



# THE BATTLE OF NEIGHBORHOODS

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*A COMPARATIVE ANALYSIS OF NEIGHBORHOODS IN  
SAN FRANCISCO, CA & CHICAGO, IL.*

# INTRODUCTION

- The objective of this project is to explore the similarities and differences between the two cities (*San Francisco, CA and Chicago, IL*).
- Segmentation of both cities was done using clustering method - a Machine Learning Algorithm.
- Outcome of this analysis can be a useful information for new settlers and/or prospective immigrants.



# DATA DESCRIPTION

- cities zip codes together with geographical coordinates. It was used to generate data frames for San Francisco and Chicago.  
(<https://public.opendatasoft.com/explore/dataset/us-zip-code-latitude-and-longitude>)
- San Francisco zip codes and the area name.  
(<http://www.healthysf.org/bdi/outcomes/zipmap.htm>)
- Chicago zip codes and the area names.  
(<https://www.chicagotribune.com/chi-community-areas-htmlstory.html>)
- These data containing the zip codes and area names were merged to create a new data frame to identify the neighborhoods used for segmentation and clustering analysis.
- Foursquare API will be required to generate venues in the selected areas.



# DATA FRAMES

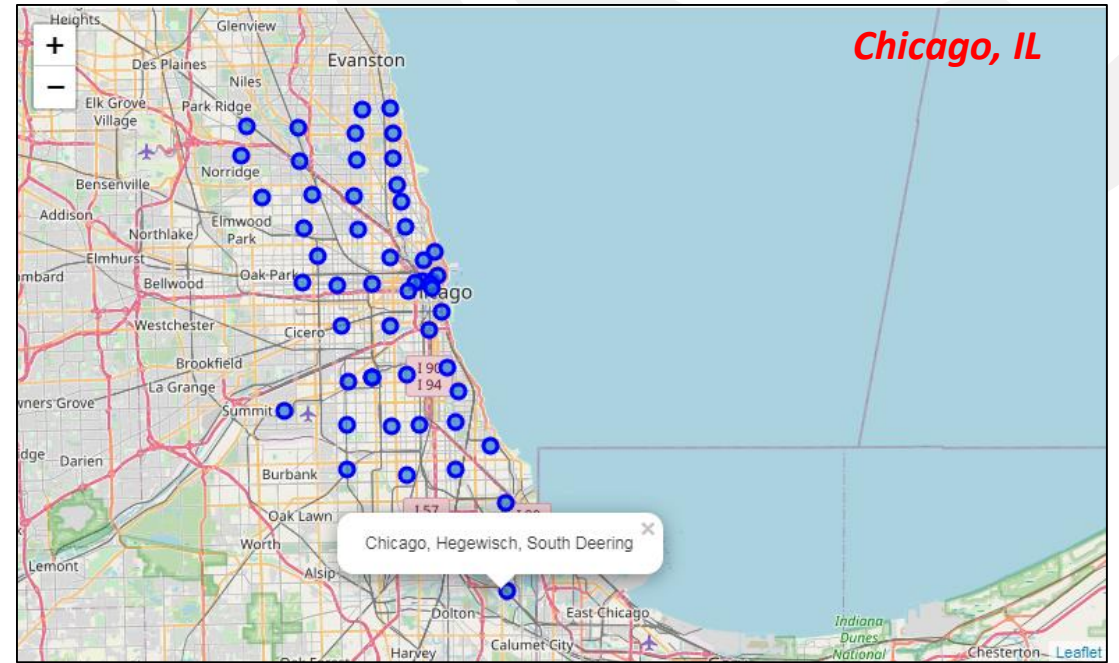
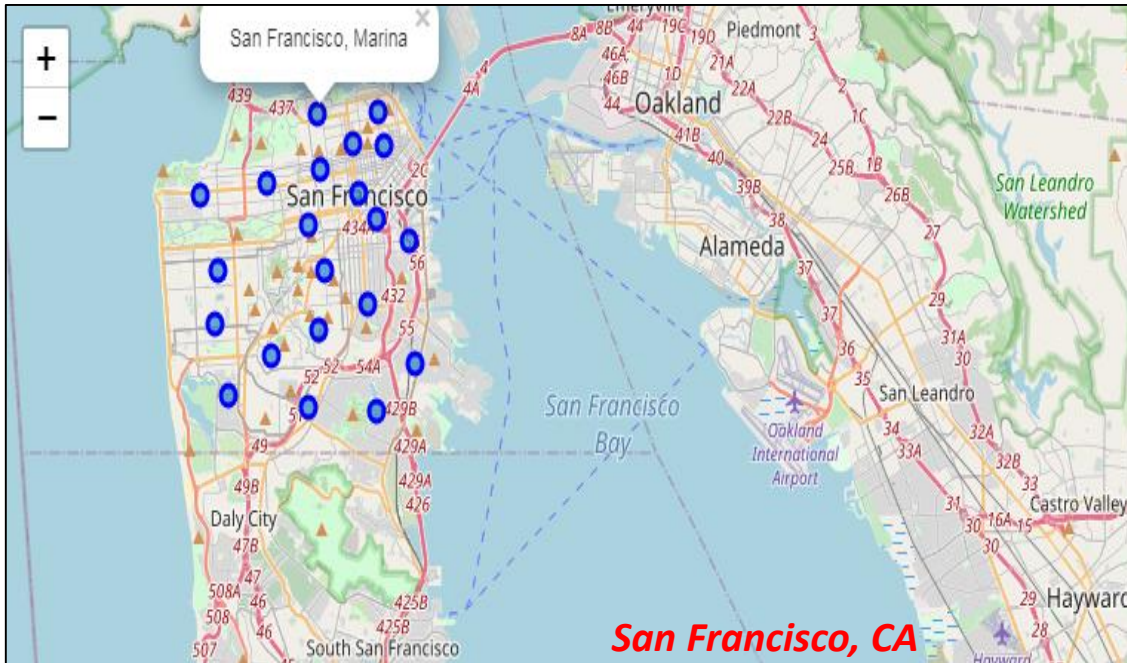
- Data frames were created from the data set, one for each city, and comprises of details of the cities e.g. zip codes, geographic coordinates and neighborhood names.
- These frames were used as input data in python folium library to produce maps for visualization.

	Zip_Code	City	State	Latitude	Longitude	AreaName
0	94117	San Francisco	CA	37.770937	-122.44276	Haight-Ashbury
1	94131	San Francisco	CA	37.741797	-122.43780	Twin Peaks-Glen Park
2	94114	San Francisco	CA	37.758434	-122.43512	Castro/Noe Valley
3	94107	San Francisco	CA	37.766529	-122.39577	Potrero Hill
4	94116	San Francisco	CA	37.743381	-122.48578	Parkside/Forest Hill
5	94133	San Francisco	CA	37.801878	-122.41018	North Beach/Chinatown
6	94108	San Francisco	CA	37.792678	-122.40793	Chinatown
7	94121	San Francisco	CA	37.778729	-122.49265	Outer Richmond
8	94127	San Francisco	CA	37.734964	-122.45970	St. Francis Wood/Miraloma/West Portal
9	94118	San Francisco	CA	37.782029	-122.46158	Inner Richmond

	Zip_Code	City	State	Latitude	Longitude	AreaName
0	60634	Chicago	IL	41.944454	-87.79654	Belmont Cragin, Dunning, Montclare, Portage Park
1	60602	Chicago	IL	41.882937	-87.62874	Loop
2	60601	Chicago	IL	41.886456	-87.62325	Loop
3	60645	Chicago	IL	42.008956	-87.69634	West Ridge
4	60651	Chicago	IL	41.901485	-87.74055	Austin, Humboldt Park
5	60646	Chicago	IL	41.995331	-87.76010	Forest Glen, Jefferson Park, North Park, Norwo...
6	60644	Chicago	IL	41.881331	-87.75671	Austin
7	60615	Chicago	IL	41.801525	-87.60215	Grand Boulevard, Hyde Park, Kenwood, Washingto...
8	60621	Chicago	IL	41.776983	-87.64040	Englewood, Greater Grand Crossing, Washington ...
9	60612	Chicago	IL	41.880682	-87.68770	Near West Side, West Town

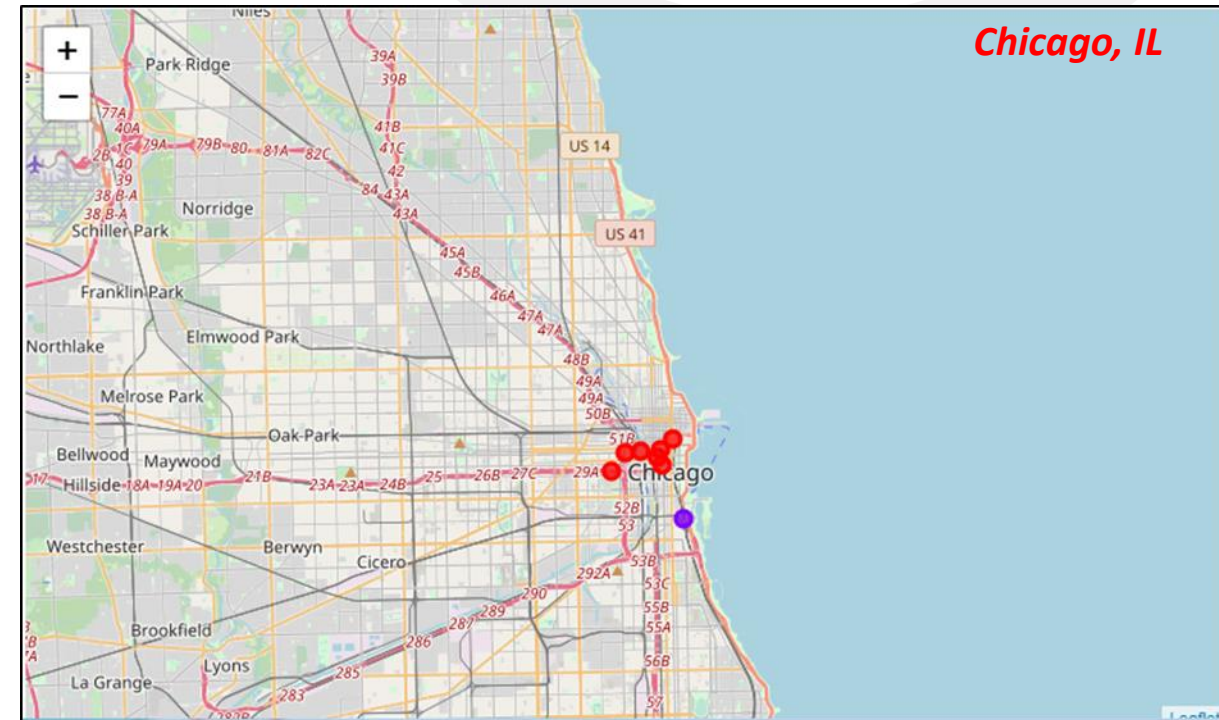
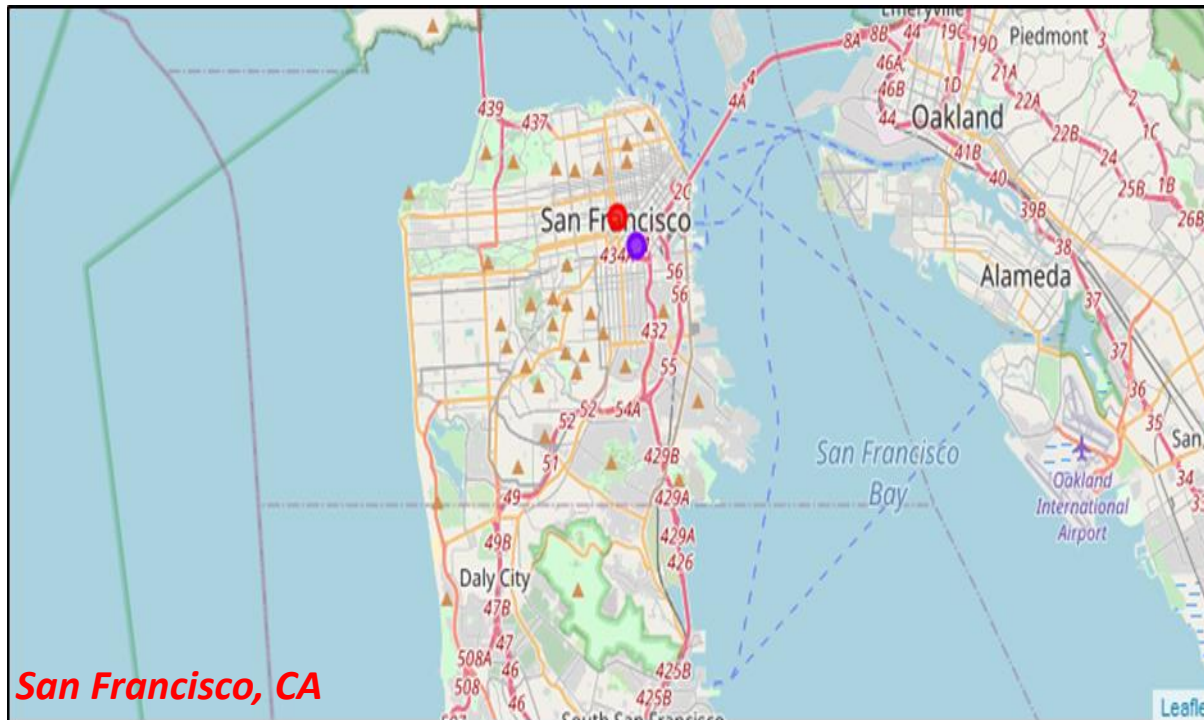


# NEIGHBORHOODS MAP FOR VISUALIZATION



# CLUSTERS

- Two (2) clusters were created for San Francisco and Chicago cities.
- Both clusters contained venues such as Café / Coffee shop, hotel and restaurants.
- San Francisco downtown also has a cluster of night club related venues while Chicago has a cluster of sport related venues.



- Segmentation and clustering analysis of the neighborhoods in San Francisco and Chicago downtown depicted lots of similarities which represents a business .
- The data also showed clusters of different venues in both cities such sports for Chicago & night clubs for San Francisco.

## CONCLUSION