

IBM Capstone project

Analyzing better choices of opening stores in Bay area based on companies 'locations

-----1 June 2020

Background

With the influence of COVID-19, American stores have been severely hit, and some stores have not been open for a long time. When the epidemic situation gets better, the store will reopen and the business situation will improve. Therefore, it is a necessary question to determine which type of store is suitable before this

Problem

The main content of the problem is to find the best choice by analyzing the stores near the Bay Area company. The factors that influence the choice mainly include the number and type of stores near the company.

Data

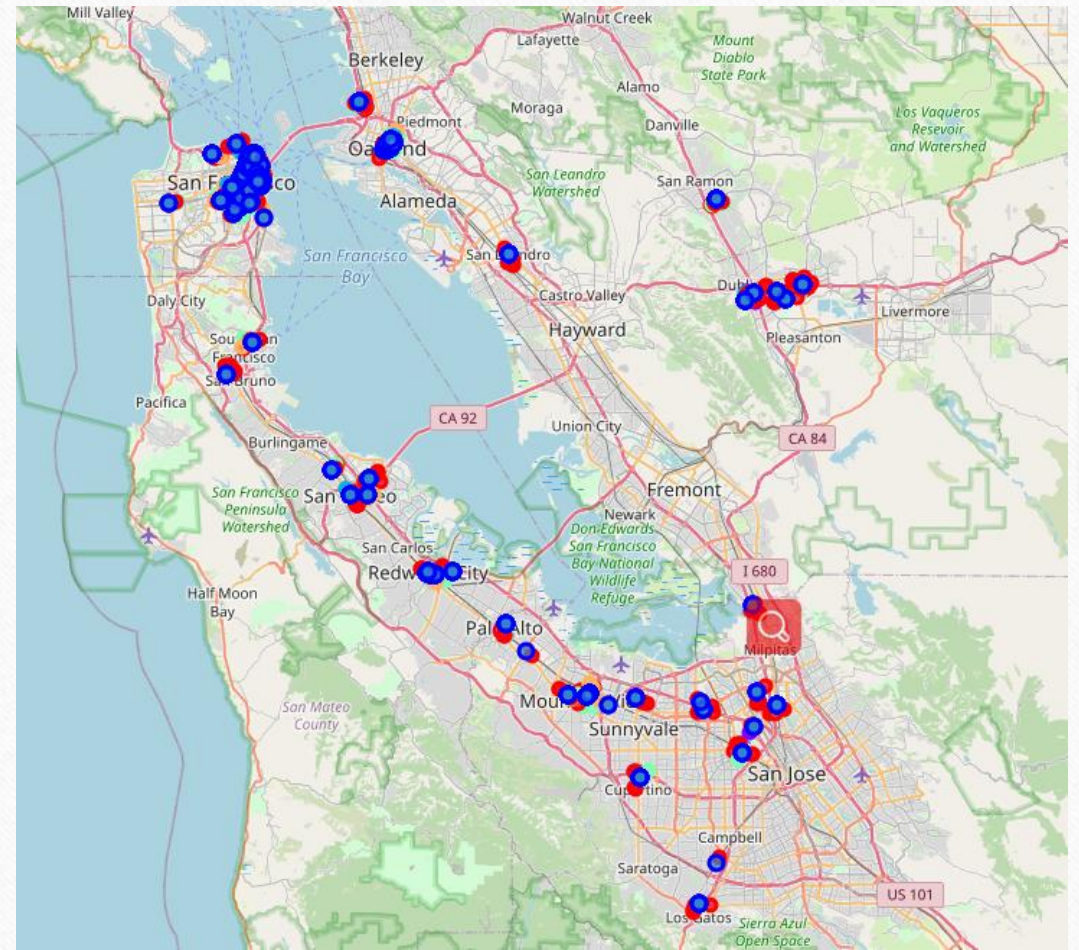
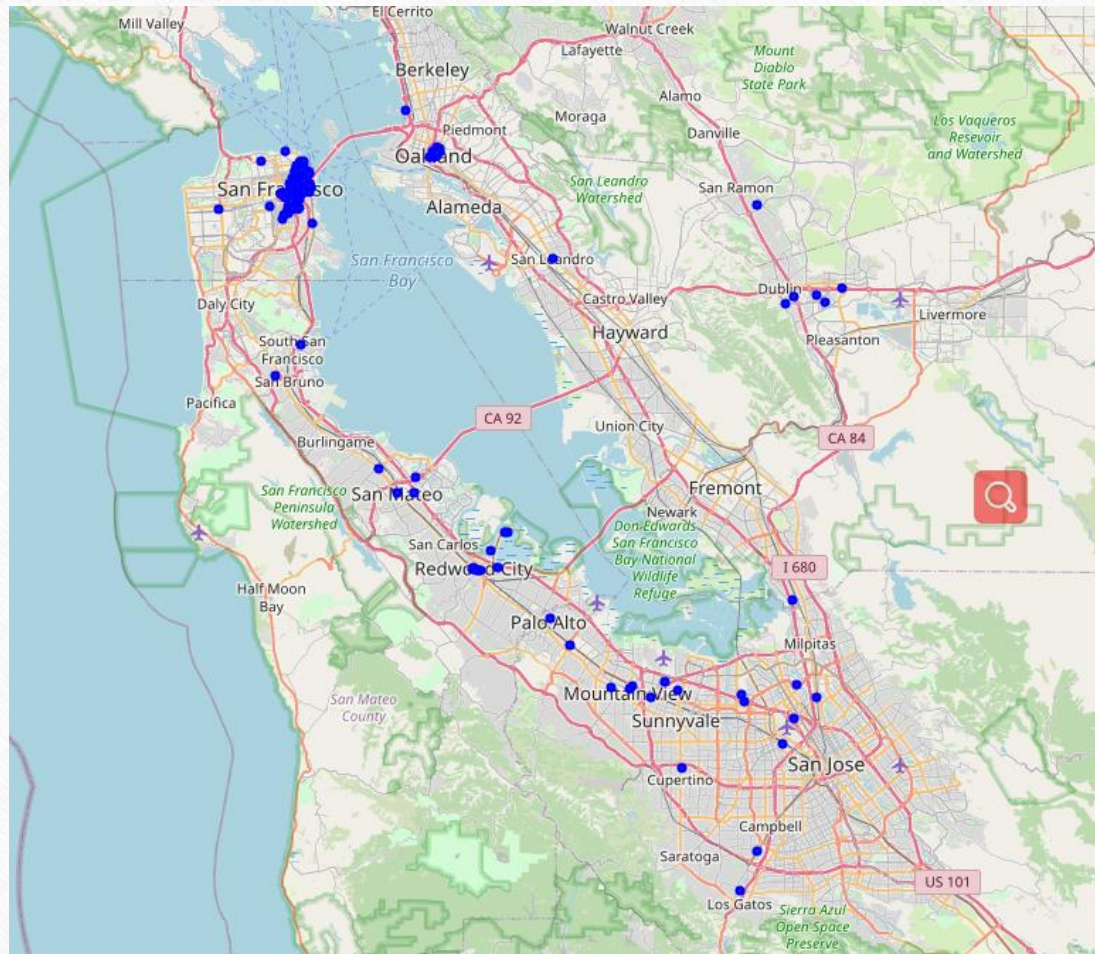
The basic source is the Bay Area companies list which is an open source by Mr.Connor Leech(<https://github.com/connor11528/tech-companies-bay-area>).

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P
1	Company	Tags	Location	Investors	Description	Website	Founded	Address	Lat	Long	Company	Tech stack	Marketing	Design St	Product Stack	
2	3scale	B2B Softw	San Francisco		Unlock the	https://www.3scale.net	2007	450 Townsend	37.77463	-122.399	1月12日					
3	8tracks	Music,Cor	San Francisco		8tracks is	https://8tracks.com	2008	51 Sharon	37.76523	-122.43	13-60					
4	10 by 10	B2B Softw	San Franc	Y Combin	We help in	https://www.10by10.com	2015	San Franc	37.77493	-122.419	1月12日					
5	15Five	Employee	San Francisco		15Five sof	15five.com	2011	12 Gallagher	37.78171	-122.403	61-150					

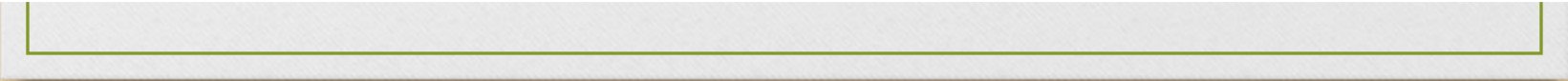
Methodology

1. get the list of Bay Area companies.
2. Plot the map for all the tech companies in the Bay Area.
3. use Foursquare API to get the venue data.
4. Using KMeans Machine Learning Algorithm for the clustering of the stores near the bay area companies.
5. plot all the classified stores and the tech companies.

Results



Clusters	Colors	Stores types
0	Red	Electronics Store ,Arts & Crafts Store ,Furniture / Home Store
1	Purple	Clothing Store
2	Light Blue	Men's Store
3	Green	Grocery Store
4	Orange	Liquor Store



observations and Conclusions

1. The red points represents Electronics Store, Arts & Crafts Store, Furniture / Home Store etc. is the main part are less near the Daily Kos, East Bay.
2. The numbers of purple point and light blue points represents clothing store and men's store are 0 near DNAnexus, South Bay.
3. A better choice to open stores near Cloudbees, South Bay is Grocery Store.
4. We can find the orange points (Liquor Store) mostly located near San Francisco and Peninsula. So, the other places are all good choices.