Prediction of the Japanese Food Restaurant in New York City

The Flow of the Analysis

01 Selection of Topic for Japanese Food Restaurant in New York City

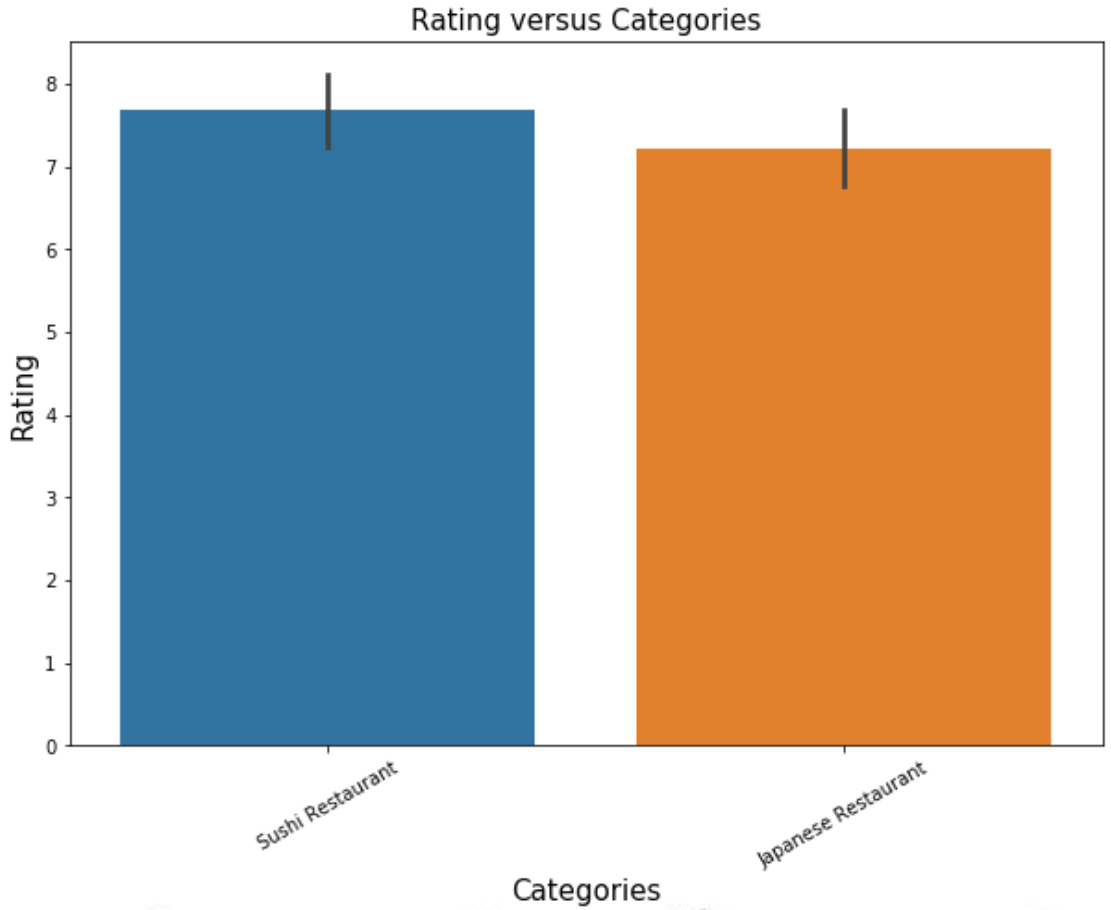
02 Data Collection from Foursquare API

03 Data Preprocessing in Python

04 Exploratory Data Analysis

05 Clustering and Classification

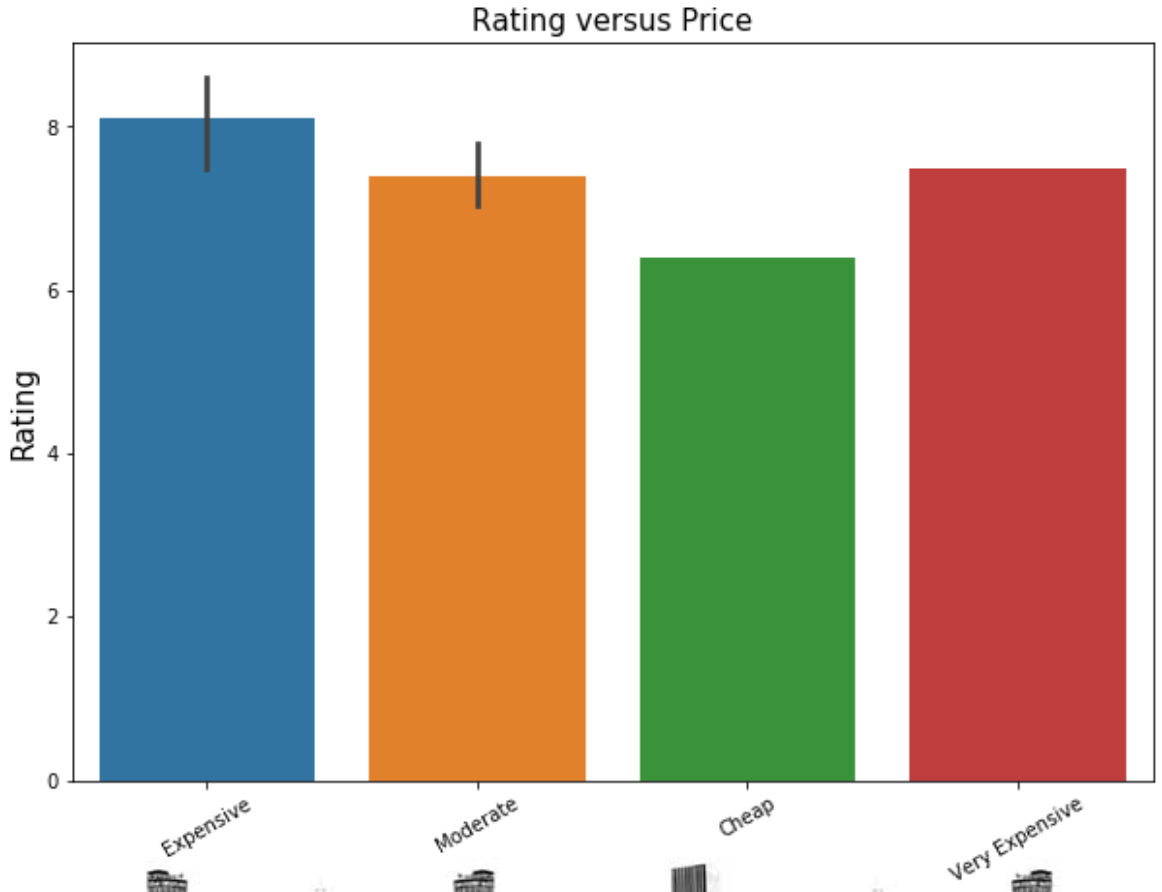
Exploratory Data Analysis



Finding:

1. Sushi restaurants has a higher rating than Japanese restaurants

Exploratory Data Analysis

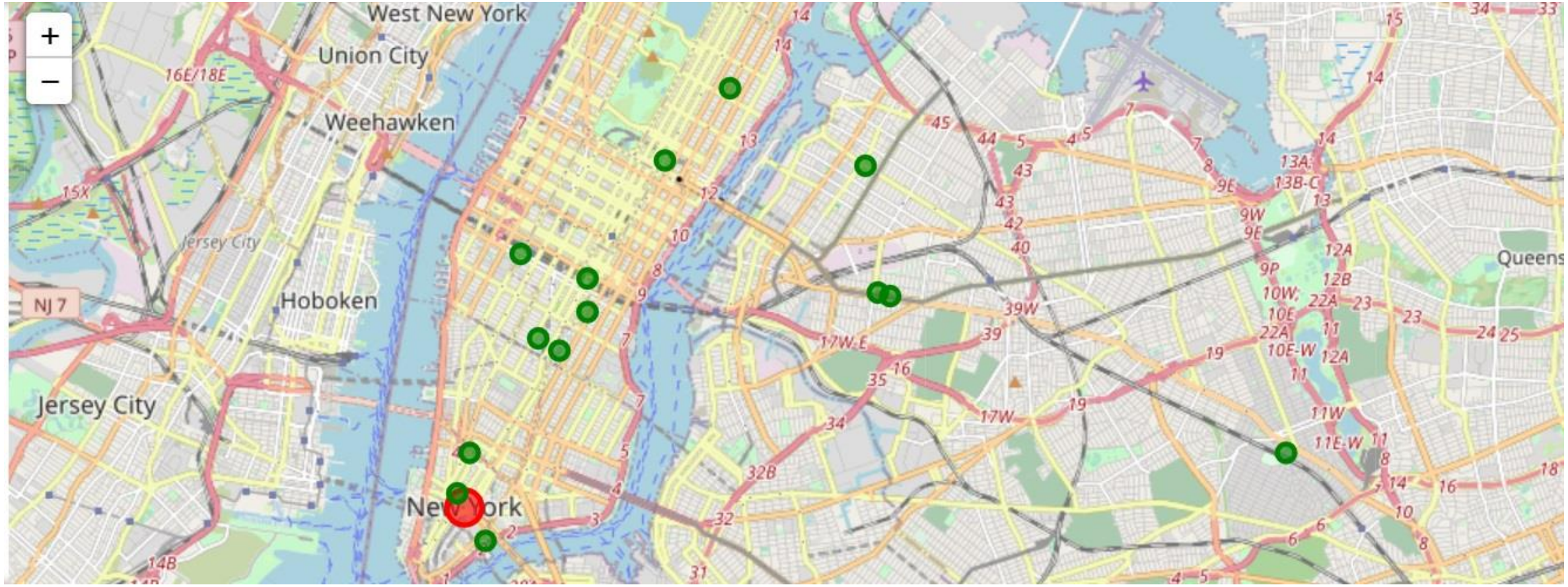


Finding:

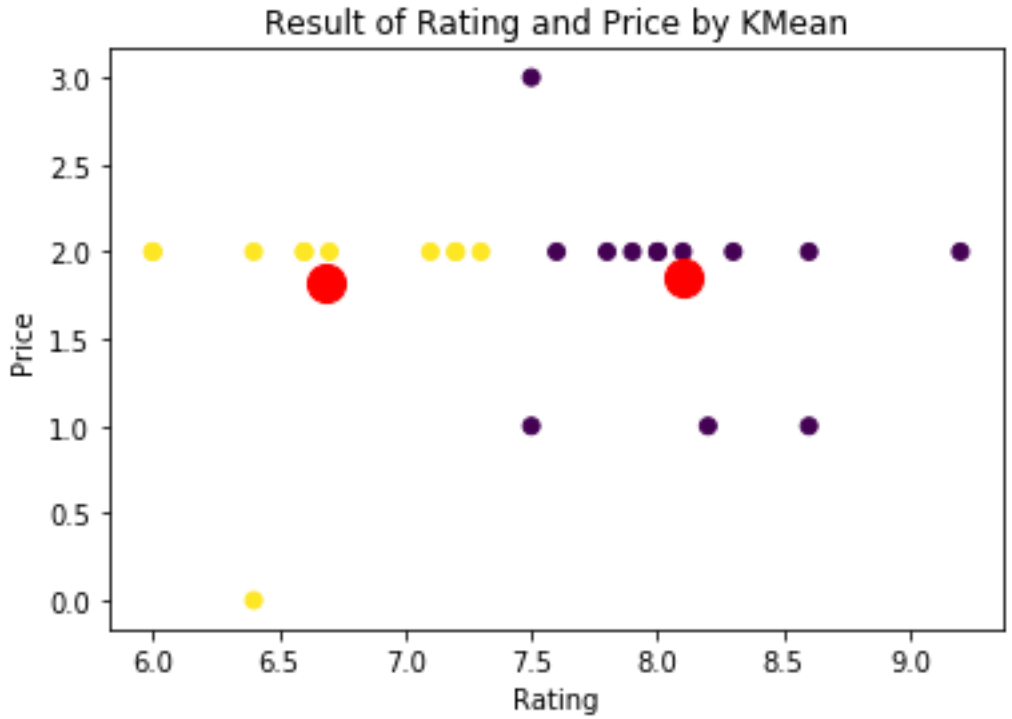
1. The rating depends on the price with this descending order

    1. Expensive
    2. Very Expensive
    3. Moderate
    4. Cheap

Folium Map


West New York
Union City
Weehawken
Hoboken
Jersey City
NJ 7
Queens

Clustering – Rating and Price



Finding:

- Cluster 1 - Yellow :
  - Rating between 6 - 7.5
  - Cheap and moderate price

- Cluster 2 - Purple :
  - Rating between 7.5 - 9.5
  - Moderate, Expensive and Very Expensive price

Clustering – Category, Rating and Price

Finding:

- Cluster 1 - Yellow :
  - Rating between 6 - 7.5
  - Cheap, moderate and expensive price
  - For both sushi restaurant and Japanese restaurant

- Cluster 2 - Purple :
  - Rating between 7.5 - 9.5
  - Moderate, Expensive and Very Expensive price
  - For both sushi restaurant and Japanese restaurant

Classification Model

Two classification models has been used:

1. Random Forest
2. XG Boost

Random Forest

- Scoring: 0.8
- MAE: 0.3
- MSE: 0.5
- RMSE: 0.707

XG Boost

- Scoring: 0.7
- MAE: 0.4
- MSE: 0.6
- RMSE: 0.775

Prediction by Classification

Targeted requirement for the Japanese Restaurant

- Categories: Sushi Restaurant
- City: New York City
- Distance: 1000m
- Target Rating: 7
- Targeted Pricing : Moderate - Expensive

Prediction

Classification Result:

- Price : Expensive (2)

where Target Rating of 7

The arrangement shall be established the marketing and business strategy to acquire such positioning of price and rating


THANK YOU