



# Battle of Neighborhoods

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FIND THE BEST OFFICE LOCATION IN  
SAN FRANCISCO

# ***Location, location, location*** *why location matters?*

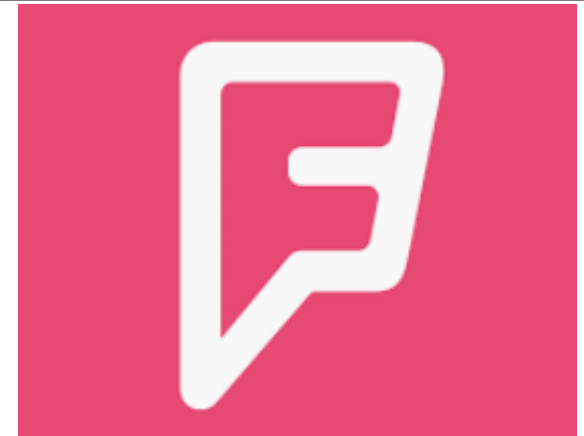
A GOOD OFFICE CAN MAKE OR BREAK YOUR COMPANY. IT HAS A DIRECT IMPACT ON YOUR FINANCES AND A SIGNIFICANT INFLUENCE ON YOUR EMPLOYEES' MORALE AND PRODUCTIVITY.

# Data

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Foursquare API

Open SF data



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## Data Acquisition

Since I plan to use choropleth to show how crime rates vary across analysis neighborhoods, the first data I will use is the GeoJson file containing the borders of San Francisco neighborhoods. Also, to show how crime rates vary across neighborhoods, I am going to use the crime rate data which is in csv format, so it is easy to be converted to pandas DataFrame to create the choropleth. The above two datasets are available on San Francisco open data website (<https://datasf.org/opendata/>).

# Data acquisition

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Foursquare API enables me to explore some venues in each neighborhood and compare them. Some questions can be answered using Foursquare API such as: does the neighborhood have adequate restaurants? How is the quality? Does the neighborhood have convenient transportation? These questions will all be answered by looking at the data Foursquare provides.



	name	categories	address	lat	lng	labeledLatLngs	distance	postalCode	cc	city	state	country	formattedAddress	cr
0	Kezar Bar & Restaurant	Food	900 Cole St	37.769476	-122.432570	[{"label": "display", "lat": 37.769476, "lng": ...}	950	94117	US	San Francisco	CA	United States	[900 Cole St, San Francisco, CA 94117, United ...	
1	Kezar Bar & Restaurant	Restaurant	900 Cole St	37.765751	-122.449909	[{"label": "display", "lat": 37.76575094246821...	678	94117	US	San Francisco	CA	United States	[900 Cole St (at Carl St), San Francisco, CA 9...	
2	The Restaurant at the End of the Universe	Spiritual Center	722 Duboce Ave	37.769290	-122.435622	[{"label": "display", "lat": 37.7692900000000000...	709	94117	US	San Francisco	CA	United States	[722 Duboce Ave (Castro), San Francisco, CA 94...	
3	Twist Restaurant and Bar	Food	1066 14th St	37.767356	-122.437492	[{"label": "display", "lat": 37.767356, "lng": ...}	458	94114	US	San Francisco	CA	United States	[1066 14th St, San Francisco, CA 94114, United...	
4	Thailand Restaurant	Thai Restaurant	438 Castro St	37.761955	-122.435128	[{"label": "display", "lat": 37.7619550287555, ...}	742	94114	US	San Francisco	CA	United States	[438 Castro St (btwn Market & 18th), San Franc...	btv

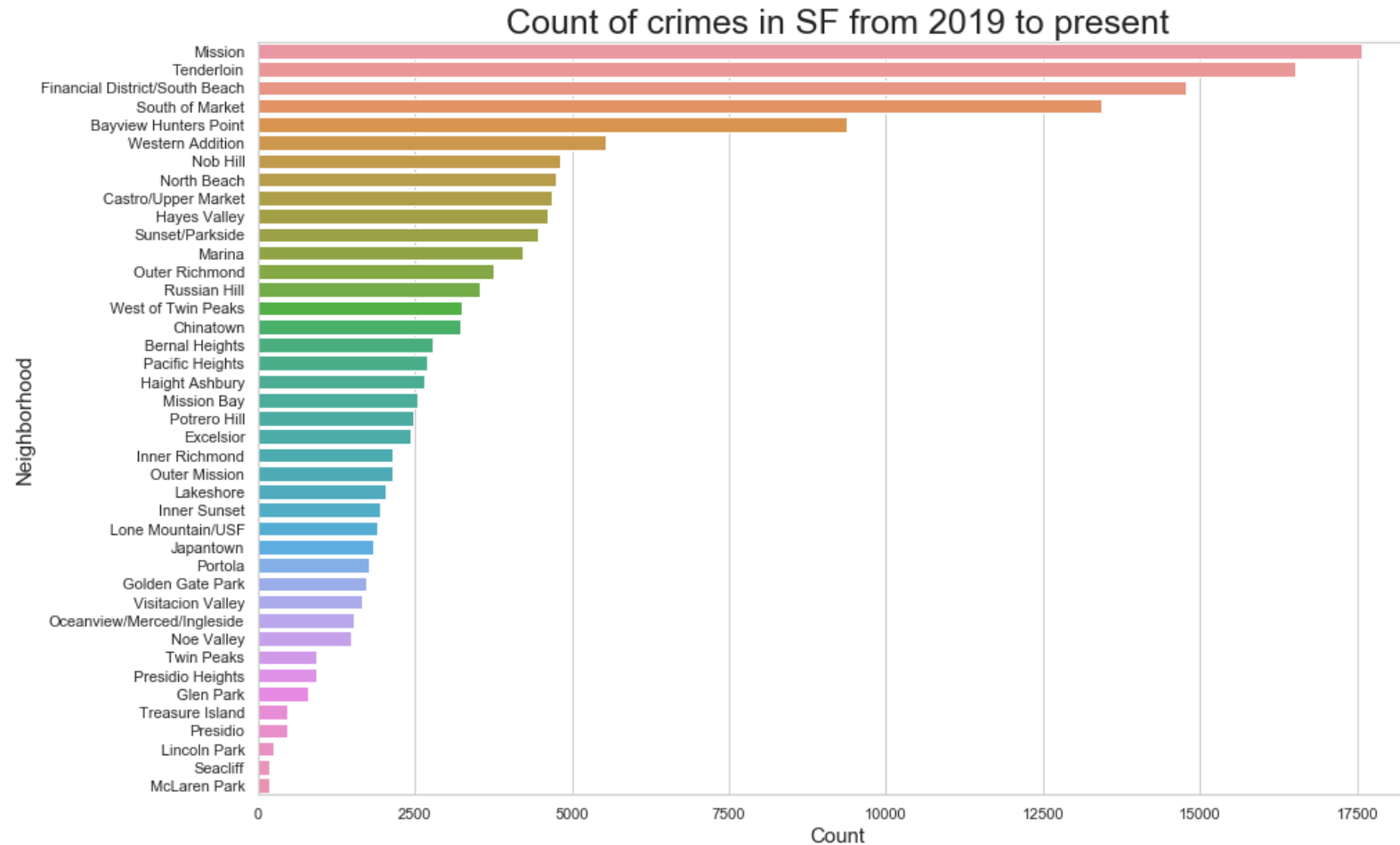
# Here is what Foursquare provides

We can convert the json to dataframe easily

## Head of Crime data

The first step is to clean the dataset and convert it into a dataframe as shown below using *groupby* function and use sort to see the pattern

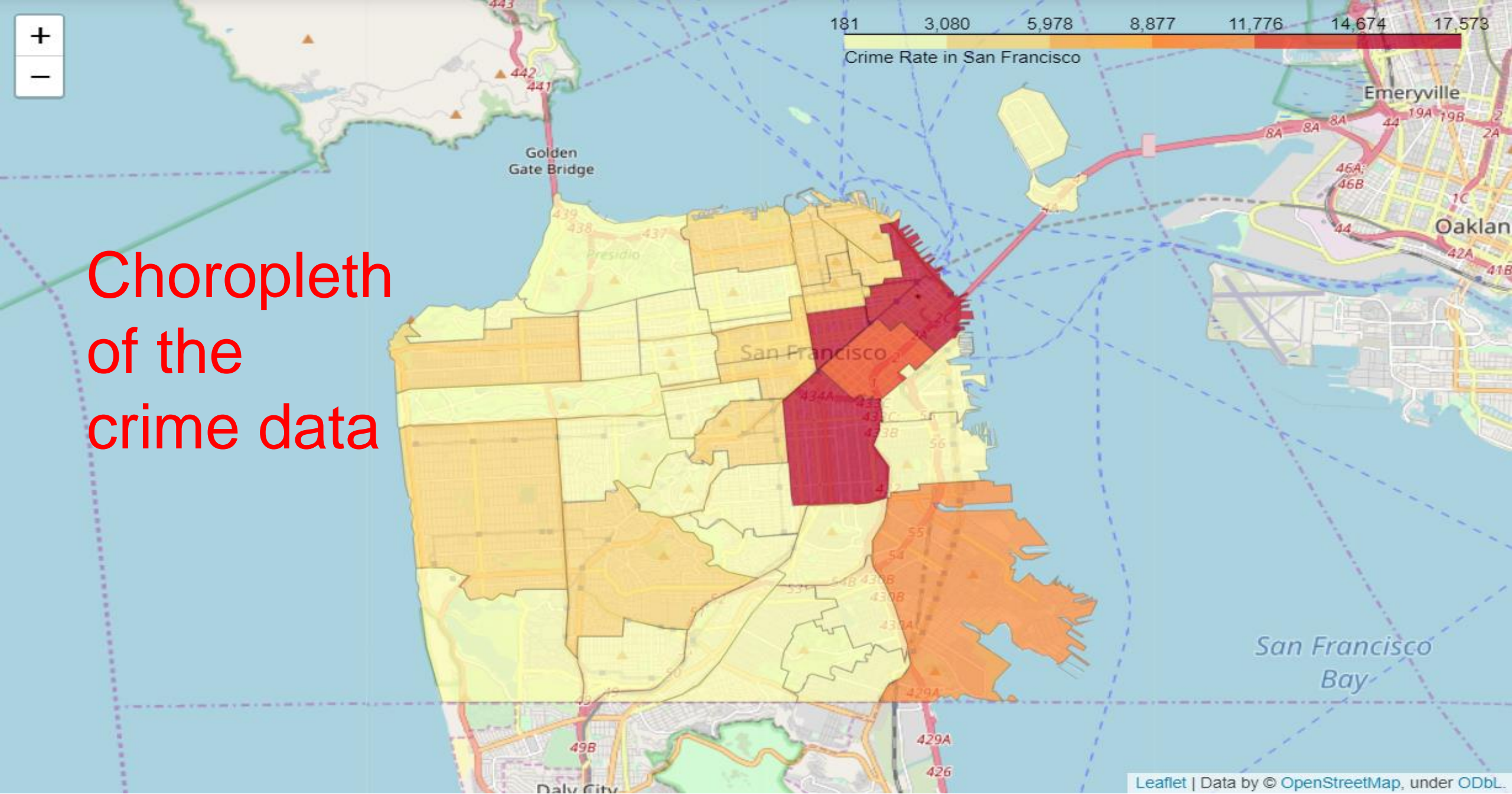
Neighborhood	Count
Mission	17573
Tenderloin	16517
Financial District/South Beach	14773
South of Market	13431
Bayview Hunters Point	9370



Bar chart of Crime rate in neighborhoods



# Choropleth of the crime data



# Neighborhoods that have restaurants nearby

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Then let's see if the neighborhood has restaurants nearby.

Neighborhood
Chinatown
Golden Gate Park
Inner Richmond
Inner Sunset
Japantown
Outer Richmond
Russian Hill
Seacliff
Sunset/Parkside

These are neighborhoods that have at least one restaurants nearby

# Is the transportation convenient?

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Number of bus stops nearby each neighborhood

				Venue
Neighborhood	Neighborhood Latitude	Neighborhood Longitude		
Sunset/Parkside	37.7692	-122.4481	33	
Outer Richmond	37.7941	-122.4078	25	
Inner Richmond	37.7798	-122.4901	6	
Inner Sunset	37.8011	-122.4194	6	
Japantown	37.7406	-122.4589	6	
Golden Gate Park	37.8037	-122.4368	5	
Seacliff	37.7925	-122.4382	5	
Russian Hill	37.7389	-122.4152	2	
Chinatown	37.7425	-122.4896	1	

The Zillow Rent Index (ZRI) is a dollar-valued index intended to capture typical market rent for a given segment.

	RegionName	Zri
0	Outer Sunset	3933
1	Outer Richmond	3993
4	Inner Sunset	4092
2	Inner Richmond	4135
3	Russian Hill	5074

After comparing above charts, we can see that **Outer Sunset, Outer Richmond and Inner Sunset** are the optimal neighborhoods

They have relatively low crime rate, convenient public transportation and some restaurants nearby.

# Discussion

This analysis is simple because there is not any inferential statistics involved. Due to the accessibility of data, I could not apply any machine learning algorithm to help make better decision on finding the optimal neighborhood. But further analysis can surely attempt to make this possible with more data and effort.



Thanks for reading!