Opening a Bar in San Francisco

Santiago Falconi

June 15th, 2020

Introduction

San Francisco is one of the largest and most populated metropolitan areas in the nation. Many entrepreneurs are attracted to this town to start businesses in all industries. From tech startups to trendy bars and restaurants, San Francisco has it all. I travelled to San Francisco recently, I was amazed with the number of new bars popping up in less than a year. So, I came up with the idea of moving to San Francisco to buy a bar; I just do not know what the best neighborhood is. I developed this project to answer this question. I hope you find it useful.

Target Audience

The target audience is interested in investing in real estate and buying a bar in San Francisco. People eager to explore town by visiting bar in the touristic districts. Anyone that wants to know what the best bars in town are.

Data

To best make this decision, we are going to need some data. Fortunately, the city of San Francisco has hundreds of public datasets that describe various aspects of the city, and Foursquare API allows free access to some of its location and venue data.

Altogether, we are looking at three sets of data for our analysis:

San Francisco Crime Data.

- This is going to help us by providing a list of every neighborhood in San Francisco and allowing us to select one of the safest areas for our bar.

San Francisco Registered Business Data. This is going to help us roughly gauge the foot traffic in each neighborhood of San Francisco (at least on the weekdays) by providing the number of businesses located within each neighborhood.

Foursquare API

- Foursquare data is robust and provides location data for Apple and Uber. Foursquare API allows you to retrieve information about the most popular spots in each neighborhood in San Francisco. This will be another good indication of foot traffic for a venue type. Calling the Foursquare API returns a JSON file, which can be turned into a data frame for analysis in python.

Results and Discussion

We have pulled data on crime rates and business registrations for every neighborhood in San Francisco and used this information to narrow down our neighborhood options to 6 neighborhoods. Our analysis has informed us that:

- Coffee shops, Chinese Restaurants, Sandwich Shops, French restaurants, and Wine Bars are the most common venues in our 6 preferred neighborhoods.
- Clustering neighborhoods based on their most popular venues grouped Hayes Valley with Castro into a cluster, West of Twin Peaks, Outer Richmond and Marina into another cluster, and Sunset as its own independent cluster.

Most Common Venue Types in 6 Prioritized Neighborhoods
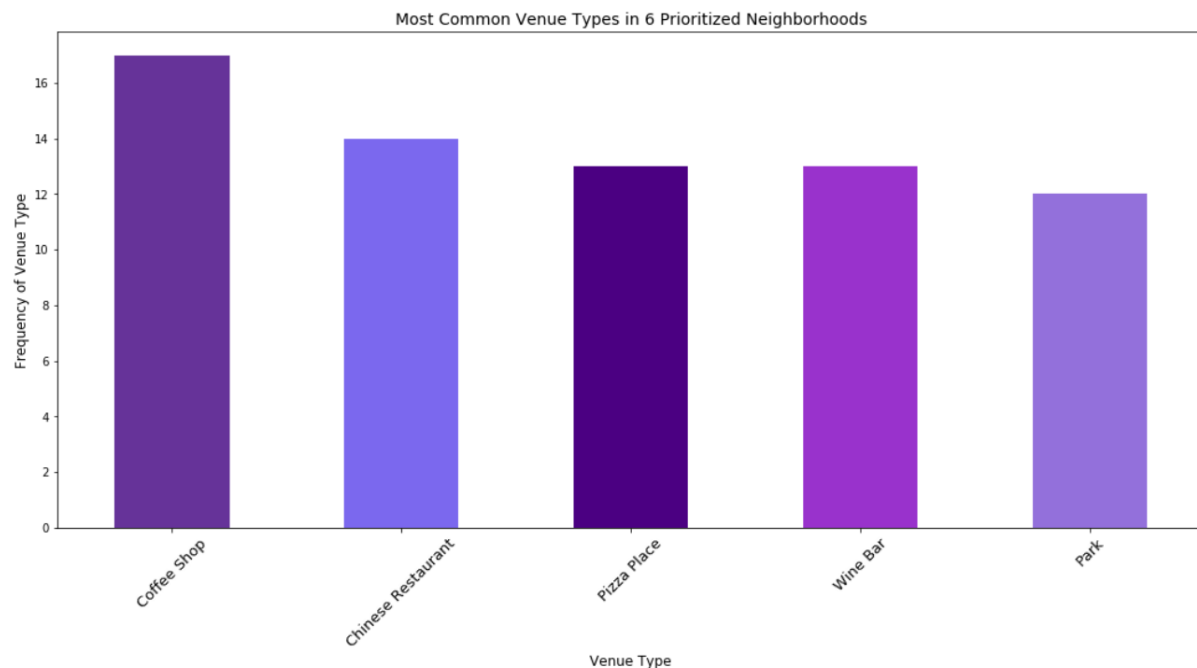
- Marina and Outer Richmond have majority bars and restaurants as popular venues, whereas most of the popular venues in Sunset and Castro are not bars or restaurants, but locations like parks and yoga studios.


Number of Registered Businesses by Neighborhood
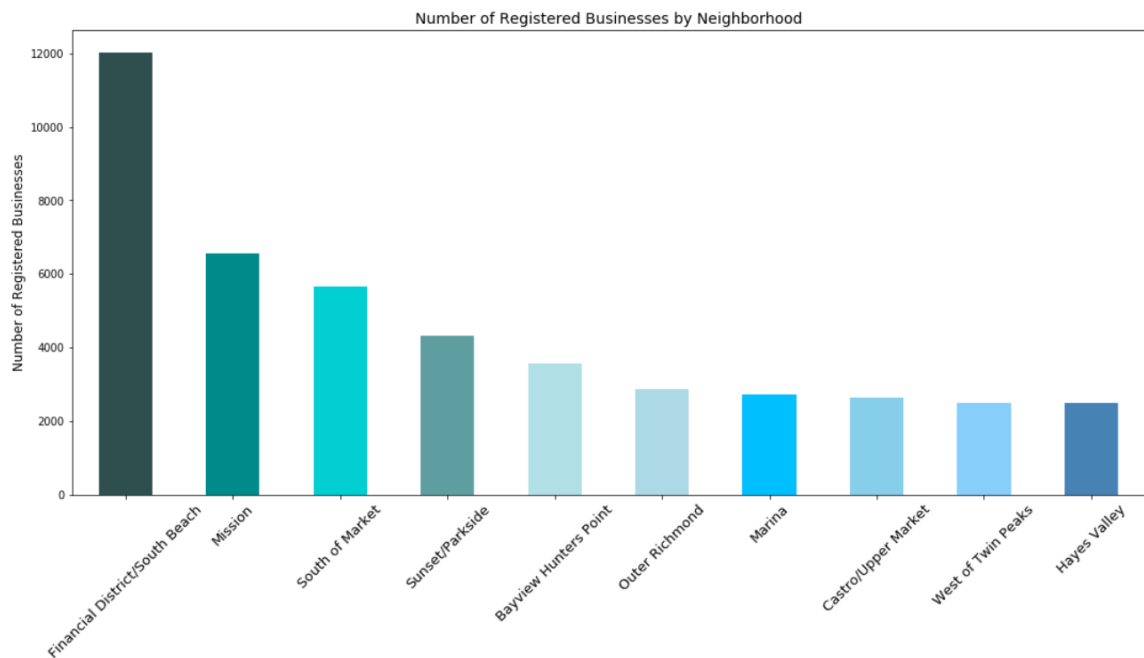
Row Labels	Incident Code	Incident Category	% of Incident Category	% of Total Incident Category	Current Police Districts
⊟ 2018	3,901,865,101	153,691	43.34%	43.34%	145,561
Cite or Arrest Adult	1,146,277,189	35,320	9.96%	22.98%	34,975
Exceptional Adult	16,418,442	397	0.11%	0.26%	398
Open or Active	2,677,099,781	116,716	32.92%	75.94%	108,940
Unfounded	62,069,689	1,258	0.35%	0.82%	1,248
⊟ 2019	3,766,225,021	148,924	42.00%	42.00%	140,397
Cite or Arrest Adult	1,061,277,797	32,651	9.21%	21.92%	32,276
Exceptional Adult	19,608,040	458	0.13%	0.31%	449
Open or Active	2,642,084,602	114,920	32.41%	77.17%	106,803
Unfounded	43,254,582	895	0.25%	0.60%	869
⊟ 2020	1,288,915,690	51,981	14.66%	14.66%	49,701
Cite or Arrest Adult	330,073,004	10,895	3.07%	20.96%	10,872
Exceptional Adult	5,865,047	146	0.04%	0.28%	146
Open or Active	942,199,552	40,699	11.48%	78.30%	38,443
Unfounded	10,778,087	241	0.07%	0.46%	240
Grand Total	8,957,005,812	354,596	100.00%	100.00%	335,659

Marina, Castro, and Hayes Valley are more expensive place to live, with the media rent for a one-bedroom for at least $3,500.

$Sunset, Outer Richmond, and West of Twin Peaks are more affordable and have a median rent for a one-bedroom of less than 3,500. - Sunset, Outer Richmond, and West of Twin Peaks are more affordable and have a median rent for a one-bedroom of less than 3,000.$

Based on this analysis, Outer Richmond seems to offer a good balance between foot traffic, popularity for restaurants and bars, and rent prices.

Marina seems to be a hot spot for restaurants and bars, but also comes with the high cost of rent. Castro and Hayes Valley come with the same expense as Marina, but neither is as hot of a destination for restaurants and dining. West of Twin Peaks seems to have a similar feel to Marina and Outer Richmond based on clustering but is the least busy neighborhood of the 6. Sunset also has cheaper rent, but the popular spots tend to be more recreational in nature (e.g. lakes and playgrounds).
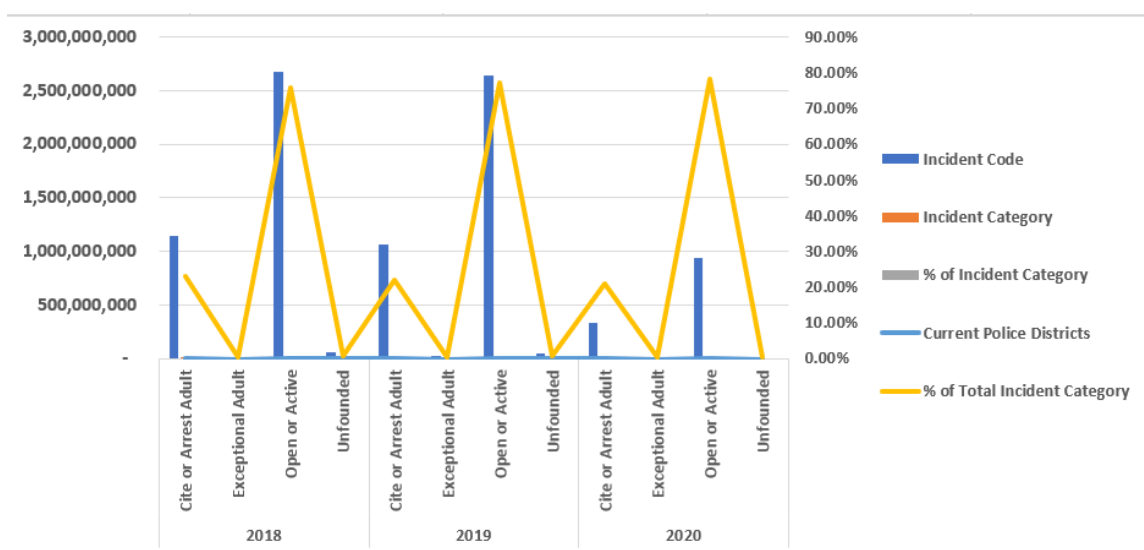
Ultimately, the optimal bar spot depends on what type of bar you would like to open. An upscale and trendy bar might fare better against competition in an expensive and bustling area like Marina, whereas a dive bar may be the go-to spot in an area like West of Twin Peaks, which likely receives most of its foot traffic exclusively from its residents.

A major drawback of this analysis is that the clustering was completely based on Foursquare's data for popular venues. There are plenty other ways to assess popularity of neighborhoods and the spots inside them, venue popularity is just one of them. It may also be helpful to look exclusively at bars in an area, how many there are, and how popular they are on weekdays and weekends.

Number of Reported Crimes by Neighborhood
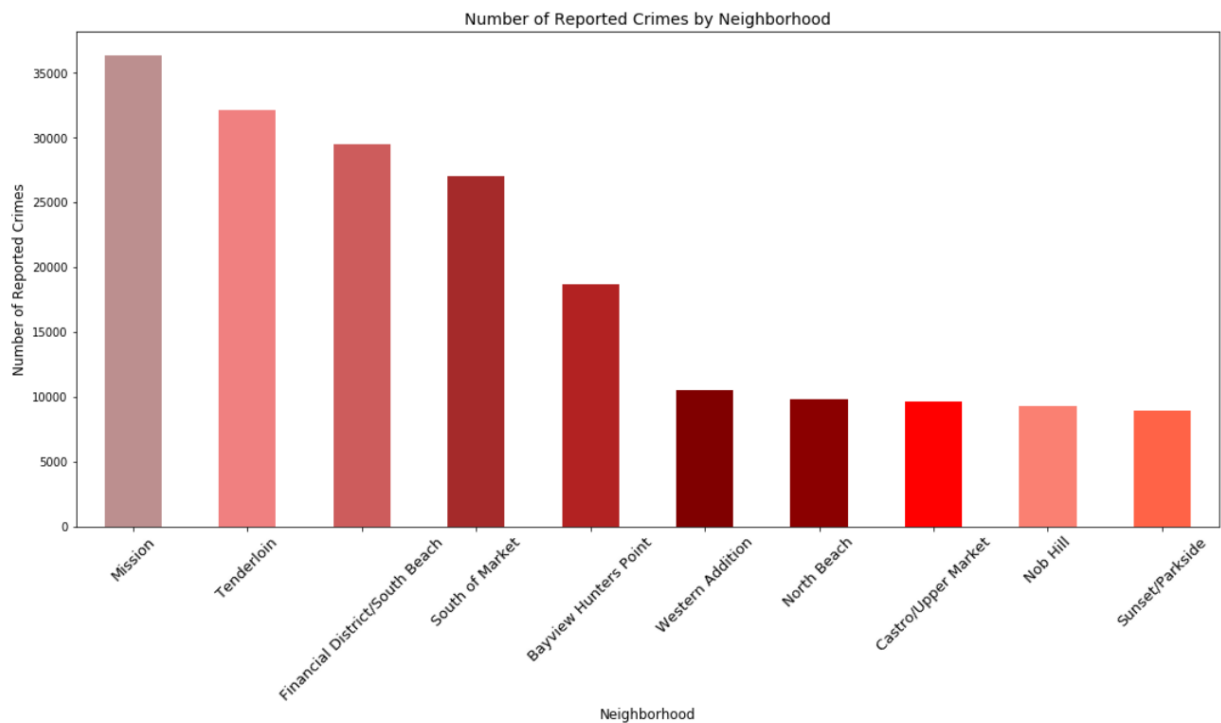
Conclusion

Finally, we have executed an end-to-end data science project using common python libraries to manipulate data sets, Foursquare API to explore the neighborhoods of San Francisco, and Folium leaflet map to cluster and segment neighborhoods. This was just one use-case. These analytical tools open a world of possibilities for strategic decision making across the various realms of business: from healthcare to real estate to energy. All you need is a little curiosity and the desire to learn!