

Capstone Project

Battle of the Neighborhoods

Opening a Japanese Restaurant in New York City

By: Shigeharu Kaneko

Introduction: Business Problem

Opening a Japanese Restaurant

- New York City's demographics show that it is a large and ethnically diverse metropolis. With its diverse culture, comes diverse food items. There are many restaurants in New York City, each belonging to different categories like Chinese, Spanish, French etc.
- If you're a stakeholder, entrepreneur, or chef interested in opening a Japanese restaurant in New York city, this will be for you.
- Using efficient data science tools, we will suggest the promising locations to solve the below problems of finding out
 - ◆ Which areas in New York City have Japanese restaurants?
 - ◆ Which all areas lack Japanese Restaurants?
 - ◆ Which is the best location for Japanese restaurants in New York City?

Data Source

For this project we need the following data:

(1) New York City data that contains list Boroughs, Neighborhoods along with their latitude and longitude.

- Data source : https://cocl.us/new_york_dataset
- Description : This data set contains the required information. And we will use this data set to explore various neighborhoods of New York City.

(2) Japanese restaurants in each neighborhood of New York City.

- Data source : Fousquare API
- Description : By using this API, we will get all the venues in each neighborhood. We can filter these venues to get only Japanese restaurants.

(3) GeoSpace data

- Data source : <https://data.cityofnewyork.us/City-Government/Borough-Boundaries/tqmj-j8zm>
- Description : By using this geo space data we will get the New York Borough boundaries that will help us visualize choropleth map.

Methodology

- (1) Collect the New York City data from https://cocl.us/new_york_dataset.
- (2) Find all venues for each neighbourhood using FourSquare API.
- (3) Filter out all venues that are Japanese Restaurants.
- (4) Find rating, tips and like count for each Japanese Restaurants using FourSquare API.
- (5) Sort the data using rating for each restaurant.
- (6) Visualize the Ranking of neighborhoods using python's Folium library.

Results & Discussion

- There are total of 306 different Neighbourhoods in New York
- We have 208 Japanese Restaurants across New York City
- Stuyvesant has the highest average rating = 9.2 for Japanese Restaurants among all neighborhoods

Neighborhood	Average Rating
Stuyvesant Town	9.200000
Midtown South	9.150000
Flatiron	9.133333

Results & Discussion

- Top 3 Boroughs with top average ranking of Japanese Restaurants are: Manhattan (8.72), Brooklyn (7.66) and Bronx (7.59)

Borough	Average Rating
Manhattan	8.720690
Brooklyn	7.662319
Bronx	7.590000
Queens	6.990741
Staten Island	5.852941

- The recommendation location to open Japanese Restaurant is Stuyvesant Town based on the best-rated Japanese Restaurant in New York.

Conclusion

According to the above results and discussion, these are all neighborhoods option to open the first Japanese Restaurant.

Neighborhood	Average Rating
Stuyvesant Town	9.200000
Midtown South	9.150000
East Village	9.133333
Flatiron	9.133333
Chinatown	9.100000
Cobble Hill	9.100000
Little Italy	9.100000
South Side	9.100000
Noho	9.050000
North Side	9.050000
Clinton	9.000000
East Williamsburg	9.000000
Greenwich Village	9.000000