

Capstone Final Assignment

Exploring venues for visitors in Ottawa, ON, Canada

Introduction

- ▶ Aiming to explore venues that best suit for visitors in Ottawa (ON, Canada)
- ▶ Focusing on the ratings and average prices of the venues.
- ▶ Using the support of two APIs: **Foursquare API** and **Zomato API**.

Data Collection

- ▶ Venues in Ottawa in the radius of 4 kilometers from the city center.
- ▶ Foursquare API provides geo information of venues
- ▶ Zomato API provides complete address, user ratings, and price of venues.
- ▶ Data is represented as tabular form

Foursquare data

	name	categories	lat	lng
0	National Arts Centre - Centre National des Arts	Concert Hall	45.422922	-75.692996
1	Sansotei Ramen 三草亭	Noodle House	45.418920	-75.699328
2	National War Memorial	Memorial Site	45.423909	-75.695221
3	Rideau Canal	Other Great Outdoors	45.424781	-75.695129
4	Alt Hotel Ottawa	Hotel	45.419973	-75.698948

Zomato data

	venue	latitude	longitude	price_for_two	price_range	rating	address
0	Le Café	45.4232850000	-75.6946990000	115.0	4.0	3.4	National Arts Centre, 53 Elgin Street, Ottawa ...
1	Sansotei Ramen	45.4189760000	-75.6991850000	0.0	1.0	3.8	153 Bank Street, Ottawa K1P 5N7
2	Le Café	45.4232850000	-75.6946990000	115.0	4.0	3.4	National Arts Centre, 53 Elgin Street, Ottawa ...
3	Wilfrid's Restaurant - Fairmont Château Laurier	45.4251800000	-75.6944100000	120.0	4.0	3.5	Fairmont Château Laurier, 1 Rideau Street, Ott...
4	Juice Monkey	45.4198833333	-75.6996166667	25.0	2.0	3.5	209 Slater Street, Ottawa K1P 5N5

Data Cleaning

- ▶ Merging data from the two data frames
- ▶ Normalizing and removing unnecessary information

Combining data from 2 sources

	name	categories	lat	lng	venue	latitude	longitude	price_for_two	price_range	rating	address
0	Sansotei Ramen 三草亭	Noodle House	45.4189	-75.6993	Sansotei Ramen	45.4190	-75.6992	0.0	1.0	3.8	153 Bank Street, Ottawa K1P 5N7
1	Riviera	Modern European Restaurant	45.4232	-75.6962	Riviera	45.4234	-75.6963	25.0	2.0	3.8	62 Sparks Street, Ottawa K1P 5A5
2	Confederation Park	Park	45.4221	-75.6925	Royi Fruta Bar	45.4222	-75.6924	10.0	1.0	0	Confederation Park, Ottawa K1P 5J2
3	North & Navy	Italian Restaurant	45.4167	-75.6990	North & Navy	45.4168	-75.6991	90.0	4.0	4.1	226 Nepean Street, Ottawa K2P 0B8
4	La Bottega	Deli / Bodega	45.4269	-75.6919	La Bottega Nicastro	45.4270	-75.6921	20.0	2.0	4.6	64 George Street, Ottawa K1N 5V9

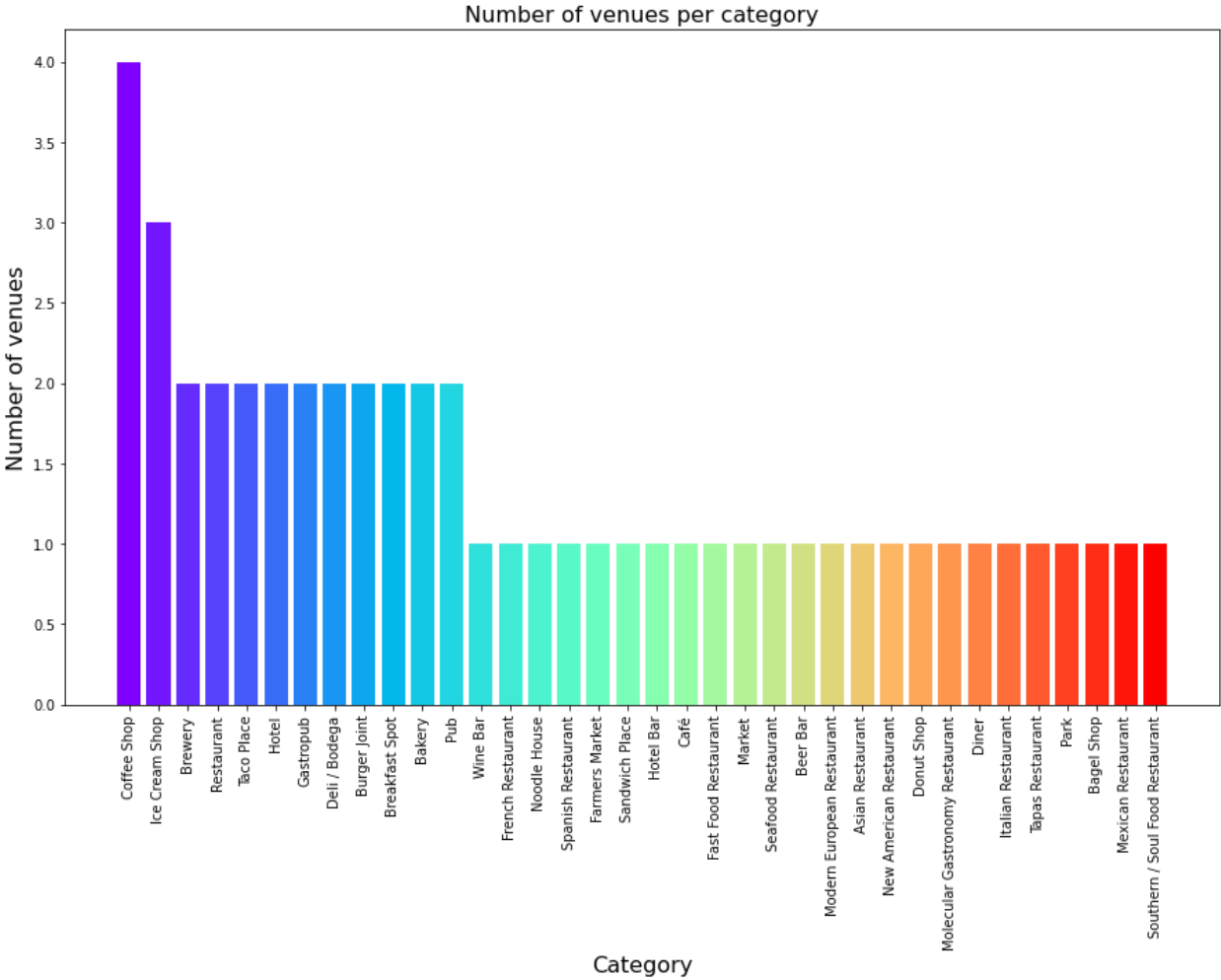
Removing unnecessary information

	categories	venue	latitude	longitude	price_range	rating	address	average_price
0	Noodle House	Sansotei Ramen	45.4190	-75.6992	1.0	3.8	153 Bank Street, Ottawa K1P 5N7	0.0
1	Modern European Restaurant	Riviera	45.4234	-75.6963	2.0	3.8	62 Sparks Street, Ottawa K1P 5A5	12.5
2	Italian Restaurant	North & Navy	45.4168	-75.6991	4.0	4.1	226 Nepean Street, Ottawa K2P 0B8	45.0
3	Deli / Bodega	La Bottega Nicastro	45.4270	-75.6921	2.0	4.6	64 George Street, Ottawa K1N 5V9	10.0
4	Market	Maple Valley Tea World	45.4276	-75.6925	1.0	3.5	55 ByWard Market Square, Ottawa K1N 9C3	5.0

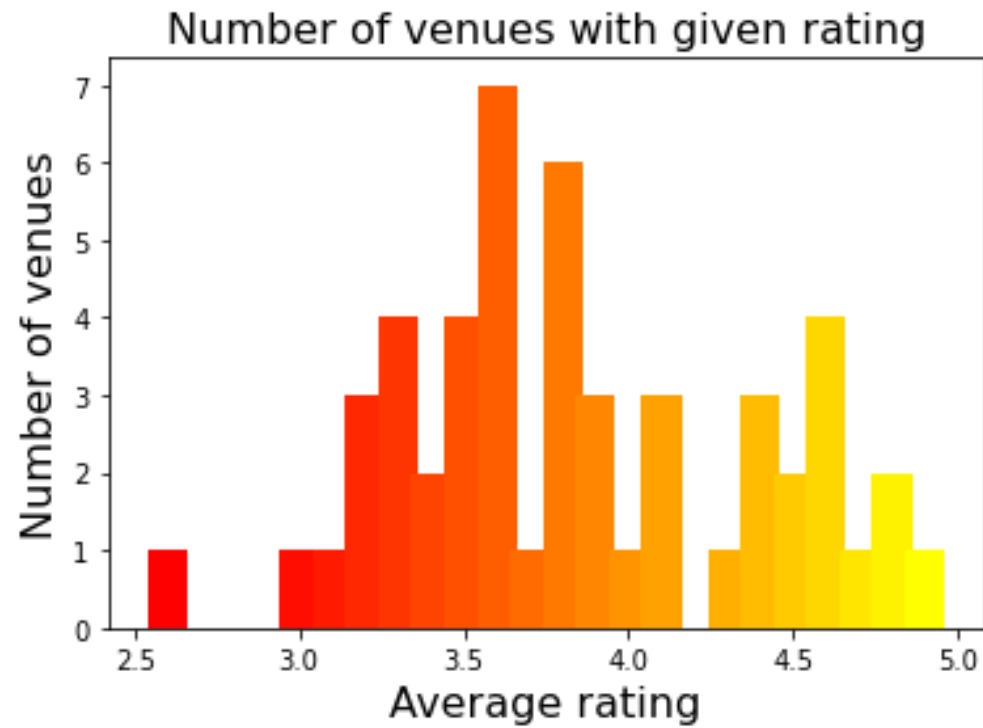
Methodology

- ▶ Analyzing based on the ratings and the average price of each venue
- ▶ Determining venue categories that are majority in the area of interest
- ▶ Exploring areas of high ratings and those of low rating using visualization
- ▶ Suggesting which venues the visitors should explore

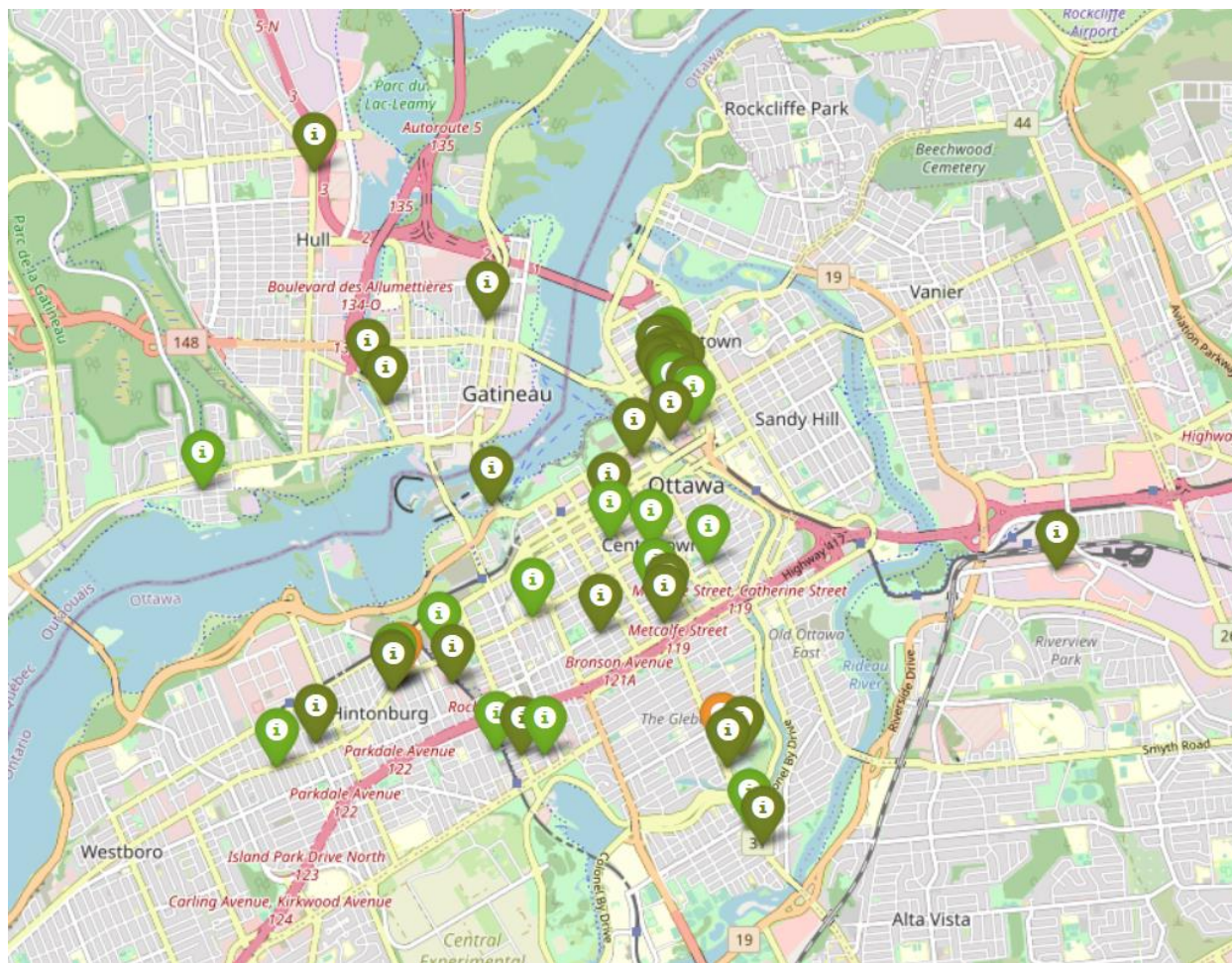
Statistic of venue categories



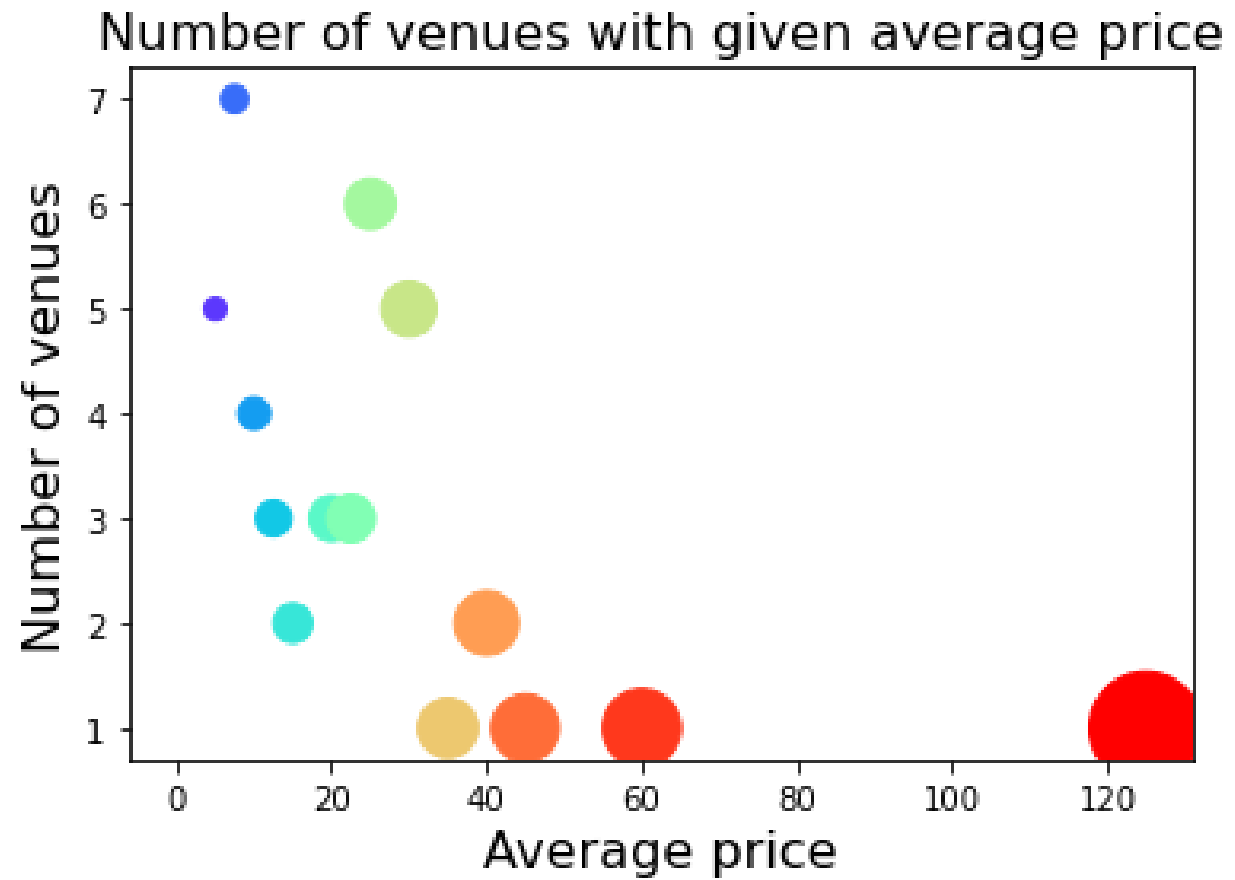
Statistic of venue rating



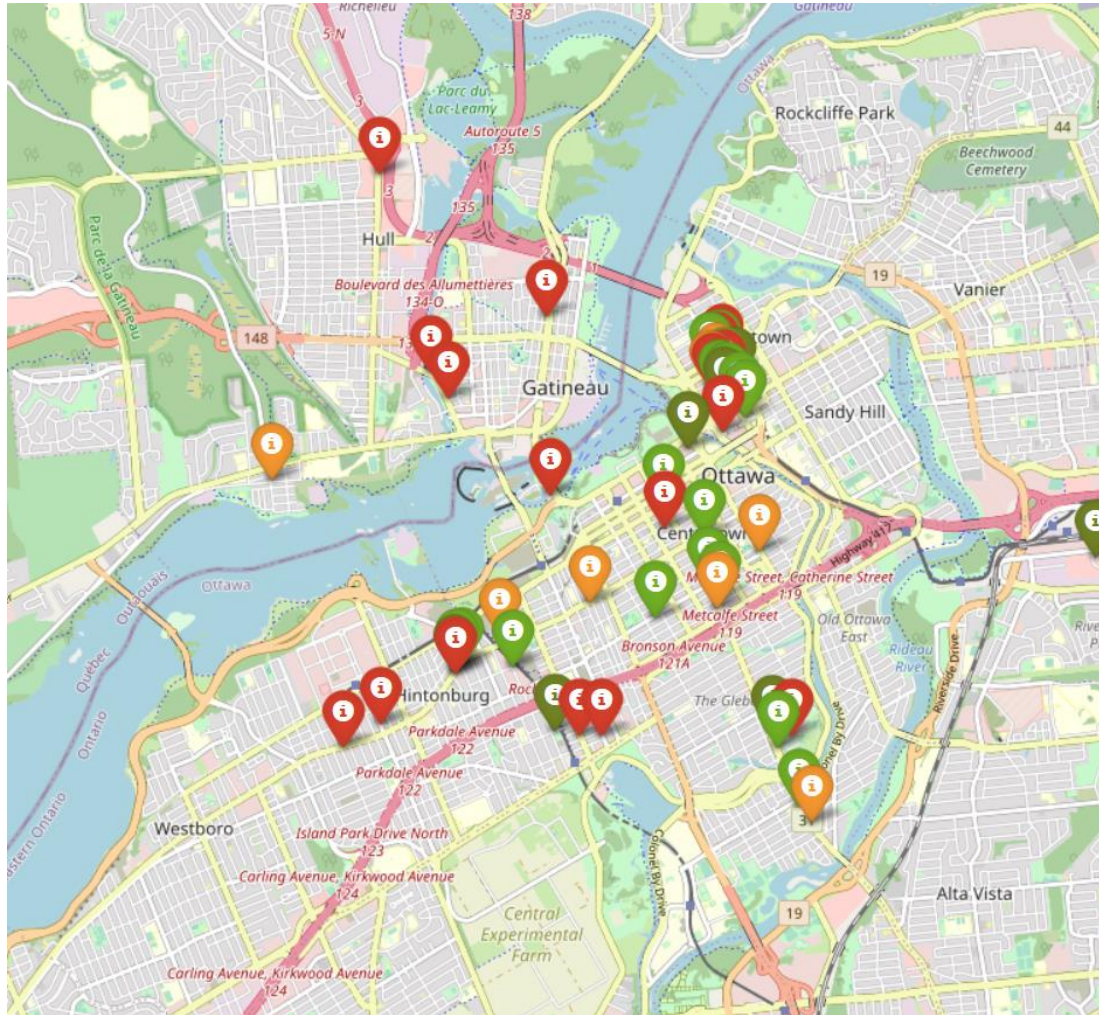
Visualization of venue quality



Statistic of venue's average price



Visualization of venue price range



Discussion

- ▶ Some mismatches of venue names in the data obtained from Foursquare and Zomato indicate that some venues may be recently replaced by new ones. Therefore, the visitors should check carefully their objective places (via website, other search engines...) before coming there.
- ▶ The two majority venues in the studied area of Ottawa are coffee shop and ice cream shop. Therefore, that is the good place for visitors who want to relax with a cup of coffee or enjoy ice cream.
- ▶ Most venues have the rating of 3.6 and there are also many venues of high ratings from 4.3 to 4.9. The visitors thus can satisfy with the services they will use there.
- ▶ The venues located near an end of the Pont Alexandra bridge tend to have good and very good ratings (3.0 to 5.0) and they are close to each other. It is a good idea for visitors to check out that area. The areas Centertown and Hintonburg are also worth to visit though they have less venues compared to the first area.
- ▶ Most venues have low price. Therefore, this area is suitable for visitors who want to travel without spending much for their budget. In addition, the venues located near an end of the Pont Alexandra bridge and the Centertown areas are suitable for visitors who want to save their pocket. The visitors who want to spend their money a lot can go to nearby areas, including the other end of the bridge.

Conclusion

- ▶ The objective of this project is to explore the venues that visitors at Ottawa, ON, Canada should visit.
- ▶ The primary criteria are venue rating and price related information.
- ▶ The venues have been identified using Foursquare and Zomato APIs and have been plotted on the map.
- ▶ The exploration can be adapted to other cities and for other criteria.