# Similarities and Dissimilarities of the Venue Categories among Boroughs in new York city

Introduction

- New York City is composed of 5 boroughs, including Manhattan, Brooklyn, Queens, Bronx and Staten Island.

- Each borough has its unique venues and characteristics.

- This work intends to explore the top venue categories and unique venue categories in each borough.

- This work can help tourists to get a better understanding of the NYC.

- It may also benefit business-owners who want to choose their new store locations in New York City
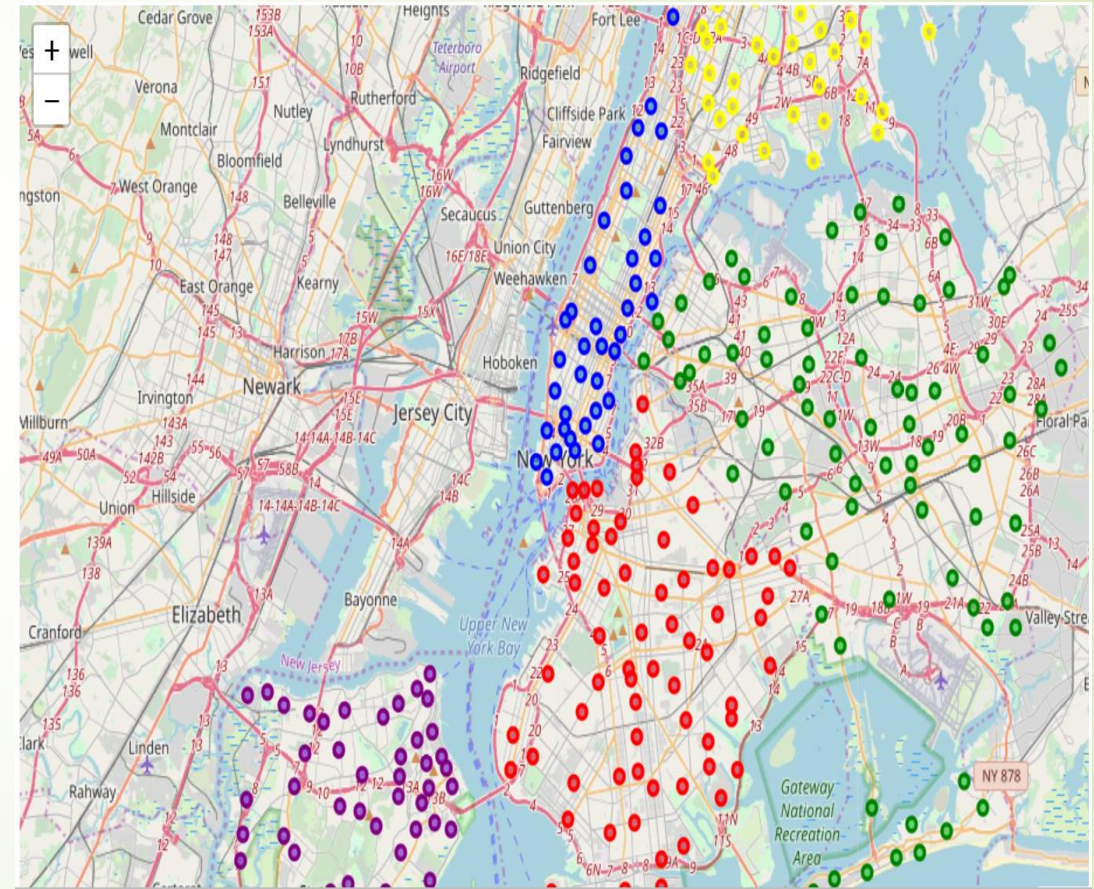
Data Source

- Geographical location of each neighborhood in NYC
  - Available: https://geo.nyu.edu/catalog/nyu_2451_34572.

- Venues within each neighborhood
  - Available by calling the Foursquare API
  - Non-commercial tier developers are allowed to get 99,500 regular calls and 500 premium calls

Top venue categories in each borough

TABLE I. Top venue categories in each borough.

Venue Category	Count	Percentage (%)
Coffee Shop	133	4.019341
Italian Restaurant	130	3.928679
American Restaurant	82	2.478090
Café	77	2.326987
Pizza Place	77	2.326987

(a) Manhattan

Venue Category	Count	Percentage (%)
Pizza Place	122	4.375897
Coffee Shop	90	3.228121
Bar	86	3.084648
Deli / Bodega	71	2.546628
Italian Restaurant	63	2.259684

(b) Brooklyn

Venue Category	Count	Percentage (%)
Pizza Place	88	4.152902
Deli / Bodega	78	3.680982
Chinese Restaurant	63	2.973101
Donut Shop	55	2.595564
Bakery	54	2.548372

(c) Queens

Venue Category	Count	Percentage (%)
Pizza Place	98	8.065844
Deli / Bodega	53	4.362140
Donut Shop	46	3.786008
Italian Restaurant	43	3.539095

(d) Bronx

Venue Category	Count	Percentage (%)
Pizza Place	50	6.045949
Bus Stop	47	5.683192
Italian Restaurant	40	4.836759
Deli / Bodega	32	3.869407
Bagel Shop	23	2.781137

(e) Staten Island

Top venue categories in each borough, cont'd
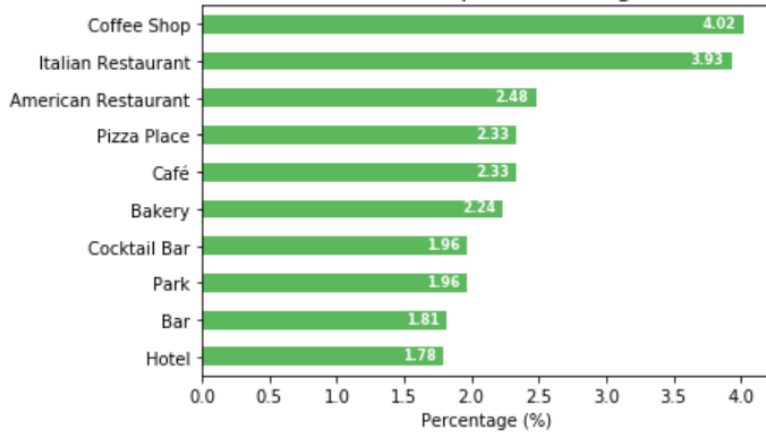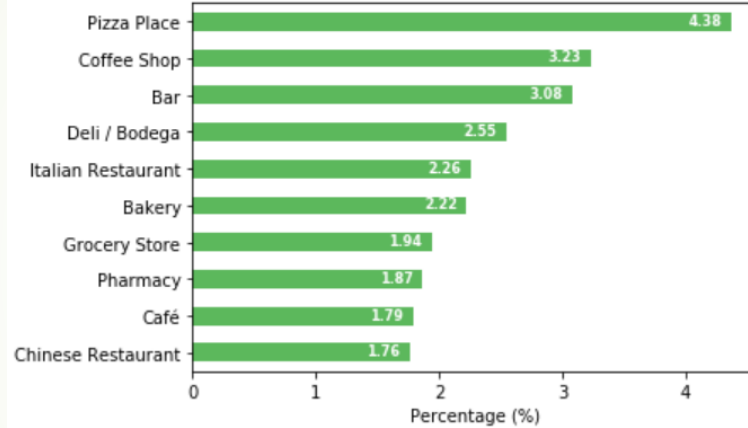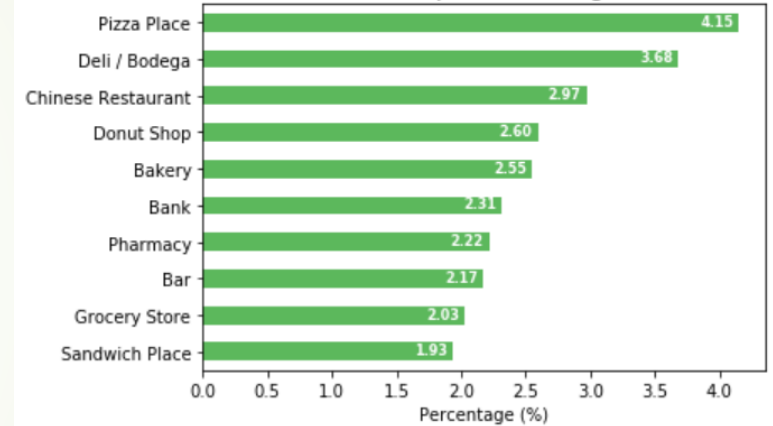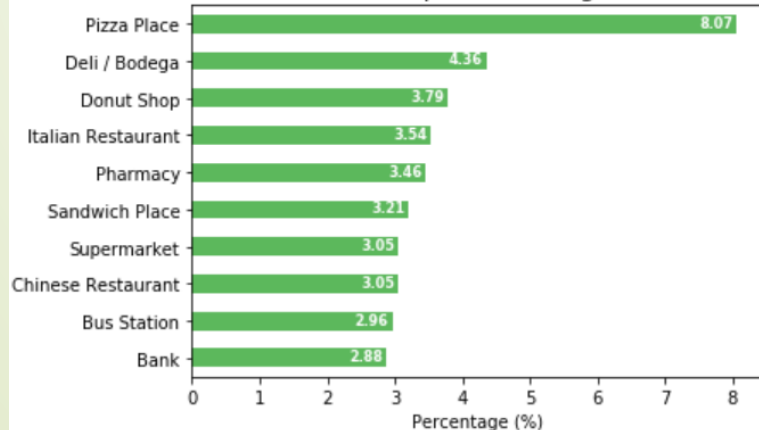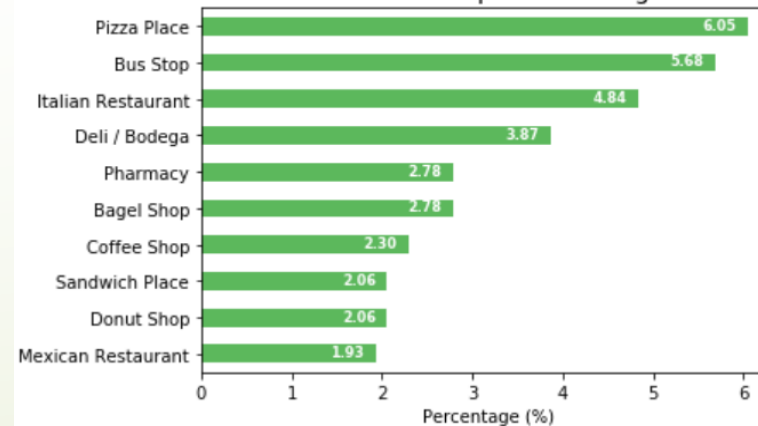
Unique venue categories in each borough

TABLE II. Top 5 unique venue categories in each borough.

	Category	Count
0	Exhibit	8
1	Australian Restaurant	5
2	Memorial Site	3
3	Pet Café	3
4	Music School	3

(a) Manhattan

	Category	Count
0	Piercing Parlor	2
1	Stadium	1
2	Auto Dealership	1
3	Event Service	1
4	Stationery Store	1

(b) Brooklyn

	Category	Count
0	Colombian Restaurant	3
1	Shop & Service	2
2	Bath House	1
3	State / Provincial Park	1
4	College Basketball Court	1

(c) Queens

	Category	Count
0	Track	2
1	Waste Facility	1
2	Shopping Plaza	1
3	River	1
4	Comic Shop	1

(d) Bronx

	Category	Count
0	Recording Studio	2
1	Toll Plaza	1
2	Sri Lankan Restaurant	1
3	Theme Park	1
4	Tex-Mex Restaurant	1

(e) Staten Island

Unique venue categories in each borough, cont'd

a) Manhattan

b) Brooklyn

c) Queens

d) Bronx

e) Staten Island

Discussions

- Pizza place is most popular venue category in New York City, except in Manhattan where coffee shop is the most popular venue category.

- Brooklyn has the most pizza places in New York City, with a total number of 122. While in Bronx, the number of pizza places is almost twice as many as the number of the second most popular venue category, which is deli/bodega.

- Italian restaurant is also very popular in New York City, since it is within the top 5 popular venue categories most of the boroughs except Queens.

- Queens has many Chinese restaurants and Korean restaurants, perhaps because Queens has the largest Asian population among the 5 boroughs.

- Manhattan, Brooklyn, and Queens have a lot of bars.

Discussions, cont'd

- Manhattan and Queens have the most unique venue categories in New York City, which are followed by Brooklyn and Staten, and Bronx has the least number of unique venues categories in New York City.

- Manhattan has as many as 8 exhibits, while other boroughs have none.

- The memorial sites, pet cafés, music schools, and street arts also makes Manhattan unique to other boroughs.

- There are 3 Columbian restaurants in Queens.

References

- [1] New York Department of City Planning, "2014 New York City Neighborhood Names," [Online] available: https://geo.nyu.edu/catalog/nyu_2451_34572.

- [2] Foursquare, [Online] available: https://developer.foursquare.com/.

- [3] A. Aklson, and P. Lin, "Applied Data Science Capstone" [Online] available: https://www.coursera.org/.