Looking for Optimal Locations for opening new Coffee Shops in Mumbai

Introduction

Background

Owing to the exceptionally high property leasing costs in the city on Mumbai, especially for setting up businesses, the risk associated with starting a new venture, naturally, is very high. Hence it becomes very important to be extra cautious and overtly fastidious when it comes to planning the various logistics of setting up.

One of the most aspects to take note of is the location of the venture. A well placed outlet can be the difference between the overall success and failure of the venture.

In this project all the factors which might affect the potential to generate income of the venture are narrowed down predictions are made on the basis of that.

Problem

The project aims to predict the optimal location of the new coffee on the basis of the proximity of the potential locations to:

1. Other Coffee Shops
2. Bookstores
3. School/Colleges

Data Acquisition and Cleaning

Most of the location data was provided by the Foursquare api. The number of already established coffee shops , educational institutions and bookstores were obtained by making simple api calls.

Then the data was cleaned, the nan values and other irrelevant columns were simply dropped using simple numpy methods.

The latitude, longitude and the types of places are the primary data used.

Exploratory Data Analysis and Factors

Finding the correct area for your first coffeehouse business is typically a represent the moment of truth choice. Pick the correct area and you could wind up with a flourishing business that can be passed down to your kids. Pick wrong and you could lose everything monetarily.

At the point when it's an ideal opportunity to begin searching for an area, you'll have to connect with business realtor that is neighborhood to your zone. A business realtor will have the option to show you the area alternatives that are accessible in your ideal neighborhoods. Any great business realtor will have a profound comprehension of the diverse business areas, the nearby socioeconomics, and expenses of various scenes around the city. Discover somebody that is happy to show you around a portion of the various areas and clarify the points of interest/inconveniences of every property.

It's imperative to discover a specialist that will really tune in to the fantasies and expectations you have for your coffeehouse with the goal that they will discover and give you areas that are in your organizations wellbeing.

You can begin this inquiry by taking advantage of your nearby system, particularly somebody that possesses a fruitful neighborhood business since they will probably have associations with these individuals. In the event that you don't know anybody that claims a neighborhood business you can begin by making a beeline for Google and looking for business realtors in your general vicinity. In the event that there's an area you as of now have at the top of the priority list, you can regularly discover the contact data of the property the

board organization on a sign outside a strip shopping center or mall. This is another brilliant method to ask about evaluating and accessibility.

Ready to take action and find your first coffee shop location? Before signing a long-term lease agreement, ask yourself these questions about a prospective coffee shop location to audit its potential:

- Are there other complimentary businesses in the location?
- Are there schools, churches, community centers or places of work nearby the venue?
- Is there public transportation nearby? Buses, train stations?
- Is this an up-and-coming area or is it in decline? If new construction or other investment is planned for the future that's a positive.
- How much monthly revenue will you need to make to be able to break-even at a specific location due to the lease payments?
- How many square feet does the location have? Is it large enough to meet your needs?
- Is there the option to add drive-thru window sales at this location?
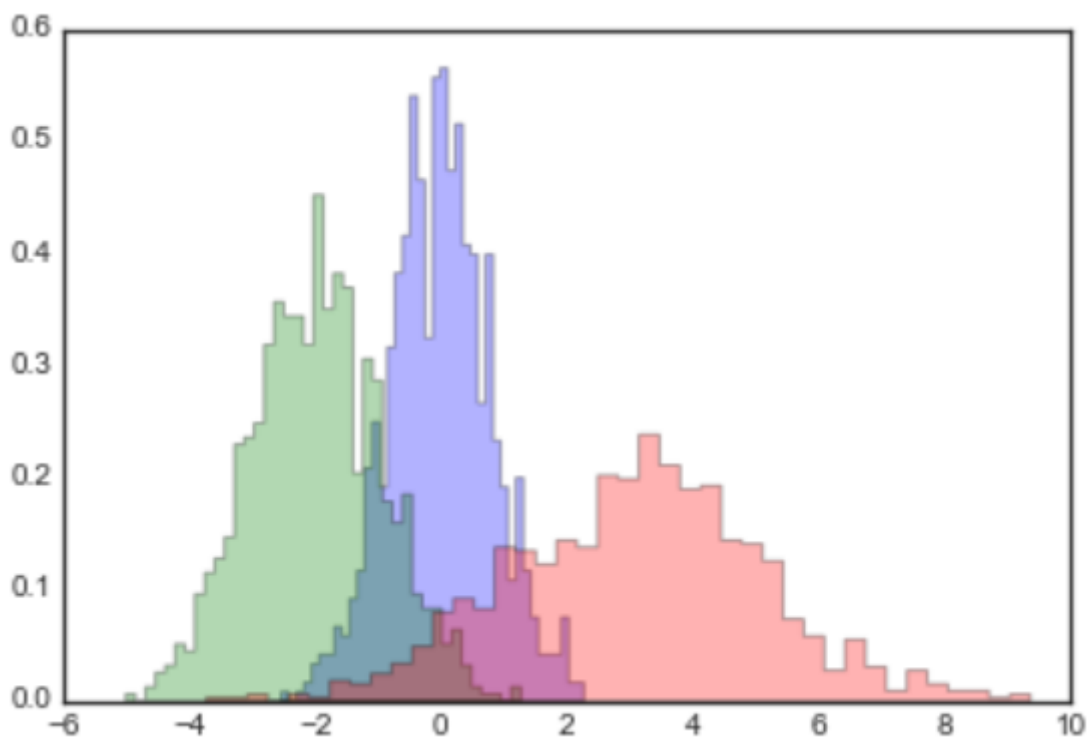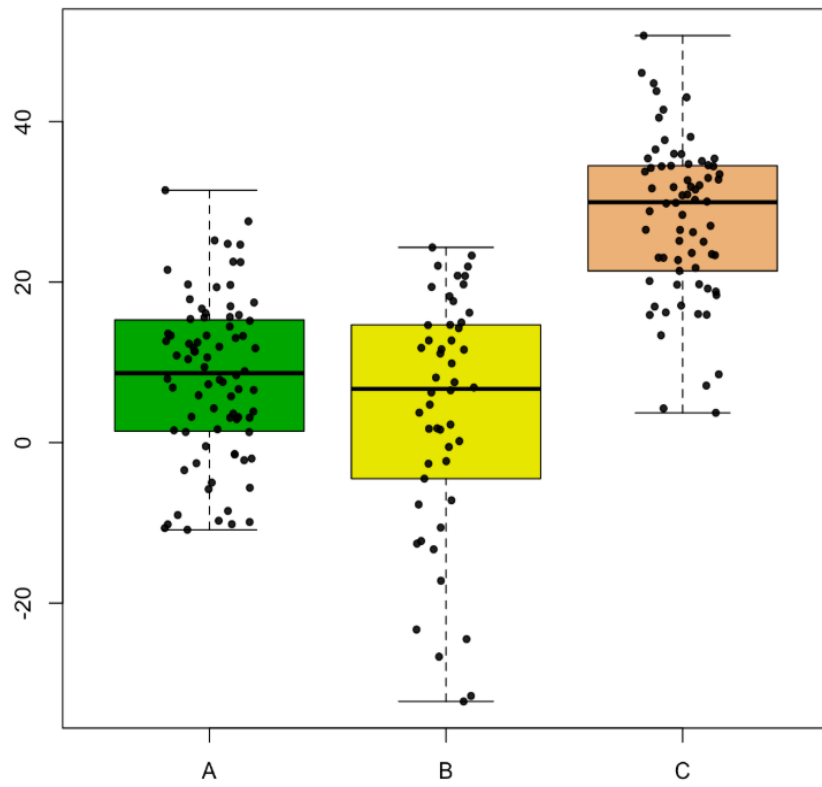
Coffee shop frequency with location radius sets

Predictive Modeling
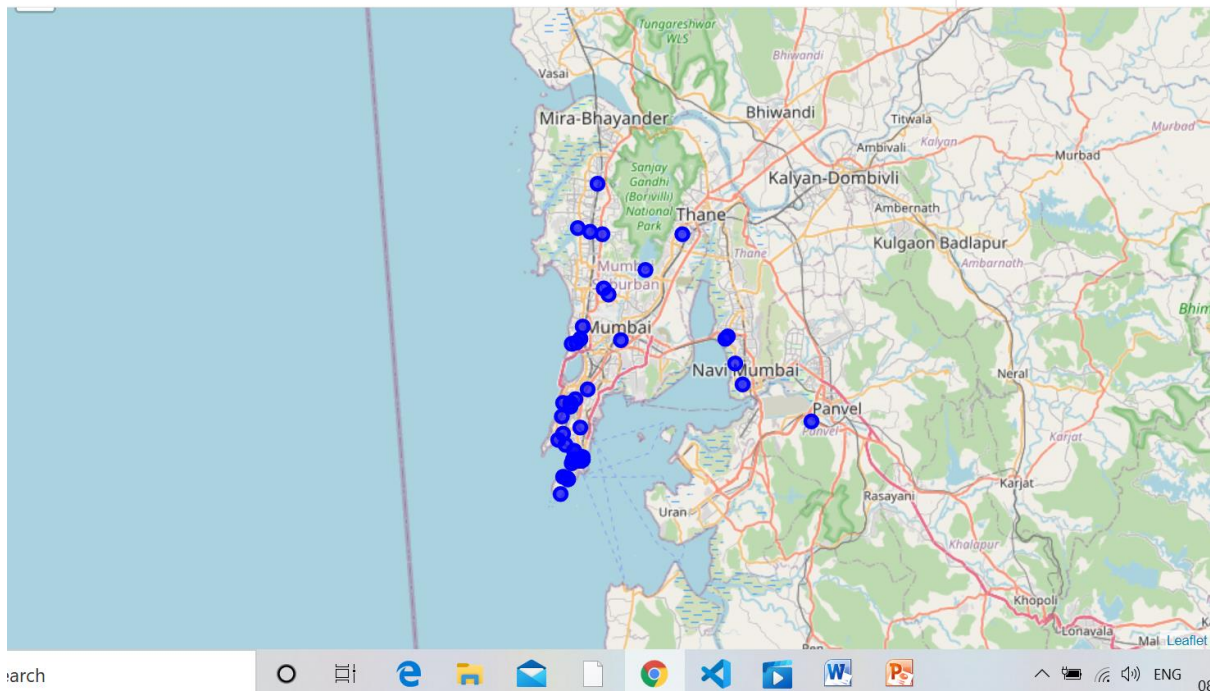
Using the K means clustering the, the areas were clustered on the basis if the density of

1. Pre-existing coffee shops
2. Educational institutions
3. Bookstores

Once the clusters are made, the ones with the least number of coffee are targeted for further probing, i.e.:

1. Renting/Buying costs for shops
2. Average proximity to other coffee shops in the area.

Conclusions

Now for verification and to test the accuracy of the model, the fscores were calculated on the test sets of the given data and get a conservative estimate of

locations predicted by the model and verifying it geographically by comparing it with the actual locations.

It goes without saying that this method cannot predict exact locations, but help us to eliminate regions where we can say with a great deal of certainity where the new shops are more likely to fail as a consequence of its surrounding demographic.

Future Directions

If there are datasets available for the pricing of real estate as a function of the areas, this will add another very helpful dimension to this predictive modeling, unfortunately these data sets weren't available.

But if enough records are maintained digitally the scope of this model will increase, in terms of better calls being made .