Finding an appropriate place for restaurant business

Garima Thakur

June 28, 2019

Contents:

1. Introduction

1.1 Background

I live in San Diego and would love to open my own business restaurant. This project will help me analyze the place and give the appropriate place to open an Indian restaurant. Indian cuisine is one of the World's famous cuisines and also loved by many. The opening an Indian restaurants in such area was to encourage people to a new culture and develop a different mind setup toward the food. We would like to introduce flavors from all over India as India is not only diverse in its culture but also in the variety of foods and spices. The introduction of this restaurant will also be great for the food lovers, Indians who reside here and to the people who like to try something new.

This project will be targeted to the people interested in opening a restaurant business in any place. My current work focus is to choose a best place to open an Indian restaurant in San Diego, CA.

1.2 Problem

Since there are many other Indian restaurants around the town but we will try not to find a location already surrounded by Indian restaurants and also not many other restaurants which can be drawback to business. We would also prefer a location near to my neighborhood, i.e., San Diego, CA.

1.3 Interest

I will be using my knowledge of Data science to solve above problem which will help generate promising places of my business interest. This analysis will be of great interest to those who want such business.

2. Data

2.1 Data Source

Based on definition of our problem, factors that will influence our decision are:

- Number of existing restaurants in the neighborhood (any type of restaurant)
- Number of Indian restaurants in the neighborhood, if any
- Distance of restaurants from my place

The data we require for our project is:

- Number of interesting places nearby
- Number of restaurants nearby, within the defined radius.

This data can be gathered from Foursquare API. By using geopy library we can gather the addresses required in our project.

2.2 Data Cleaning

This section represents the main component of the report where the data is gathered, cleaned and transformed for analysis.

In the process of data cleaning all unwanted data is removed. In our project we remove the unwanted columns. Or we can say, we kept those columns which were necessary.

Using Foursquare API we requested data in the form of Json and then form that Json file extracted the required data and presented in the form of panda Data Frame.

After presenting in a Data Frame we got data in the form of a raw data which had a lot unwanted information. This information went through process of some removal of data, managing missing values and normalizing columns in the proper readable form.

2.3 Final Data

Finally after a long process of acquiring, cleaning, transforming and normalizing, we get a data which can be used for analyzing. The project shows how step by step data is transformed and cleaned to make it proper for the purpose of analysis.

3. Methodology

The strategy is based on mapping the above described data in section 2, in order to visualize it in a map and analyses the best place to setup my business. The choice is made based on the number of interesting places nearby, which will attracted a large group of people. This visual approach and maps with popups labels allow quick identification of location and its surrounding, thus making the selection very easy.

The processing of these DATA and its mapping will allow answering the key questions to make a decision:

- Is the place most likely visited by peoples?
- Are there any other restaurants?
- Are restaurants very close to each other?
- Is there any other Indian restaurant in the surrounding?
- If any then does it change your decision based on the type of rating and tips?

4. Data Analysis

The data analysis involves the process of analyzing the data we cleaned. By following the methodology we go thorough different analysis. After analyzing we realize that there are quite good places nearby where people might be interested. Since we know that there are many people from India that reside in California, it will be a good hotspot to attract the food lovers and Indian food lovers. We can see in the map that the restaurants nearby are very minimum and do not consist of any Indian restaurant.

5. Results and Discussion

Our analysis shows that although there is quite a few numbers of restaurants in San Diego. After we visualize the first map, i.e. MAP1, we see the density of interesting place is toward south. Seeing the second map, i.e. MAP2, we see that the density of restaurants around San Diego, they are also not distributed all over the place. It means, that there are more restaurants

towards south also to be noted that there are more interesting places towards south. This makes us decide that the more customer attraction will be towards south but it seems crowded. So after visualizing all scenarios we might decide towards south west. Considering all the requirements it seems to be the best among all.

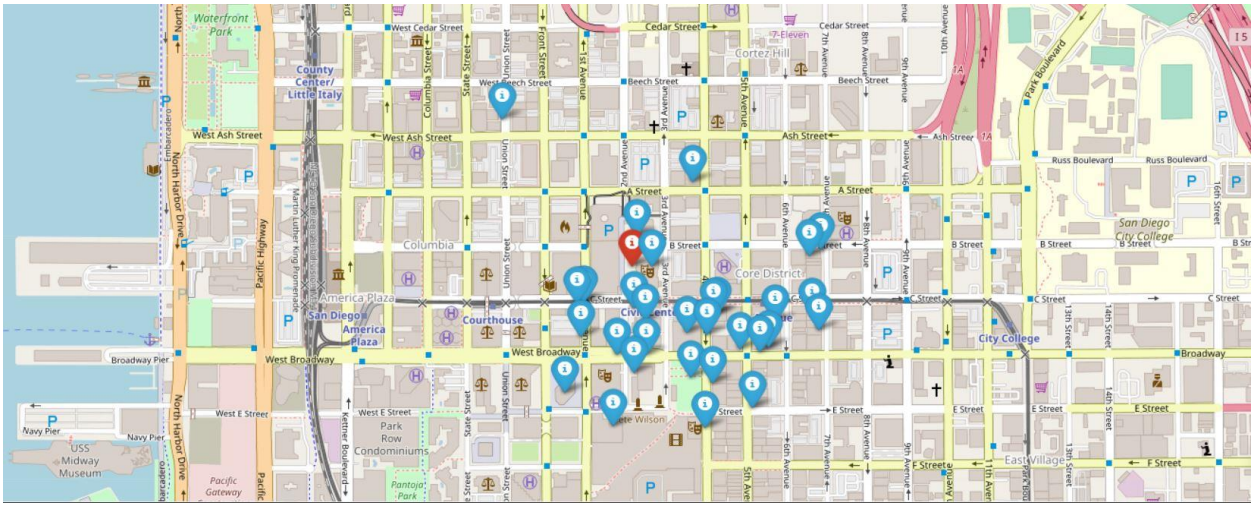

Fig: MAP1

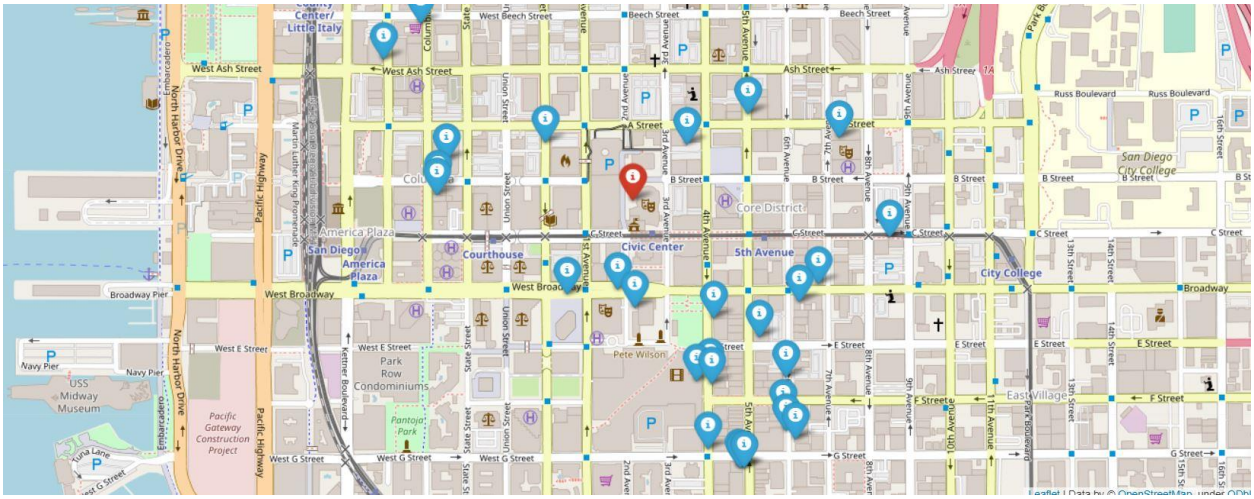

Fig: MAP2

6. Conclusion

Final decision on optimal restaurant location will be made by stakeholders based on specific characteristics of neighborhoods and locations in every recommended zone, taking into consideration additional factors like levels of noise, attractiveness of each location, proximity to

major roads, prices, real estate availability, social and economic dynamics of every neighborhood etc.