

# **Coursera Capstone Project**

## **Week 5**

# **Battle Of The Neighborhoods**

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## **Introduction to the project :-**

I work at a food delivery startup that focuses on growing delivery business for our partner restaurants. Being in the F&B industry and interacting with clients daily has given me a strong knowledge of the restaurant business. The highest profit margins are in the Dessert and Asian cuisines. Strong margins give us enough buffer to invest in unique marketing and advertising activities. If any entrepreneur wants to invest in the restaurant industry, opening a Donut Shop is a really good choice.

For this project, we'll be looking for locations to open a Donut Shop and see how we can expand this business further in the city of New York. Donuts are New York's favourite dessert, requiring very low investment in terms of labour and raw materials.

However, the biggest cost would be the rent as NY is one of the costliest places in terms of real estate in the world.

Thus, in order to make all of this work, we need information on the number of similar businesses in NYC. Having competition in the same area won't be a huge threat. However tapping areas with no Donut shops should be considered a priority.

## **Data, sources and its use in this project :-**

### **Sources -**

1. Week 3 New York Data
2. Foursquare API for location data

In today's world data plays a major role in the success of any business. In this project for finding the perfect spot for our Donut business, we'll be using the dataset provided in Week 3 of our Applied Data Science Capstone project. ([https://cocl.us/new\\_york\\_dataset](https://cocl.us/new_york_dataset))

Further we'll be using the Foursquare API for exact location data of all restaurants in the city. Then we'll focus on the Donut business specifically, create clusters based on the competition and pick out the best locality for us to start.

Firstly, we'll download the data from the link mentioned earlier. Then, we'll clean the data and get the list of neighborhoods and their respective coordinates. We'll be using our Foursquare API with our credentials to import data for our project.

## **Problem to be solved :-**

In order to create a sustainable restaurant business, it is of utmost important that costs factors affecting it are studied carefully. When it comes to restaurants, we know the best profit margins are present in desserts. Moreover donuts have a slightly better shelf life as compared to cakes and pastries.

Fixed costs include rent, raw materials and labour costs. The variable costs are more important as they vary with the business generated. Major factors are competition, advertising and marketing costs.

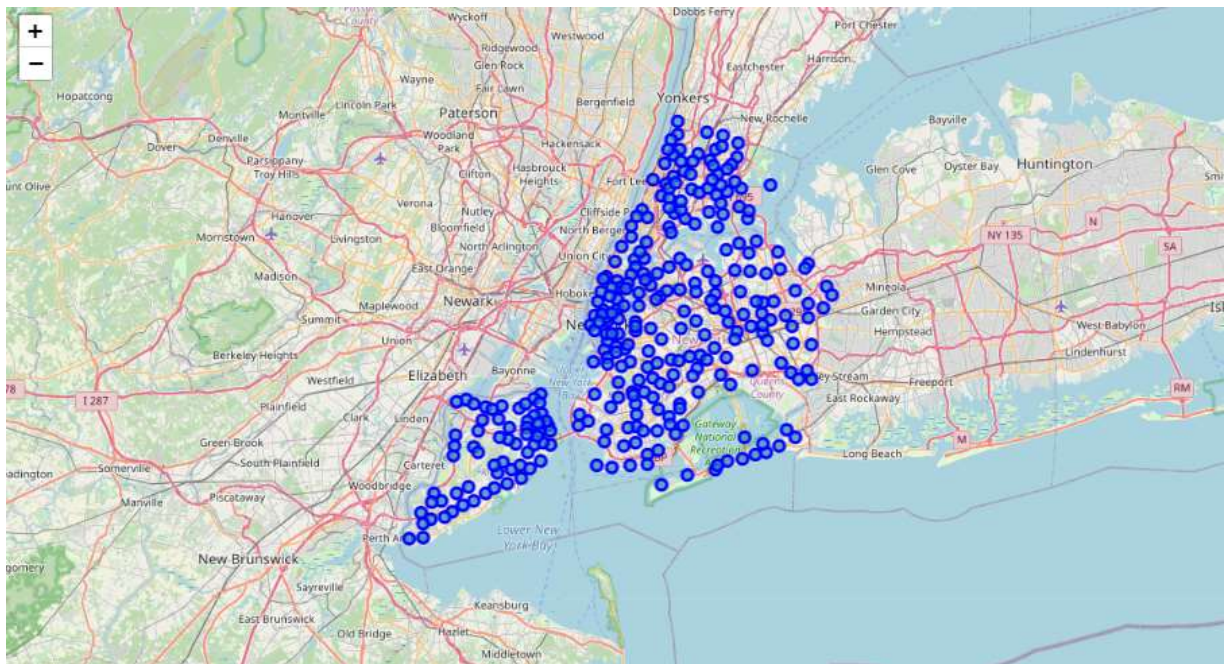
Here in this project, our primary goal is to find a locality to open our donut shop where we have minimal competition and thus a gap in supply and demand we can exploit.

## Solution :-

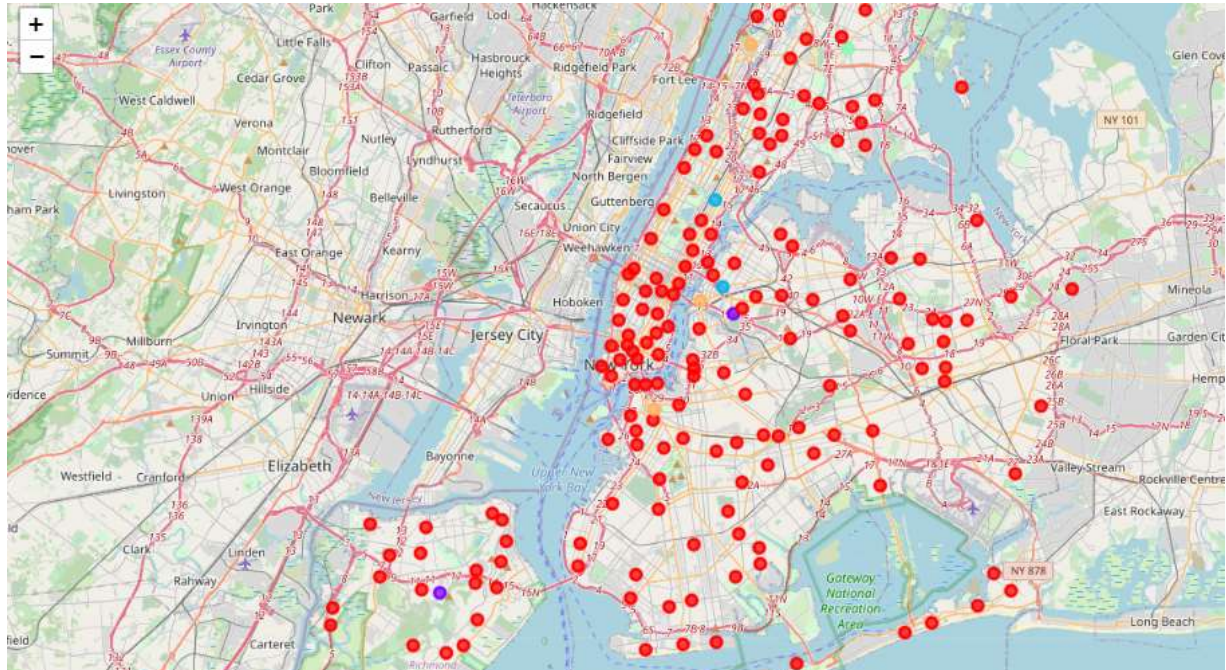
With the ease of availability of data from foursquare, we can easily get accurate data of the city. This includes various businesses and attractions.

As a fact, restaurants near tourist attractions or places with heavy footfall have more potential to generate business.

First we plot a map of the neighborhoods to get a better idea of the city.



Now with the data in hand, we create clusters of neighborhoods based on the number of donut shops they have.



Looking at the clusters, we can decide which neighborhoods will be better to start our business considering the competition.

The business these restaurants are doing, the number of orders, actual traffic on the streets, proximity to tourist attractions are also key factors influencing the growth of a restaurant that haven't been considered in this project.

## Conclusion :-

Looking at the clusters, its easy to determine opening a restaurant in any neighborhood in clusters 1 and 2 is a good idea.