

Coursera Final Capstone Project

A price analysis of sushi restaurants in NY city

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1 Introduction

Sushi is a famous Japanese dish of prepared vinegared rice accompanying a variety of ingredients, such as seafood, vegetables, and sometimes, fruits. Styles of sushi and its presentation vary widely, but the one key ingredient is shari, also known as “sushi rice”.

Since its arrival in the United States in the late 1960s, sushi dishes got more and more popular: in 2020 it is estimated that the sushi restaurants industry has a market size (measured by revenue) of \$22.1bn. In fact, in New York City, the most populous city of the United States, there are more than twenty sushi restaurants, all with a great spectrum of prices.



Figure 1: Sushi plate. Photo by Ishikawa Ken.¹

In this project, it will be analyzed if (and how) some features obtained by the Foursquare site can be used to predict the price tier of sushi restaurants in New York City. As a possible future application, this work could help sushi restaurants owners (or prospective owners) in the decision of the price of their menu according to their restaurant location or other business decisions, such as credit card adoption.

¹<https://www.flickr.com/photos/chidorian/>

2 Data

All the dataset will be extracted from the Foursquare site and will be retrieved by using Foursquare Places API.² The next table shows the features which will be used as a feature for classifying the price tier of a sushi restaurant:

Table 1: Description of data extracted from Foursquare database

Data	Description
Latitude	Latitude of restaurant.
Longitude	Longitude of restaurant.
Rating	Numerical rating of the restaurant (0 through 10).
Reservations	1 if restaurant has reservations, 0 otherwise
Credit cards	1 if restaurant accepts credit cards, 0 otherwise
Outdoor seats	1 if restaurant has outdoor seats, 0 otherwise
Delivery	1 if restaurant has delivery service, 0 otherwise
Created at	Seconds since epoch when the restaurant was added in Foursquare.
Likes	The count of users who have liked this restaurant.
Number of photos	The number of photos of this restaurant.
Price tier	An integer containing the price tier from 1 (least pricey) - 4 (most pricey).

Figure 2 shows a map with sushi restaurant locations and price tier, both extracted from Foursquare.

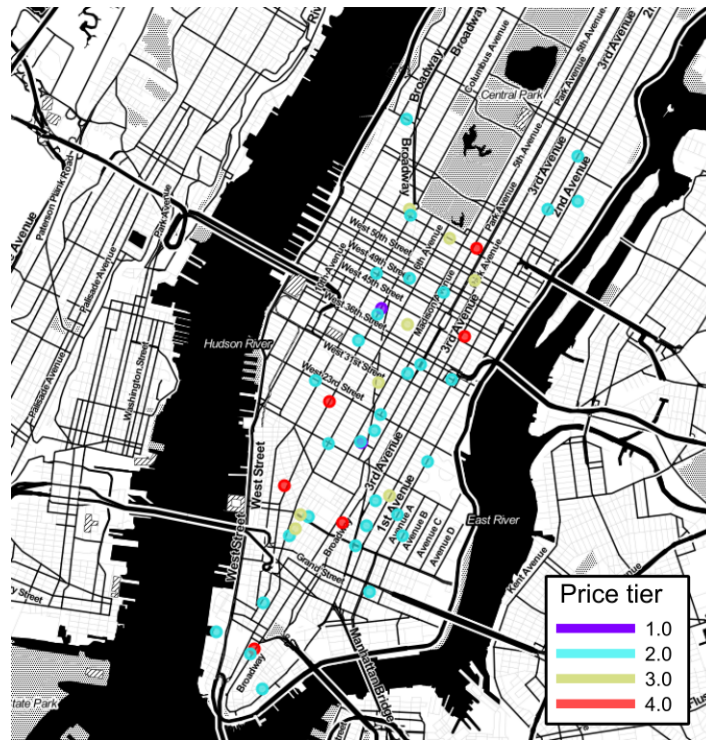


Figure 2: New York City sushi restaurants and price tier

²<https://developer.foursquare.com/places>