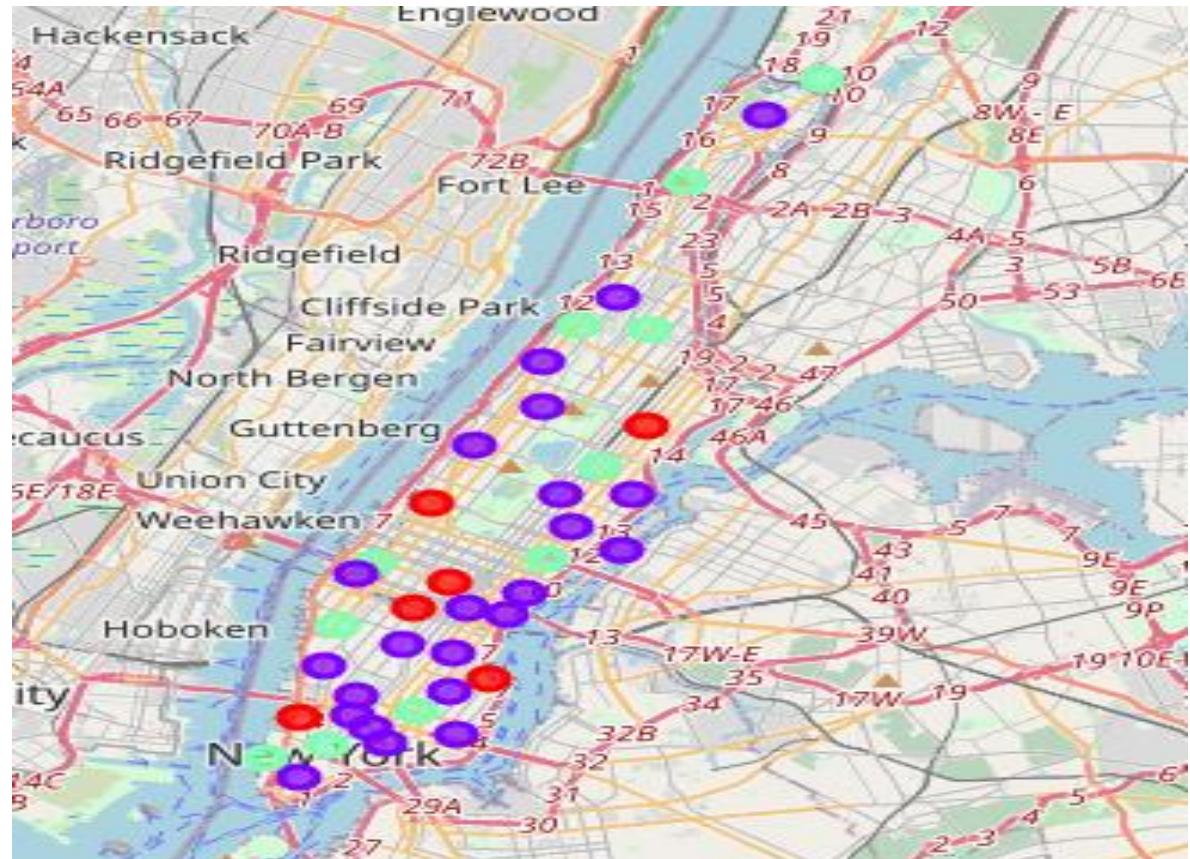
MAP OF WEST TORONTO IN TORONTO

Different neighborhood cluster
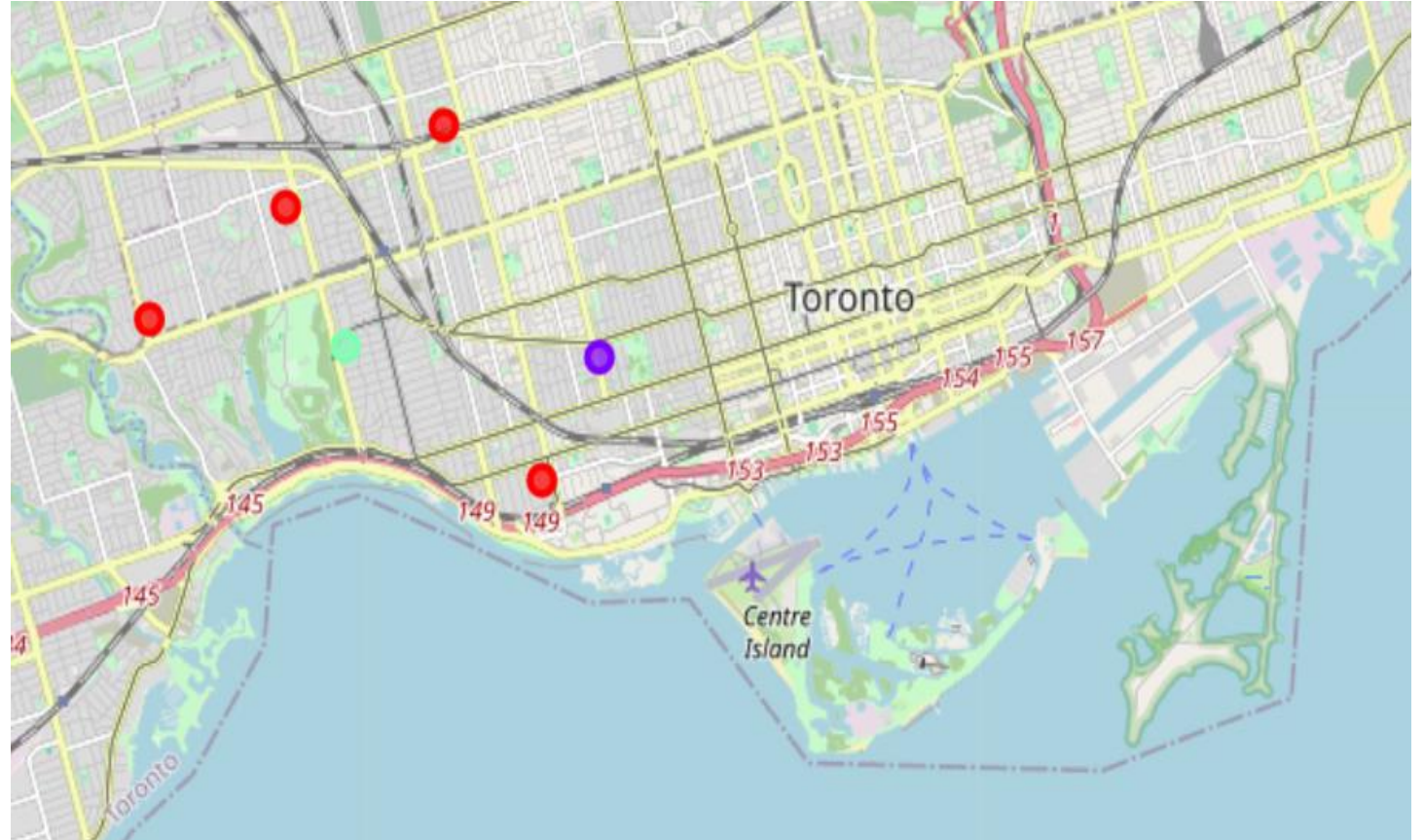
MAP OF MANHATTAN IN NEW YORK CITY

Different neighborhood cluster

COMPARISON BETWEEN NEIGHBORHOODS
-- WEST TORONTO VS MANHATTAN

❖ West Toronto has less population, less density than Manhattan
❖ West Toronto has less number of restaurants then Manhattan
❖ West Toronto has less diversity in restaurants

❖ The most common venues in West Toronto are Bakery, Café, Bar, Gift Shop, Pharmacy and Restaurants.
  ❖ Most of neighborhoods are in cluster_0, which is more residential neighborhoods

❖ The most common venues in Manhattan are different restaurants, Plaza, Hotel, Park, Coffee shop, Bar, Gym and SPA.
  ❖ Neighborhoods in Manhattan are mix of business center, residential neighborhoods, and tourist center.

CONCLUSION

Choose
Manhattan
To launch application

Manhattan is a better choice for below reasons:
- ❖ More local restaurants to build up business relationships with
- ❖ More potential customers to attract when launches new food delivering application
- ❖ High population not only from residential perspective, but also has high population of people comes in for work, and tourist come in to stay
- ❖ Great amount of restaurants and cuisines for people to choose
- ❖ More options for food delivering company to provide to customers, and increase the opportunities to attract more customers