



Finding the best location of a new coffee shop in New York

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Overview

For this Capstone project, I have the scenario for finding the best location of making a coffee shop in New York.

America's love affair with coffee and coffee shops has made joining the ranks of coffee shop owners a highly attractive proposition.

Problem #1: Lack of identity and a dull competitive edge

Problem #2: The "wrong" menu

Problem #3: Inventory and pricing snafus

Problem #4: Overall management and customer service headaches

However, they are not as important as the coffee shop does not have a good location.

To find the best location for the business is very important. Investors may spend millions of dollars in a store. In this project, I will use New York as an example of how to find the best location of a business. Since there are 137 coffee shops, I will use coffee shops for this project. I am going to decide where would be the best location to open a new coffee shop in N.Y.

Goals

1. I am going to decide where would be the best location to open a new coffee shop in N.Y.
2. Apply machine learning that I have learned and using Foursquare API

Data

To solve the problem, I needed the following

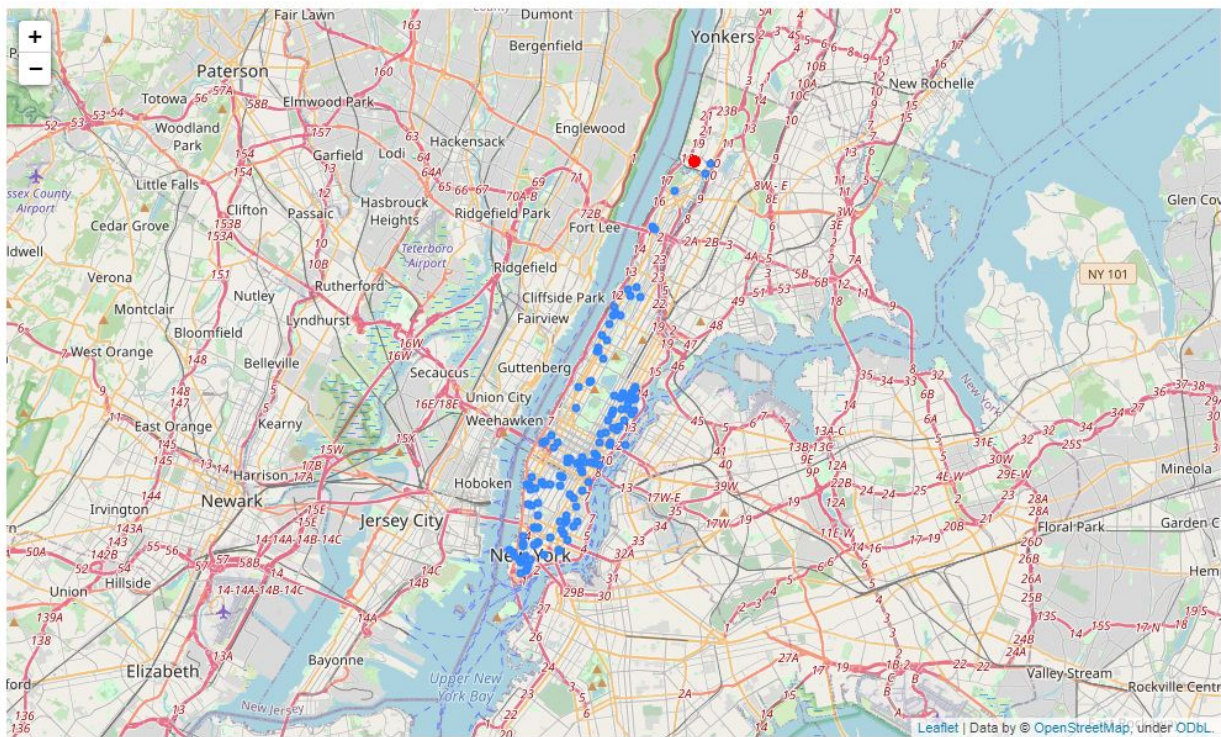
- List of neighborhoods in New York
- Latitude and Longitude of these neighborhood
- Venue data related to coffee shop

The data will be gotten from Foursquare and I will use the GPS locations of the data to determine the best new coffee shop location

Methodology

1. I got the gps location of New York
2. I found out all the neighborhood of New York by using the online resource
3. I created an account and used Foursquare api to find out all business information and GPS data of the big neighborhood of New York. I pull the list of top 100 venues within 500 meters radius.
4. I applied the concept of KNN neighbor, but the further distance from the current existing coffee shops is the better this time. Inverse relation of the distance is applied in the algorithm

Result



The blue dots are the current coffee shops locations. The red dot is the suggested location for the new coffee shop.

Discussion

The suggested location is very good because there are the least competitors.

In this project, I have an assumption which is the further away from the existing coffee shop the better location. However, it may not be true in the real world. For example, people may also need to consider the traffic and people density at the location.

Conclusion

In this project, Foursquare data and machine learning concepts are applied to find the best location for a new coffee shop location.

References

Four problems coffee shop owner face

<https://www.focuspos.com/4-problems-coffee-shop-owners-face-and-how-to-prevent-them/>

FourSquare developer document

<https://developer.foursquare.com/docs/>