

Personalized Restaurant Recommender

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1. Introduction

1.1 Background

Everyone likes to enjoy great food; we spend a lot of our time looking for restaurants when we visit new places. People who travel often need to do a lot of research before going to the place on what food to try. We know that there are lots of applications out there which have restaurant recommendations for the cuisine of your favourite choice but scrapping through these website/applications can be a tedious task when you need to take care of important work.

1.2 Problem

Data that might contribute to determining which restaurants to visit when traveling to different places. This project aims to give recommendations to three different cuisines namely Italian, Indian and Japanese to the user in his vicinity based on the data.

1.3 Interest

Obviously, Great food pleases every human and if they can know what good restaurants are near them without spending time to search on google and look at reviews. This will help them save lots of time which they can spend eating that food.

2. Data acquisition

2.1 Data sources

I found the data of postal codes of Toronto from the dataset [here](#).

3. Methodology

Data downloaded from the source then we read the provided URL using beautiful soup. Then the rows were extracted and put into a data frame. The generated data frame was further analysed and formatted to remove nan and null string values. After data cleaning, we extracted the neighbourhoods using the borough and postal code fields from the data frame.

We used k-means to cluster the neighbourhoods we extracted in the data frame. We used nominatim to extract the latitude and longitude of the location we want to research for our restaurants.

Then we use the foursquare API to find the restaurants. Using the geolocation values, we searched for three different cuisines to look for restaurants we want to research. We make a request to the API with "Italian" as the query. The relevant part of the URL is converted to json and added to venues. The generated data frame was filtered with columns looking for locations. The "category" of the venue was generated and added to the data frame. Another function generated the trending restaurants for the cuisines we selected. The location for all of the trending restaurants is located on a map and is generated using folium.

This process was repeated for other cuisines such as Indian and Japanese. The maps were then created using a single location which gives the location of all trending values

After all the We generated clusters using latitude and longitude of neighbourhoods so that we can find the main location to choose for our analysis. The main location and used the foursquare API to focus on the clusters for investigating the restaurants nearby.

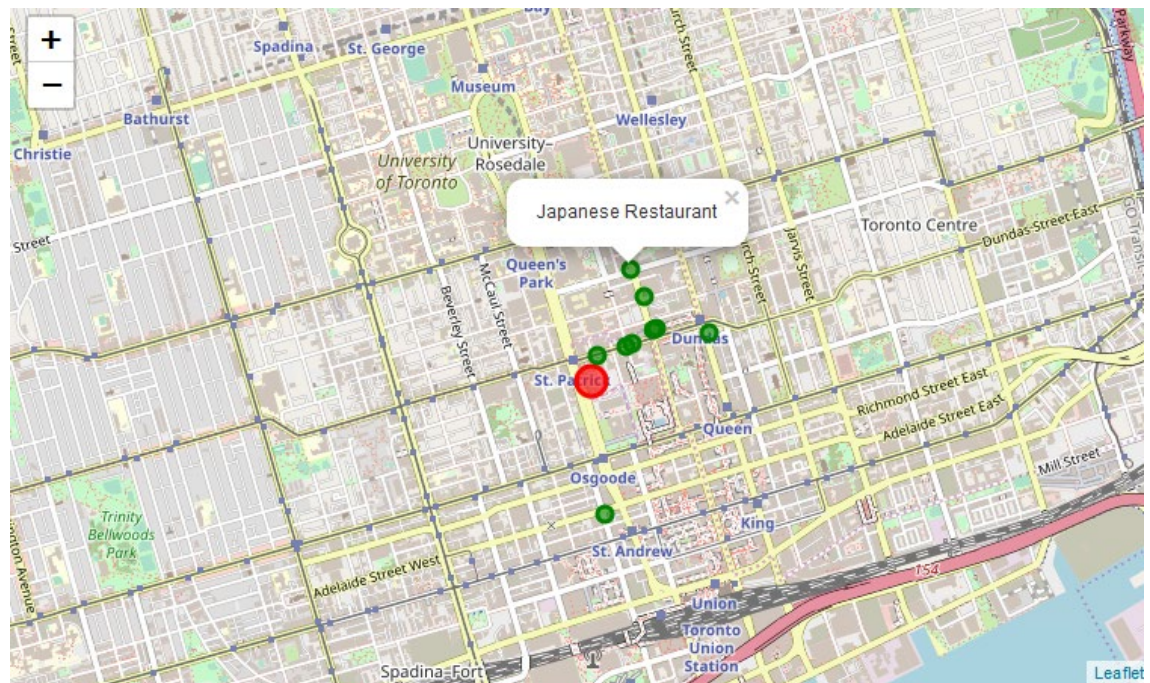
4. Results

Here are the results from the trending restaurants we grouped using the above methodology for Toronto.

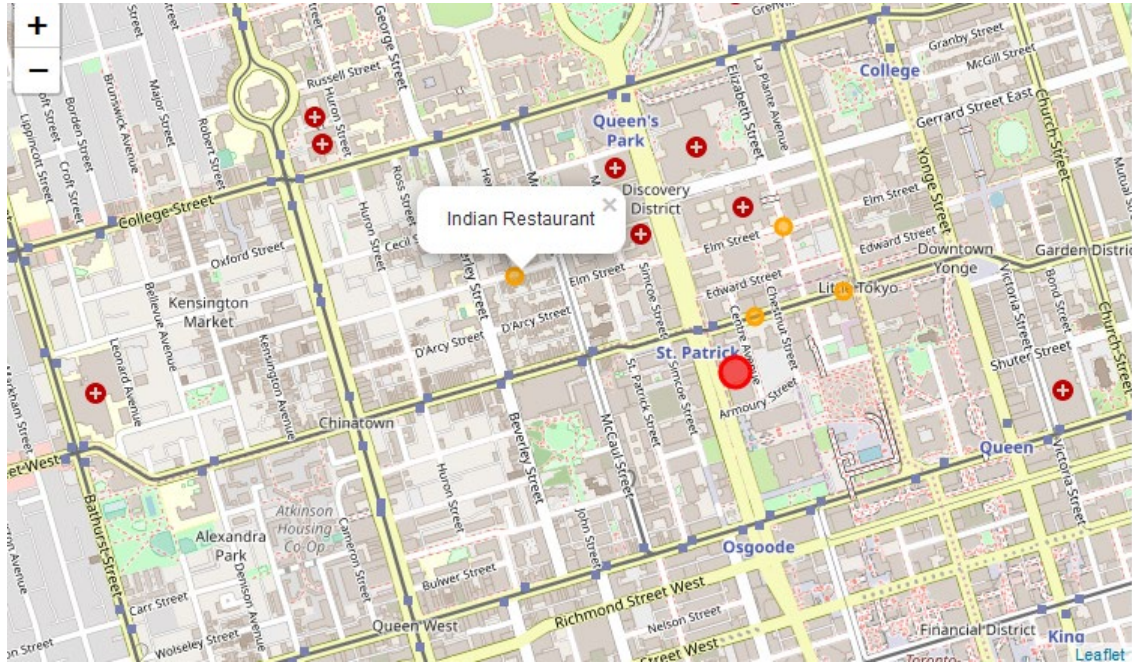
- Italian



- Japanese



- Indian



5. Discussion

The maps show us all the trending restaurants in a 500-meter radius so that user's do not have to travel far to visit the places for the city of Toronto.

6. Conclusion

Our goal was to show the user trending restaurants nearby their location which was shown by using your methods using a map visualization. This can help the user decide which restaurant to choose rather than spend time browsing on the web.

7. Future directions

The next steps include showing the reviews/tips for users which can help the newer users to decide which place to visit. I will be looking forward to adding other cuisines for various cities. The whole recommendation system will be made as a mobile app which user's find restaurants of their favourite cuisines.