A GYM IN MANHATTAN?

What neighborhood would work best?

INTRODUCTION

- A client asked me to look into the possibility of opening a fitness studio in Manhattan.
We are mainly interested in certain neighborhoods that meet our demographic.
Gyms are becoming more and more like restaurants. There is one now on every corner. And like restaurants many go out of business. We understand the cost, so we are mainly interested in types of fitness studios and how many in each neighborhood of interest.

QUESTIONS TO ASK

What is the total of all gyms in our surrounding neighborhoods of interest?

What types of gyms are in each neighborhood?

What is the total number of gyms broken down by each neighborhood?

DATA

- I used New York City Neighborhood Names point file that was created as a guide to New York City's neighborhoods that appear on the web resource, New York: A City of Neighborhoods. Foursquare was also used to obtain the necessary information for each neighborhood based on latitude and longitude.
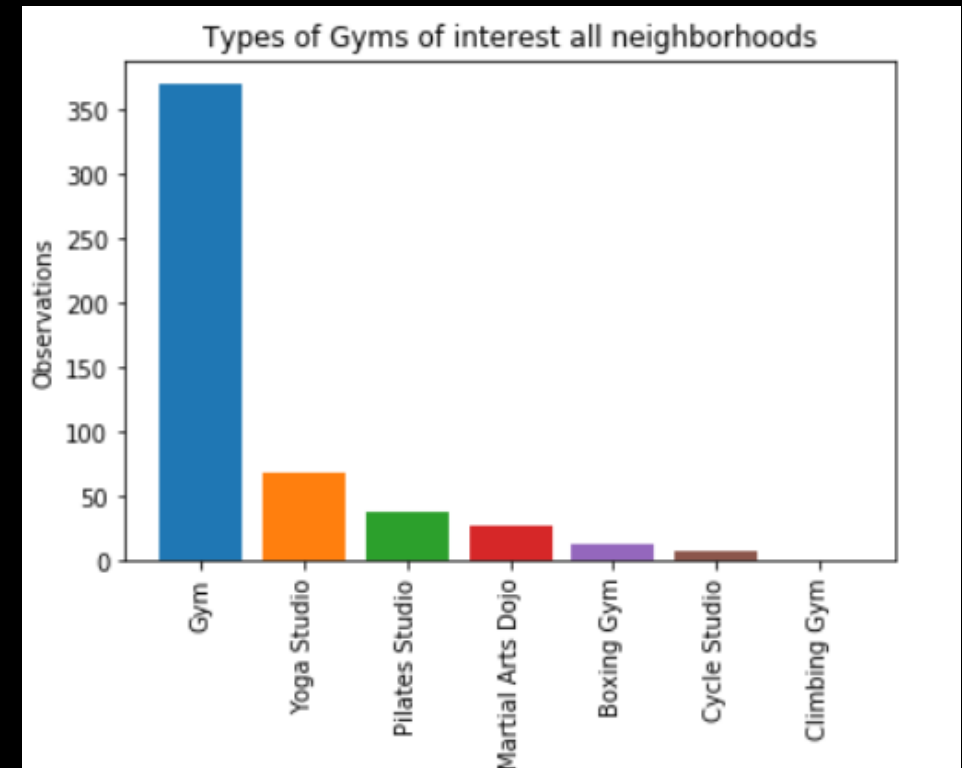
NEIGHBORHOODS OF INTEREST

The neighborhoods of interest that match our demographic are as follows:

Upper West Side, Gramercy, Yorkville, Battery Park City, Tribeca, Soho, Greenwich Village, Chelsea, Upper East Side, East Village, Lincoln Square and Midtown.
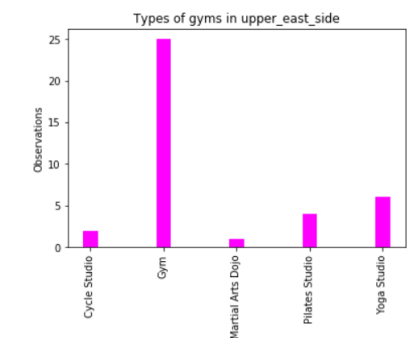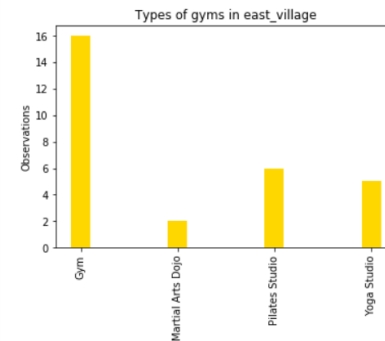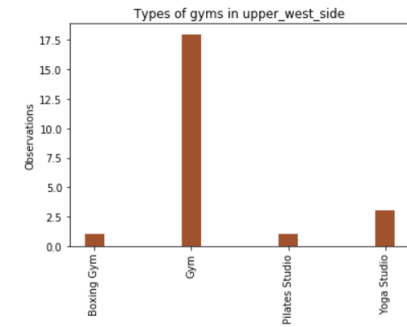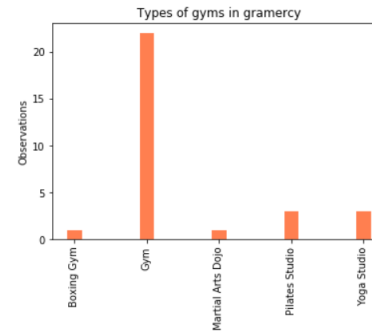
EXPLORATORY DATA ANALYSIS

- This is the total number of types of fitness studios /gyms that we are interested in for all the neighborhoods.


Types of Gyms of interest all neighborhoods

FOUR NEIGHBORHOODS OF INTEREST

- The top four potential neighborhoods
- East Village
- Grammercy
- Upper East Side
- Upper West Side

MACHINE LEARNING

- I used k-means to cluster the neighborhood into five clusters.

- Project was not a good use for machine learning as there are too many variables that need human interaction.

- The only statistic model that is perfect for this project is "PRACTICAL SIGNIFICANCE".
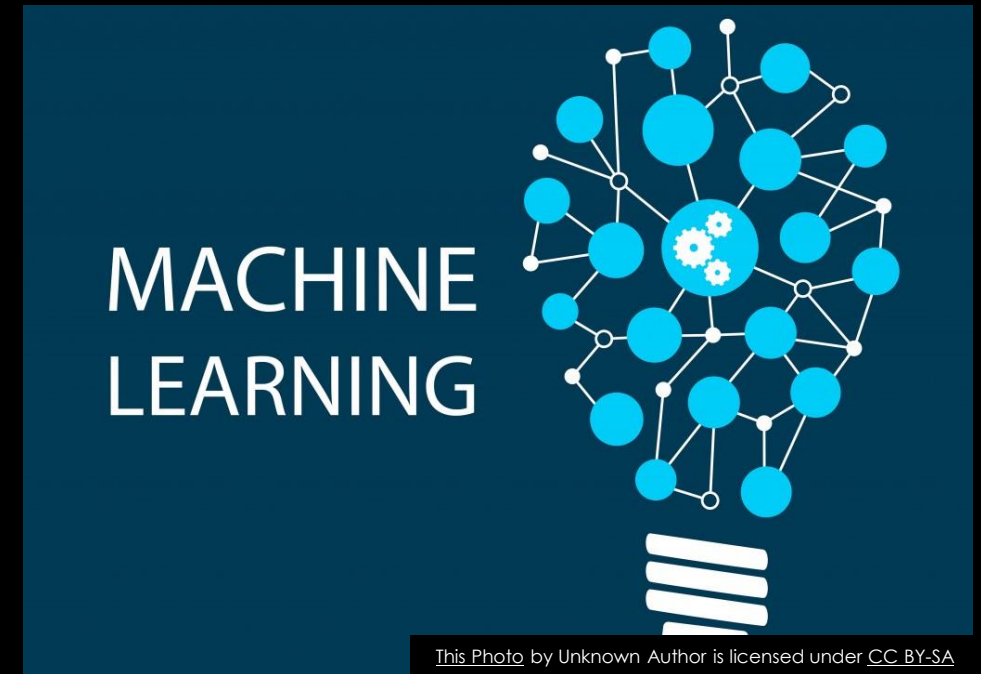
RESULTS/OBSERVATIONS

- The top four neighborhoods to observe further are East Village, Upper West Side, Upper East Side and Gramercy.

- A physical inspection of these areas will be needed.

- Also, as an outlier I would like to visit soho. They have over 50 gyms , so pretty crowded but they also have the largest Yoga studio population. The question is how many of those 50 gyms are profitable or just breaking even.

CONCLUSION

Types of gyms in east_village
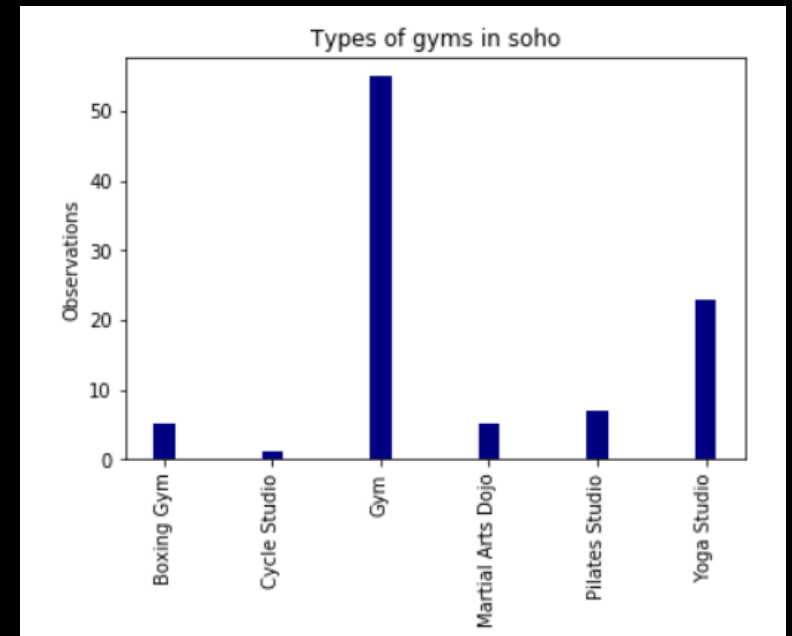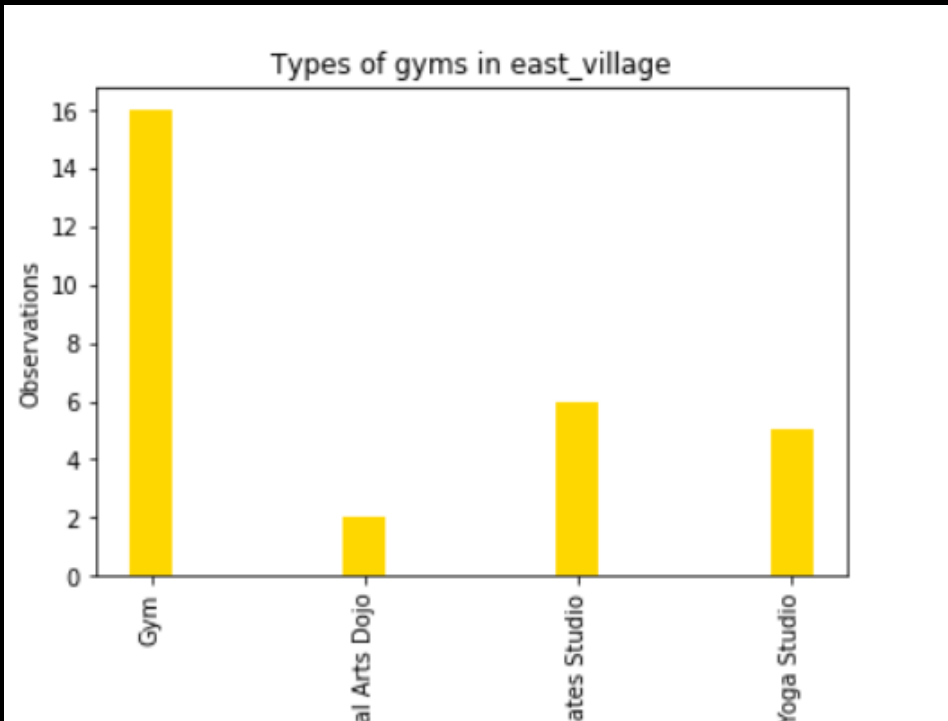
- Our demographics fit perfectly with the neighborhoods of interest.
- The top neighborhood based on the initial questions answered is the East Village.
- With just 16 gyms and a large number of Pilates/Yoga studios to potentially partner with this might be the perfect location.

CONCLUSION CONTINUED

- "PRACTICAL SIGNIFICANCE".
- This means we need to walk the neighborhood, talk to people, maybe some surveys
- And then while in NYC, look at the other neighborhoods to get a feel.
- This project did a good job of getting some numbers of what's out there per neighborhood

LIMITATIONS

- This project was based on the data from FourSquare.

- This can be outdated, some categories are mixed.

- We are interested in the boutique gyms which FourSquare doesn't provide. So, this requires walking the pavement and getting a feel while talking with people.