

Coursera Capstone Project

The Battle of Neighborhoods



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Report Content

01 Introduction

The business problems that need to be solved and the background of the problems

02 Data

Describe data requirements and sources needed to solve the problems

03 Methodology and Finding

Describe data science method we are using to solve the problems and statistical testing and machine learning technics that the report performed

04 Result

Discuss the result of the analysis and proposed recommendation

■ ■ ■ ■ Introduction Section

Background

I am a finance analyst currently living and working in Australia. I live in Sydney with easy access to gym and wide range of restaurants. Recently, I've got an offer to be a CFO in one of the world largest FMCG companies, but the company require me to work and move to New York City and I would like to explore if I can find a place to live similar with one I live now. I have a passion in fitness and Japanese food; thus, a gym and a nice Japanese restaurant are something cannot to miss in my life. My life motto is "Eat More, Exercise More".

New York City, often called New York, has condensed population that it is easy to meet people professionally and personally. Museums, restaurants, bars and live entertainment offer great options for people love convenience. Living in the city affords one the opportunity to live a life time in a day. From a morning run in Central Park or gym, to some of the best food imaginable in the afternoon, to an evening watching comedy show in a club. Lives in New York really can be like the movies.



Introduction Section



Problem to be solved



How to find an ideal neighborhood in New York City that meet the following conditions:

- The Borough it belongs to has good safety level
- Nearby location has different good rating gym facilities
- Nearby location has different good rating Japanese restaurants
- List and visualize all the major parts of New York has good Japanese restaurant

Data Section

START

1. New York City Borough and Neighborhood information

Data Sources:
https://cocl.us/new_york_dataset

This data set has a total of 5 boroughs and 306 neighborhoods as well as the latitude and longitude coordinates of each neighborhood..

2. Restaurants detailed information and gym in NYC

Data Sources:
Foursquare API

With API function in Foursquare app, we are able to locate gym and diverse restaurants and even the rating of them. .

3. Crime rate data indicate safety of each Borough

Data Source:
<https://data.cityofnewyork.us/api/views/833y-fsy8/rows.csv?accessType=DOWNLOAD>

This data set shows list of every shooting incident that occurred in NYC going back to 2006 through the end of 2019, indicating the safety of NYC by Borough level..

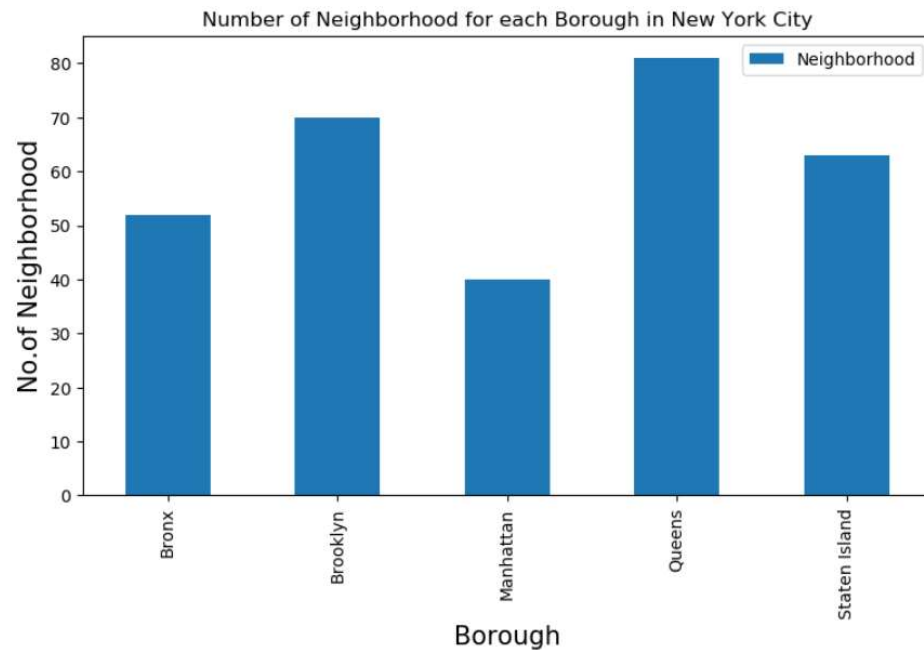
Location of the future office

Data Source: Google Map

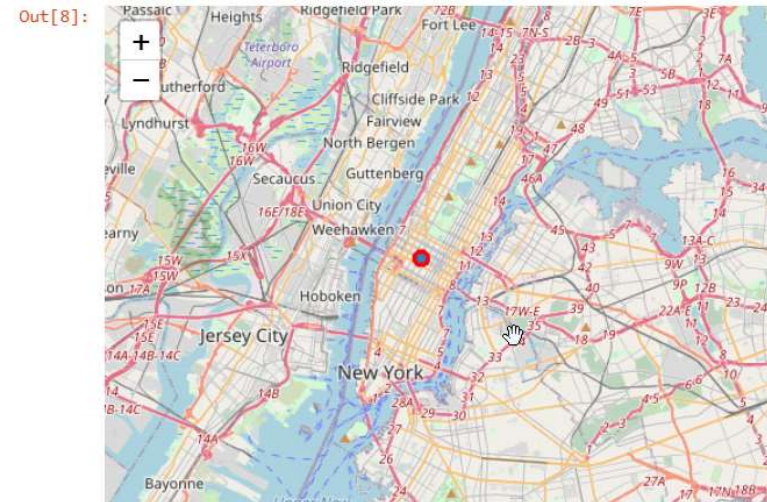
1540 Broadway, New York, NY 10036, United States.

Methodology and Finding

General information of NYC

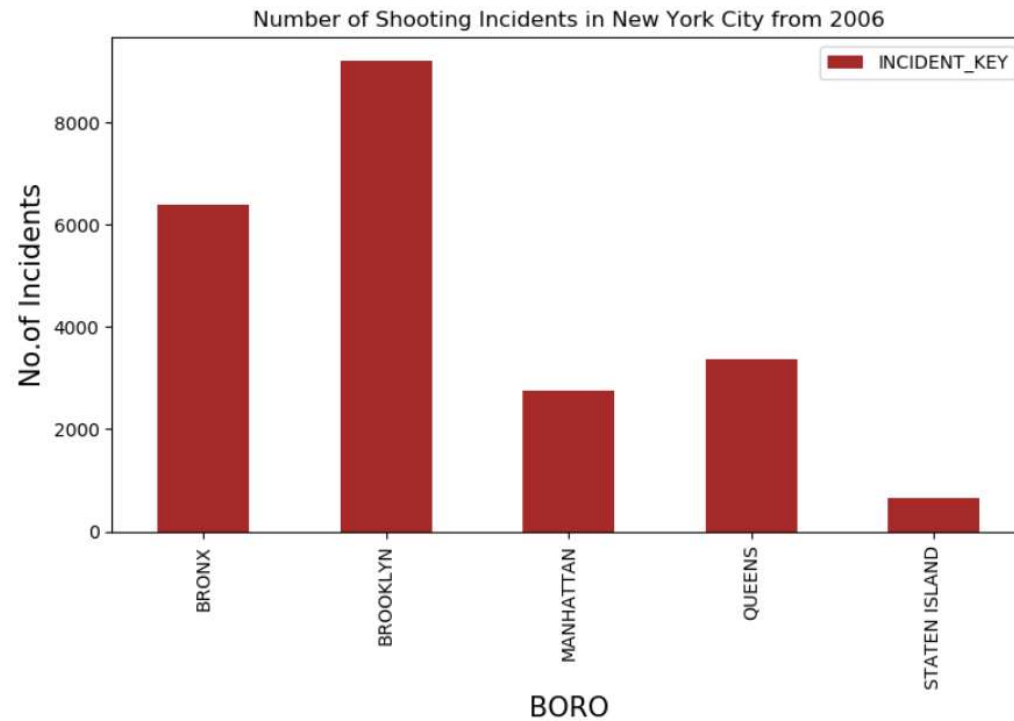


Office Location



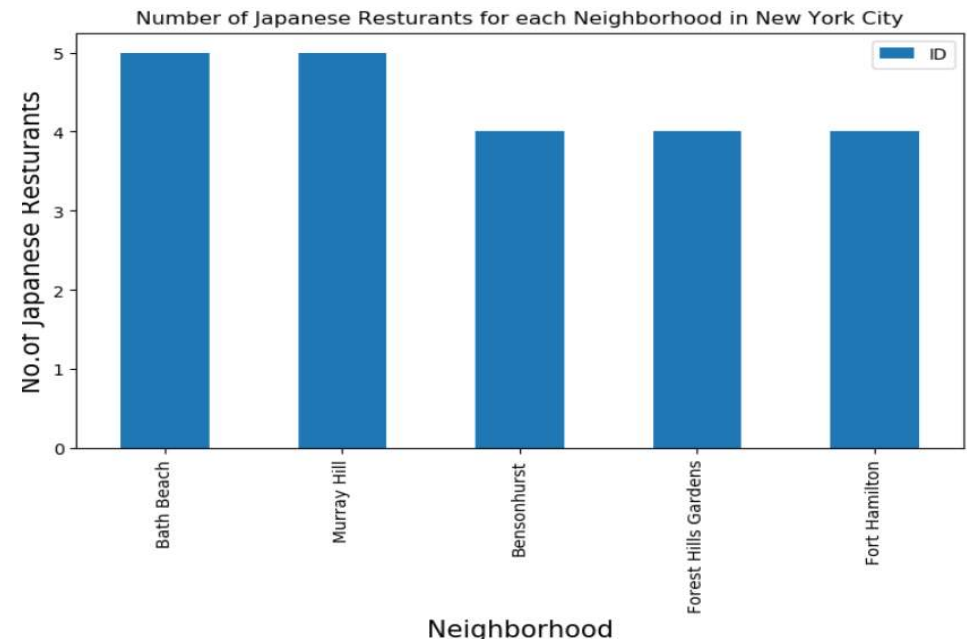
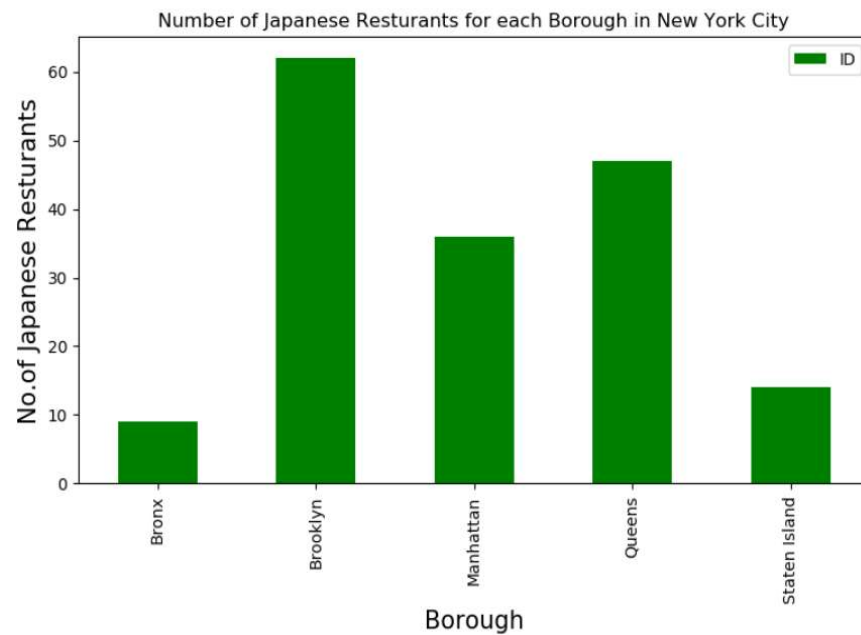
Methodology and Finding

Safety Level indication



Methodology and Finding

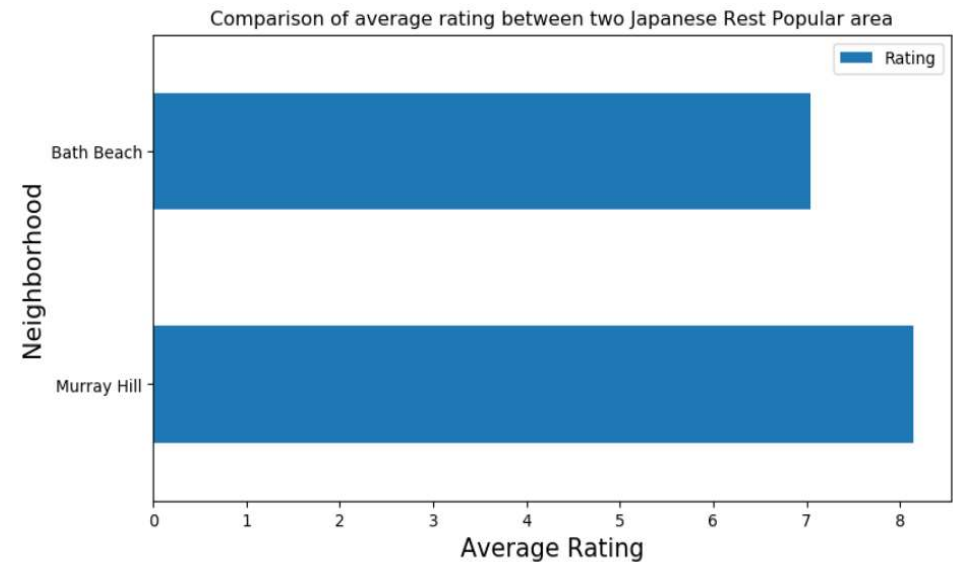
Japanese Restaurant analysis



Methodology and Finding

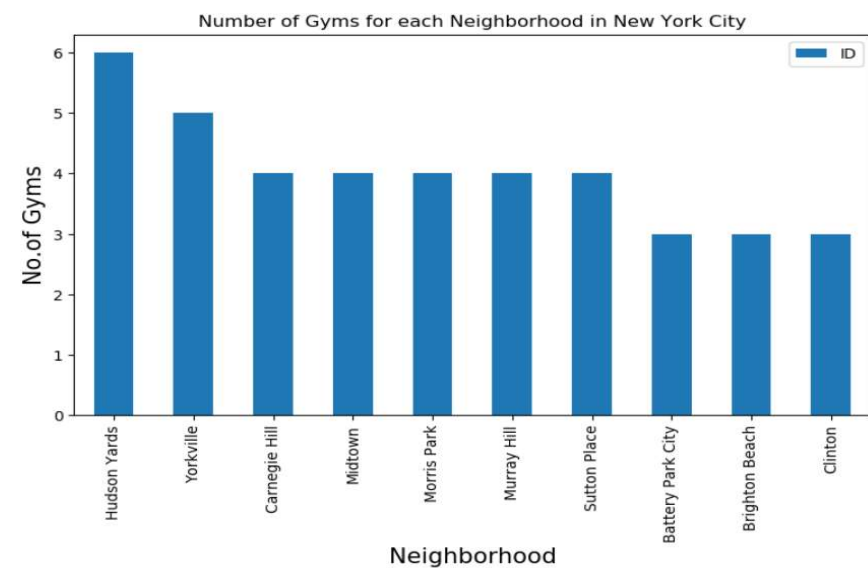
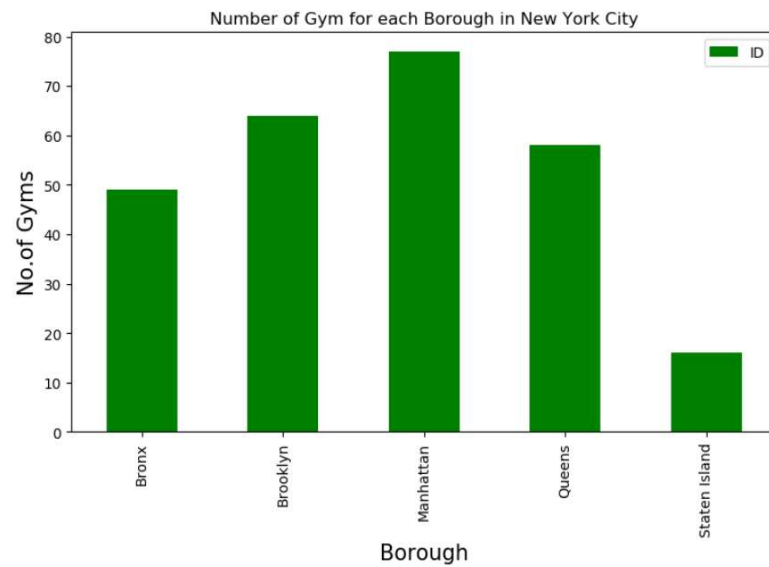
Japanese Restaurant analysis cont..

	ID	Name	Likes	Rating	Tips
0	540dc46d498e86f0e5059dd2	Zuma New York	454	8.4	84
(1 / 10) processed					
	ID	Name	Likes	Rating	Tips
0	591caee89deb7d0f69be77a2	Omusubi Gonbei	14	8.3	1
(2 / 10) processed					
	ID	Name	Likes	Rating	Tips
0	49db8b67f964a520d85e1fe3	Aburiya Kinnosuke	279	8.8	91
(3 / 10) processed					
	ID	Name	Likes	Rating	Tips
0	4bc8eee83740b713fcbe5d65	Northern Sushi	6	7.9	2
(4 / 10) processed					
	ID	Name	Likes	Rating	Tips
0	5cf07afa66f3cd002c8b3ae6	Izakaya Mew	7	7.3	1
(5 / 10) processed					



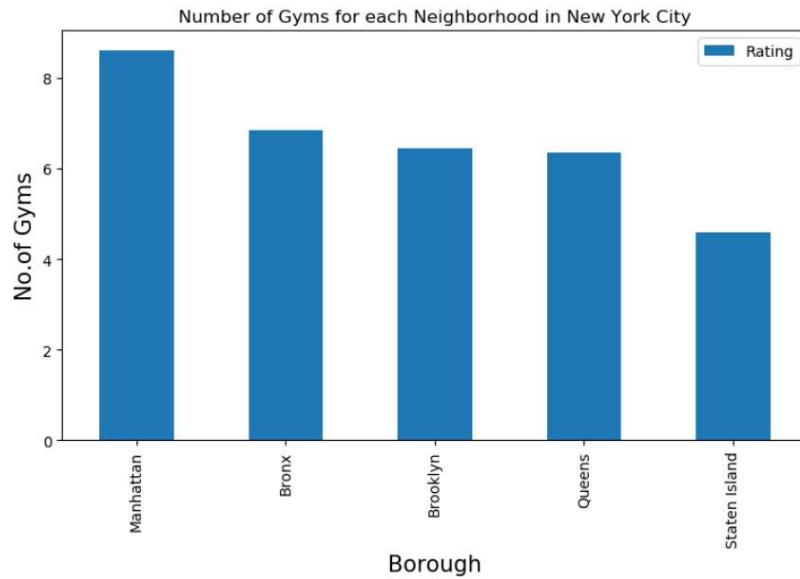
Methodology and Finding

Gym analysis



Methodology and Finding

Gym analysis cont..

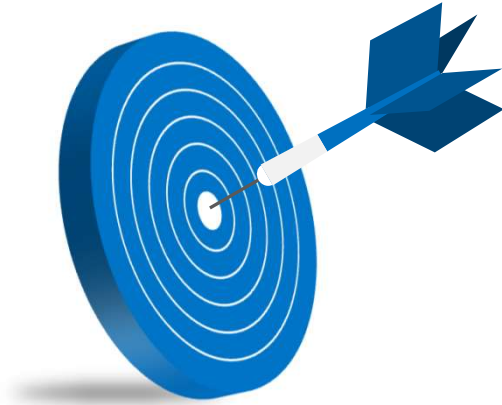


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In [120]: MHgymrate= gymrate[gymrate['Neighborhood']=='Murray Hill']  
MHgymrate.head(20)
```

Out[120]:

	Borough	Neighborhood	ID	Name	Likes	Rating	Tips
116	Manhattan	Murray Hill	49c943d2f964a5204f581fe3	Equinox Park Avenue	364	8.5	60
117	Manhattan	Murray Hill	42af6f80f964a5205a251fe3	Equinox East 44th Street	259	9.1	38
118	Manhattan	Murray Hill	4c780d08566db60c5a4f400e	Manhattan Place Health Club	8	8.5	0
119	Manhattan	Murray Hill	4a047a18f964a520ff711fe3	Equinox East 43rd Street	120	8.6	18

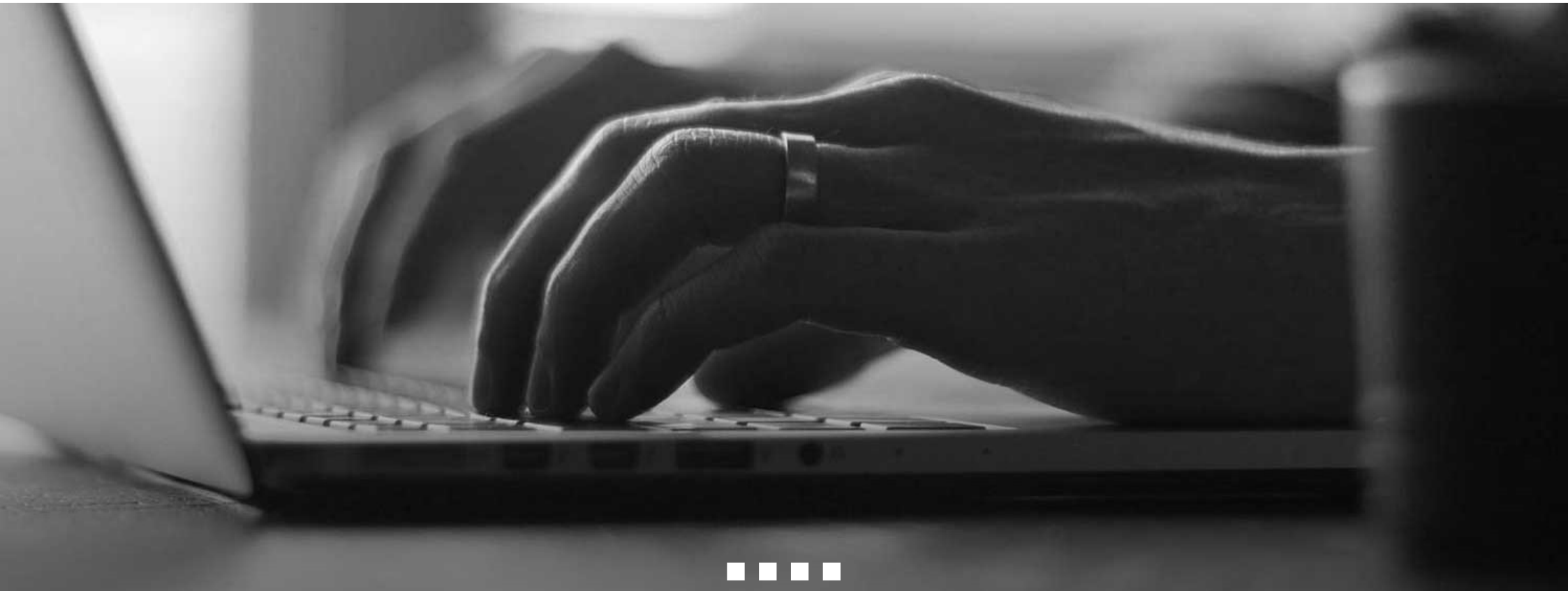
Result Section



The Winner is Murray Hill !!!!

Key Reasons:

- Has numbers of Japanese with great rating
- Has numbers of Gym with great rating
- Located in a relatively safe Borough
- Close to work



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THANK YOU

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