

Coursera Capstone Project: IBM Data Science Professional Certificate

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Analyzing San-Francisco's 2016 Crime Data

1-Introduction: -

“Safety and security don't just happen; they are the result of collective consensus and public investment. We owe our children, the most vulnerable citizens in our society, a life free of violence and fear.” - Nelson Mandela

Safety is one of the most important aspects of life each person should have, and we will do our best today to assure and enhance the Police system in San-Francisco , California , USA by analyzing the Crime Data in 2016 looking for any patterns that could help us to be more safe.

2-Business Problem: -

Government of San-Francisco are doing their best to make the city safer, so we will help them understand the patterns of what's actually happening and what are the most places that has crime and at exactly what time, and maybe the reason for those crimes.

According to Edwin M., SF Mayor, the budget for the City for FY 2016-17 is \$9.6 billion dollars, half of them is for the Public Health, Police, Fire, and Recreation and Parks.

So, the police department budget may be around \$2 billion dollar in 2016. Can we make a better use of this budget to attain more safety? This our problem that we will try to solve talking about an example only.

3-Data: -

The data for this project has been retrieved and processed through multiple sources, giving careful considerations to the accuracy of the methods used.

3.1-San-Francisco 2016 Crime Data

Csv file of crime data from :- <https://www.kaggle.com/c/sf-crime/data>

IncidentNum	Category	Descript	DayOfWeek	Date	Time	PdDistrict	Resolution	Address	X	Y	Location	PdId	
0	120058272	WEAPON LAWS	POSS OF PROHIBITED WEAPON	Friday	01/29/2016 12:00:00 AM	11:00	SOUTHERN	ARREST, BOOKED	800 Block of BRYANT ST	-122.403405	37.775421	(37.775420706711, -122.403404791479)	12005827212120
1	120058272	WEAPON LAWS	FIREARM, LOADED, IN VEHICLE, POSSESSION OR USE	Friday	01/29/2016 12:00:00 AM	11:00	SOUTHERN	ARREST, BOOKED	800 Block of BRYANT ST	-122.403405	37.775421	(37.775420706711, -122.403404791479)	12005827212168
2	141059263	WARRANTS	WARRANT ARREST	Monday	04/25/2016 12:00:00 AM	14:39	BAYVIEW	ARREST, BOOKED	KEITH ST / SHAFTER AV	-122.388856	37.729981	(37.7299809672996, -122.388856204292)	14105926363010
3	160013662	NON-CRIMINAL	LOST PROPERTY	Tuesday	01/05/2016 12:00:00 AM	23:50	TENDERLOIN	NONE	JONES ST / OFARRELL ST	-122.412971	37.785788	(37.7857883766888, -122.412970537591)	16001366271000
4	160002740	NON-CRIMINAL	LOST PROPERTY	Friday	01/01/2016 12:00:00 AM	00:30	MISSION	NONE	16TH ST / MISSION ST	-122.419672	37.765050	(37.7650501214668, -122.419671780296)	16000274071000

3.1-San-Francisco geojson file to visualize the map

Json file from: https://cocl.us/sanfran_geojson