Analyzing a location to open a new fitness center in Manhattan, New York

Introduction: Business Problem

Analyzing the number of fitness centers in Manhattan, New York to decide where would be a good location to start a new gym.

Who would be interested in this project: Investors and business owners who would like to start a gym, as well as fitness enthusiasts who would like to live closer to a ym or fitness center.

Data

I used the '**newyork_data.json**' dataset from IBM, as well as the Foursqaure API to get the information on gyms and fitness centers in Manhattan

Methodology

I started off by loading the **newyork_data.json** Json file into a data set. I organized the data set into four columns - Borough, Neighborhood, Latitude and Longitude.

I then took the data from the new york dataset and created a new dataset for just Manhattan, which consisted of clusters of all the Neighborhoods in Manhattan using their Latitude and Longitude coordinates

After that I used the Foursquare API combined with the Manhattan Neighborhood Dataset to get a list of every Gym and Fitness center in the Borough along with their Latitude and Longitudes.

Then using Folium I generated a heatmap to see the density or 'heat' of the number of Gyms and Fitness Centers in different parts of Manhattan

Analysis

As you can see, Manhattan is denser (has more neighborhoods) toward the water and the South West end of the borough, and less dense in the North East end.
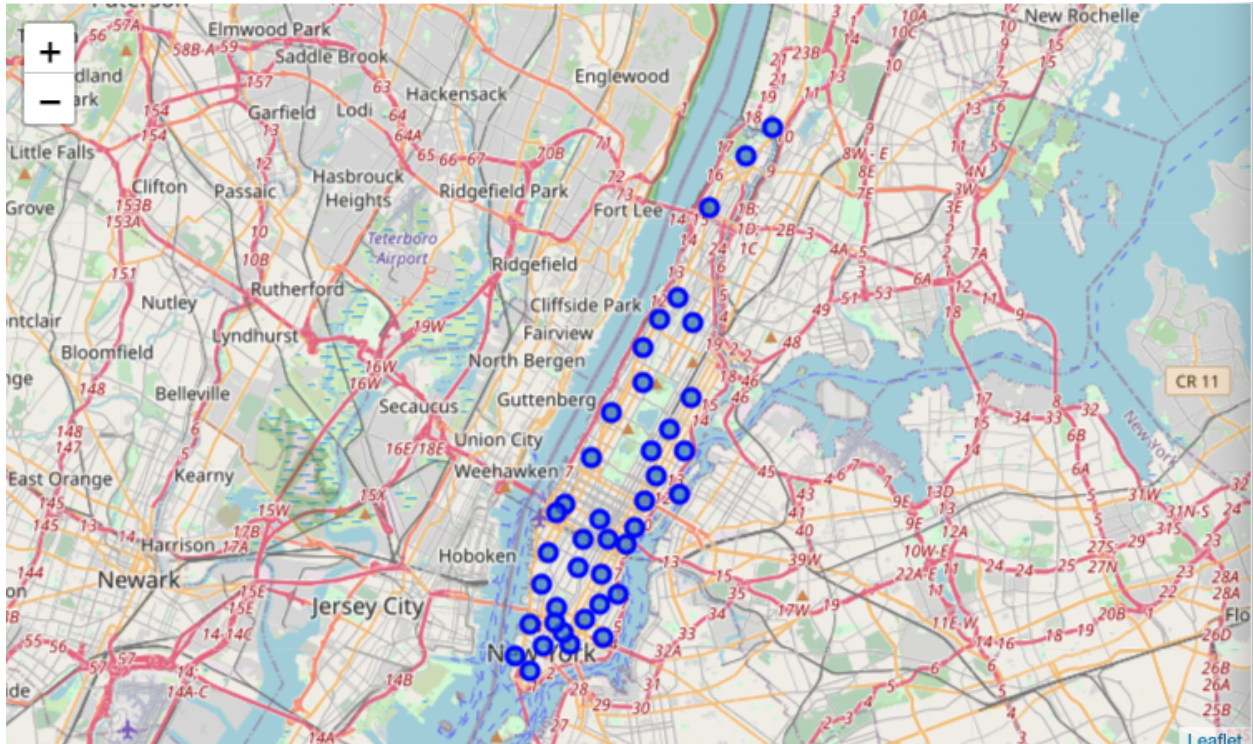
Here we see a heatmap of the gyms and fitness centers and you can immediately notice that there are more gyms towards the Southern end of Manhattan than the Northern end (much like the density of the neighborhoods).
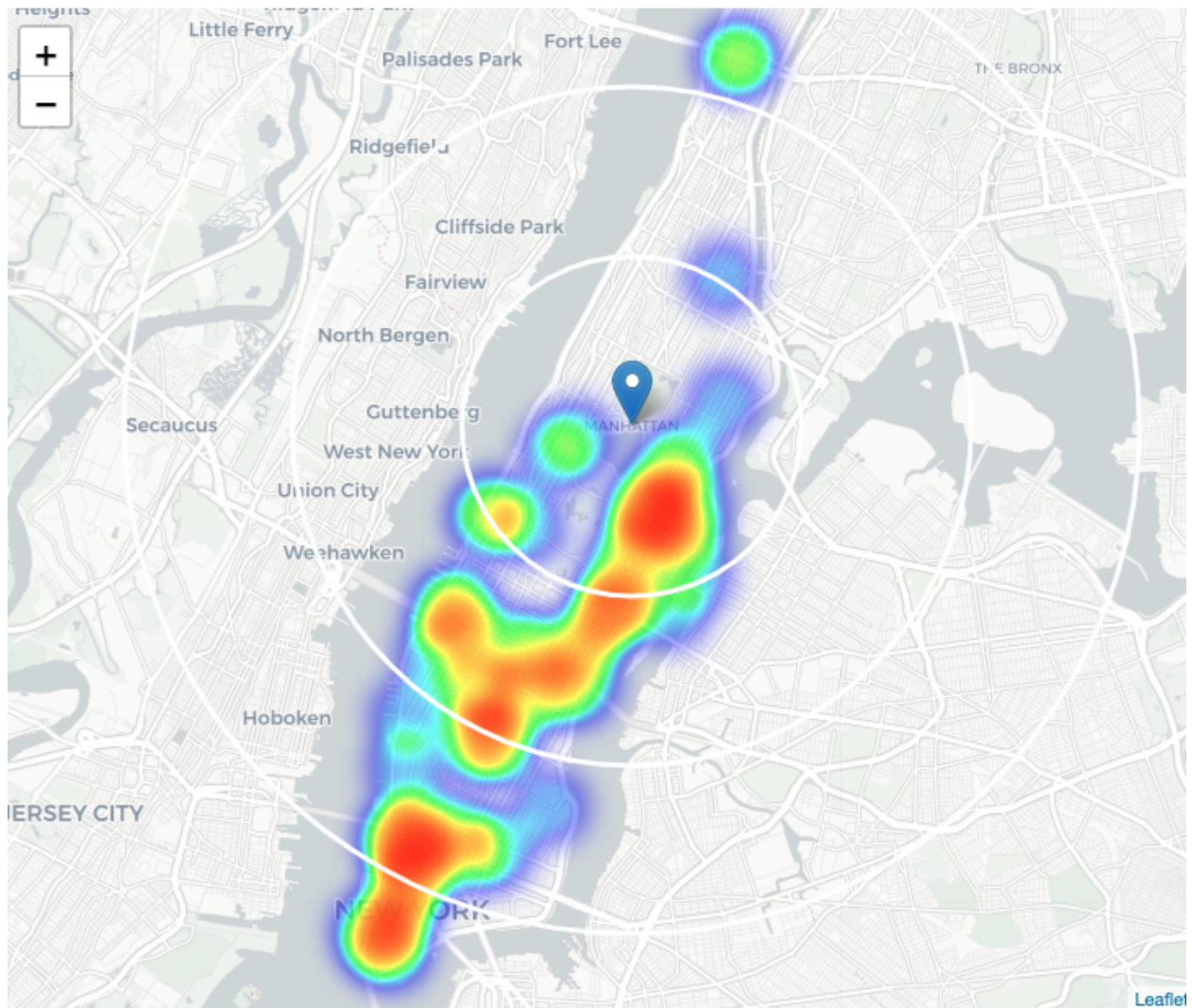
Results and Discussion

Viewing the analysis shows us that Manhattan has a lot more neighborhoods towards its Southern end, and it also has more gyms and fitness centers in that direction.

It seems to have the highest number of fitness centers in the Financial District and Upper East Side and very few in Harlem, Carnegie Hill and Manhattan Valley - these neighborhoods could be ideal opportunities in terms of the lack of fitness centers.

Conclusion

This report simply explored the oppurtinity for opening a new gym or fitness center in Manhattan purely based on how many other fitness centers were in each neighborhood of Manhattan.

A business owner has oppurtuny in the North side of Manhattan solely based on the advantage of the lack of competition, however it is encouraged to use this report as a guide to collect additional information on the less dense neighborhoods, such as income, population density and more.