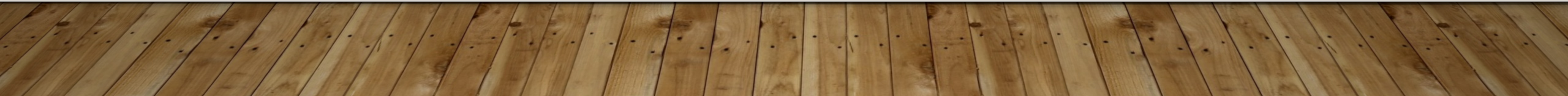
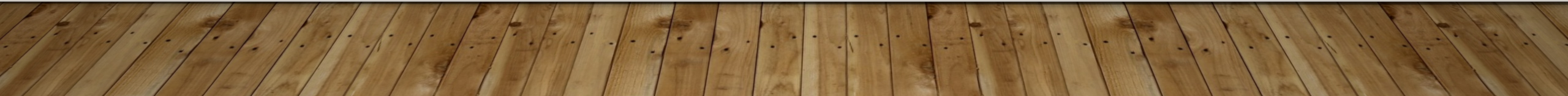


BEST CITY IN LA COUNTY TO OPEN A FITNESS STORE



HIGH DEMAND FOR LA COUNTY FITNESS STORES

- Los Angeles is home to Hollywood, one of the largest centers in the entertainment industry.
- This attracts upcoming actors and actresses looking for a way to break into the industry.
- Casting companies look for candidates that look healthy.
- This results in many aspiring actors and actresses striving to maintain a healthy lifestyle.
- The result is a high demand for gyms and fitness stores that carry products used to supplement training such as protein powder or pre workout.

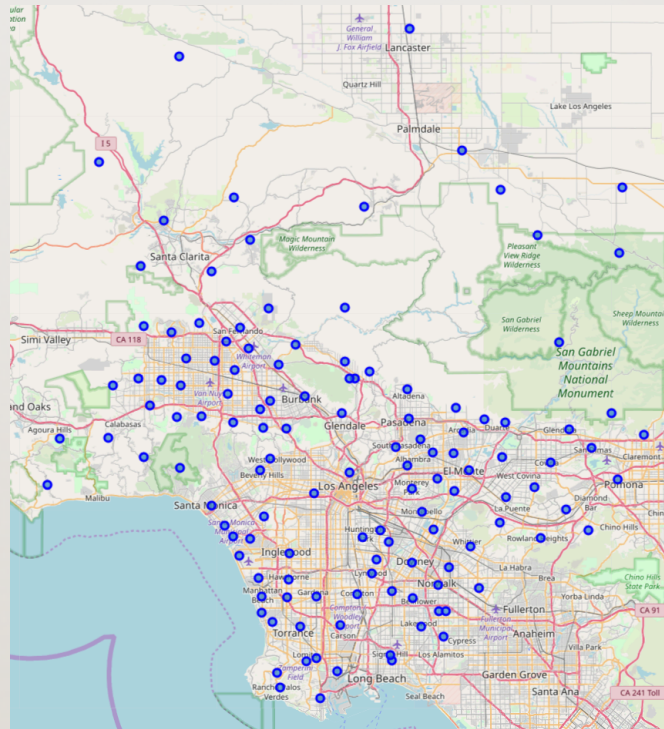


DATA ACQUISITION AND CLEANING

- Data for all of the zip codes in the US from <https://simplemaps.com/data/us-zips>. This contains the longitude, latitude, county name, and city for every zip code in the United States.
- Dropped all data that did not pertain to LA County.
- Grouped the rows by city.

	city	lat	lng	population	density
0	Acton	34.46511	-118.214160	7993.0	42.9
1	Agoura Hills	34.12274	-118.757270	25488.0	288.6
2	Alhambra	34.08285	-118.136885	41528.5	4128.4
3	Altadena	34.19544	-118.137960	36126.0	1689.5
4	Arcadia	34.13232	-118.037450	32905.0	2153.1

MAP OF ALL LA CITIES USING FOLIUM



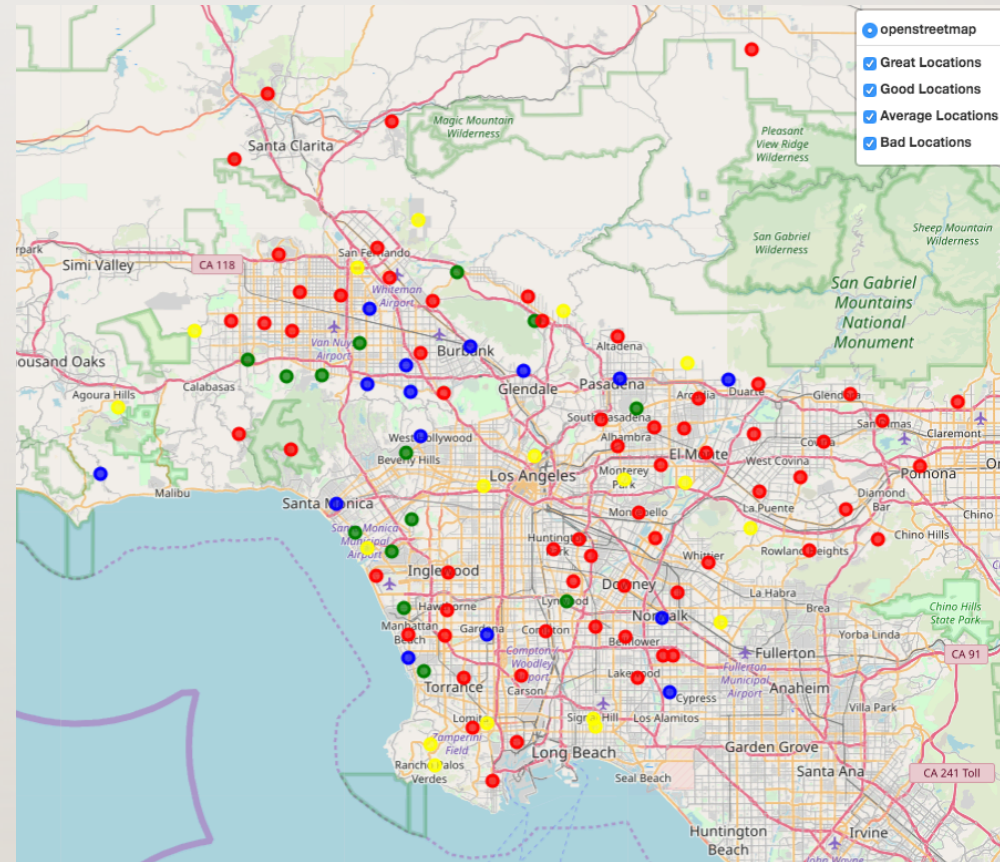
FOURSQUARE VENUE DATA CLASSIFICATION

- Utilized Foursquare API to retrieve the venues in each city.
- One hot encoded them according to venue category and grouped them by city.
- Combined all gym related venues as the first attribute and all park related venues as the second attribute.
- Indexed by city.

	City	Gyms	Parks	lat	lng
46	Lynwood	0.250000	0.0	33.923650	-118.20053
93	Tarzana	0.250000	0.0	34.155080	-118.54751
17	Culver City	0.222222	0.0	34.008005	-118.39321
23	El Segundo	0.200000	0.0	33.916950	-118.40206
24	Encino	0.200000	0.0	34.155630	-118.50449

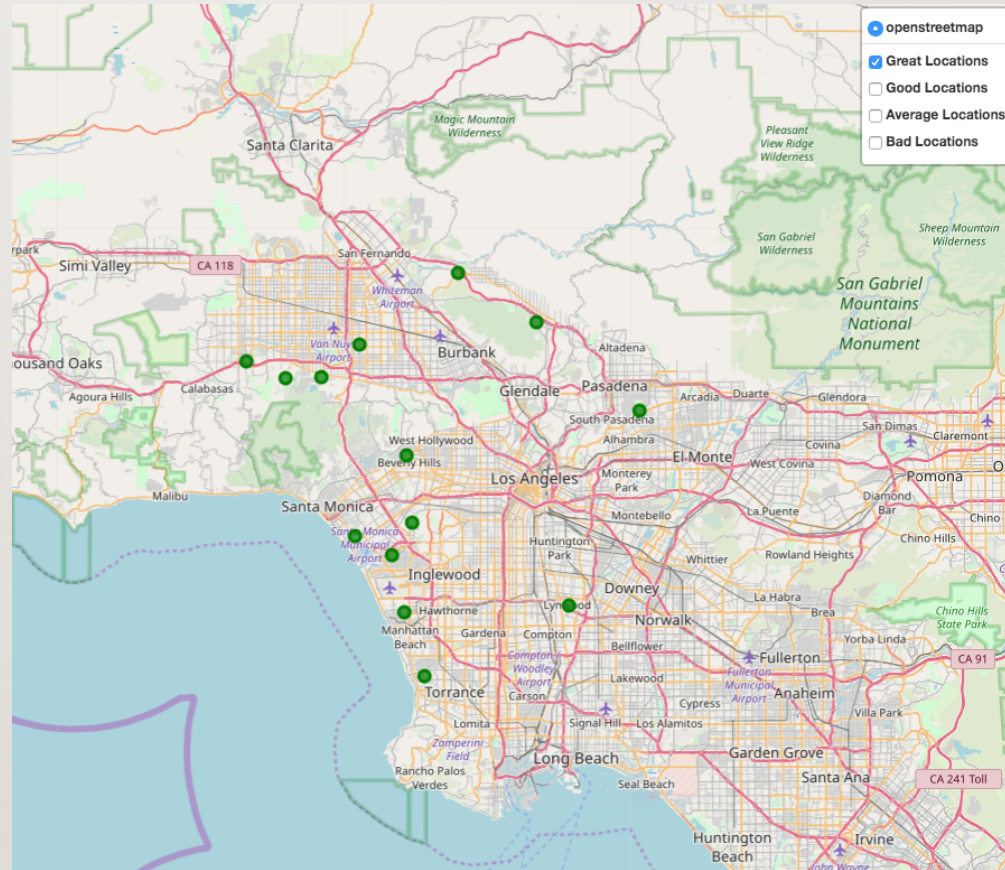
MAP DISPLAYING ALL LOCATIONS FROM GREAT TO BAD

- Green = Great
- Blue = Good
- Yellow = Average
- Red = Bad



RECOMMENDED LOCATIONS TO OPEN A FITNESS STORE

- Venice
- El Segundo
- Redondo Beach
- Playa Vista
- Woodland Hills



CONCLUSION

- This study's purpose was to locate the best cities in Los Angeles County to open up a fitness store based on the prevalence of gyms and parks.
- With the employment of the Foursquare API, Folium maps, and classification techniques, I was able to produce an interactive map that shows not only the best locations to open up this fitness store, but also locations to avoid.