

Battle of Neighbourhoods: New York City Restaurants

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December 6, 2020

Introduction

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hoods

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- New York City is the most populous and densely populated city in the United States
- New York City has an extraordinarily diverse population. It is one of the few cities in the country in which four different racial/ethnic groups each make up at least 10 percent of the population
- In 2018, New York City welcomed a record 65.2 million visitors, comprising 51.6 million domestic and 13.5 million international visitors, the ninth consecutive year of tourism growth

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Problem Statement

- I believe it is always very cumbersome task for a traveller or a visitor to make choices from among the many available options since there is dense web information.
- Information is all fragmented that you need to assemble yourself to make a better decision.

This project will seek to provide a great start when you're trying to make restaurant decisions.

Data

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Data required

- List of neighborhoods and boroughs in New York City
- Latitude and longitudes coordinates of the neighbourhoods
- Venue data, particularly related to restaurants

Sources of Data

-
- Foursquare API for venue data

Methodology

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- Our Important features was extracted from <https://cocl.us/new-york-dataset>.
- Use Foursquare API to get venue data and extract venues with name consisting of restaurant in the venue category
- Group data by neighborhood and taking the mean of frequency of occurrence of each restaurant category
- Perform clustering on data by using k-means clustering
- Visualize clusters in a map using Folium

Results

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Predominant Restaurants and Neighborhoods for each cluster

- **Cluster 1:** *Restaurants:* Italian, American and Mexican restaurants
Neighborhood: Murray Hill, Elmhurst, Jackson Heights, Woodside, Gramercy and Sunnyside Gardens neighborhoods
- **Cluster 2:** *Restaurants:* Fast Food restaurants and Latin American restaurants
Neighborhood: Longwood, Morrisania, Richmond Valley, Cypress Hills, Highland Park and Mount Hope
- **Cluster 3:** *Restaurants:* Caribbean restaurants
Neighborhood: Prospect Park South, Prospect Lefferts Gardens, Rugby and Ramsen Village

Results: Clusters

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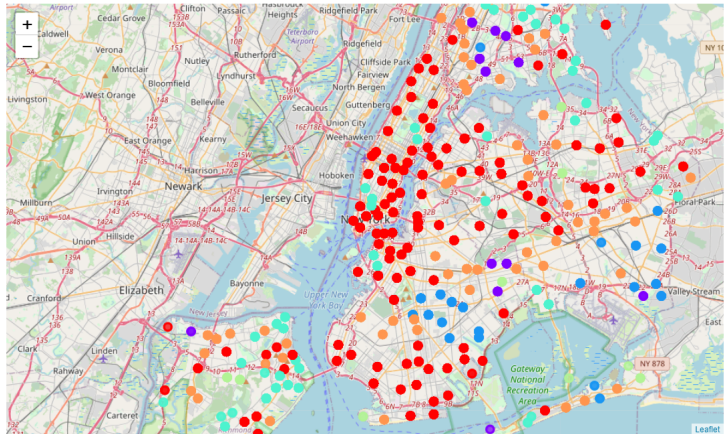
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- **Cluster 4: Restaurants:** Italian restaurants, Sushi restaurants and Chinese restaurants.
Neighborhood: Greenwich Village, West Village, Lenox Hill, Soho, Belmont and Upper East Side neighborhoods.
- **Cluster 5: Restaurants:** Chinese restaurants
Neighborhood: Queensboro Hill, Willowsbrook, Malba and Manor Heights neighborhoods
- **Cluster 6: Restaurants:** Latin American, Fast food, Mexican, Chinese, Indian, Middle Eastern and Asian restaurants
Neighborhood: Flushing, Sunset Park, Flatbush, Washington Heights and Ditmas Park

Results

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Discussion

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- New York has a lot of restaurants to cater for almost every visitor from around the world.
- Italian Restaurant is the most common restaurant among the neighborhoods.
- The least common restaurants among the neighborhoods were the Puerto Rican restaurant and Shanghai restaurant.

Limitations

- Factors like range of prices of restaurants, distance of closest stations and so on were ignored in Analysis
- Other food joints that have names other than restaurants were ignored in analysis.

Conclusion

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- 295 neighborhoods and 4785 restaurants were involved in this project.
- Not an extensive detailed report of all restaurants in the neighborhoods but a good overview of restaurants.

Findings from this project gives a very good start to visitors and travellers when they are making restaurant decisions.

The End