



# **What business can I open in New York!**

Applied Data Science Capstone by Joseph Bekhit

- **Introduction/Business Problem:**

New York, the financial capital of USA and so it is attractive to a lot of investors who want to open new business. In this project I will try to find an optimal location for a new business. Specifically, this report will be targeted to stakeholders interested in opening a new business in New York. I will list the neighborhoods in New York, the category of each business that exist in New York and the number of existing businesses of each category grouped by New York neighborhoods. I will create a list of all New York neighborhoods and the recommended business to open in that neighborhood. I will also create a list of all the business categories and the recommended neighborhood to open that business in. Of course the second list makes more sense than the first one because it is more realistic in real life that the stakeholder has a particular business and he is looking for the best place where to open it.

- **Data acquisition:**

I used ([https://cocl.us/new\\_york\\_dataset](https://cocl.us/new_york_dataset)) to get a json file of the neighborhoods of New York with the longitude and latitude of each neighborhood. Then I used foursquare API to get the venues that exist in each neighborhood. The data returned from foursquare include the venue name of each venue that exist and it's category.

- **Methodology:**

In this project we will direct our efforts on detecting the areas of New York with the business that exist in each area grouped by the business category.

In first step we have collected the required data: location and type (category) of every business in every neighborhood in New York. We did that according to Foursquare categorization.

Second step in our analysis will be calculation and exploration of the count of each business across the different neighborhoods in New York. The stakeholder can then investigate the result and choose the business category with the count equal zero or as minimum as possible, or choose the neighborhood with the minimum count of the business category that he is interested in.

- **Results and discussion:**

we found that there are many business categories that does not exist in many neighborhoods, where these business categories exist strongly in other neighborhoods, and these business categories are recommended to be opened in these neighborhoods. If you are a new investor and do not have a specific business category you can choose the business category the does not exist in the favorite neighborhood and if you have a specific business category to open, you can choose the neighborhood which you business category does not exist.

- **Conclusion:**

Although New York is old and crowded state, it is still attractive for investors because it has many business categories that exist in some neighborhoods, while does not exist at all at some other neighborhoods.