

GEOM90007_A2_Report: United States Police Shooting and Firearm Background Check

Data Visualization Summary

Figure 1 shows the default home page. The map and the line graph on the first row compare races among the states, and the rest presents details that are specific for one State. The default state was set to California.

User can search the state in the geocoder to view the police shooting incidents on the map. Figure 2 top left map shows the example of this. The colors indicate the races, and they are corresponding to the legend on the line graph next to it. Furthermore, the line graph is sorted by the total incidents from 1st January 2015 to 30th June 2021. If you hover on the point, it will display a tooltip about the total incidents for a state and a race.

The second row, under “State and Gun”, aims to indicate some properties for a particular state. When the user clicks a bar, it will show a radar chart about the firearm transaction types, a pie chart of victim armed, and the average firearm month transaction for that selected state in the bar chart. The example is showed in the Figure 2. Similarly, when the user hovers on these graphs, the tooltip will pop up with related information.

To let the users to view the contrast easily, they can exclude some data when they click the legend. Figure 3 display some examples of legend exclusion.

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State and Race

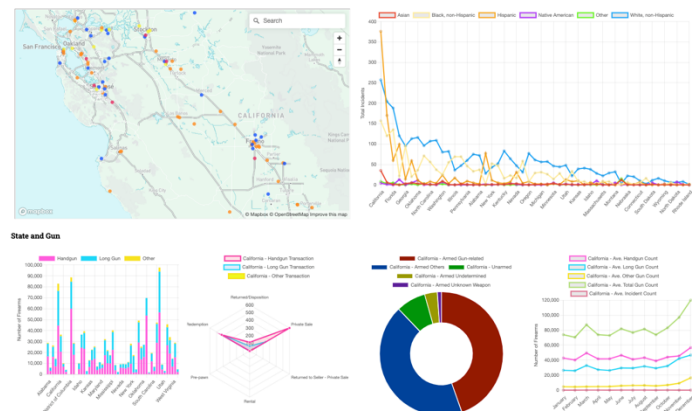


Figure 1 - Default Home Page - California

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State and Race

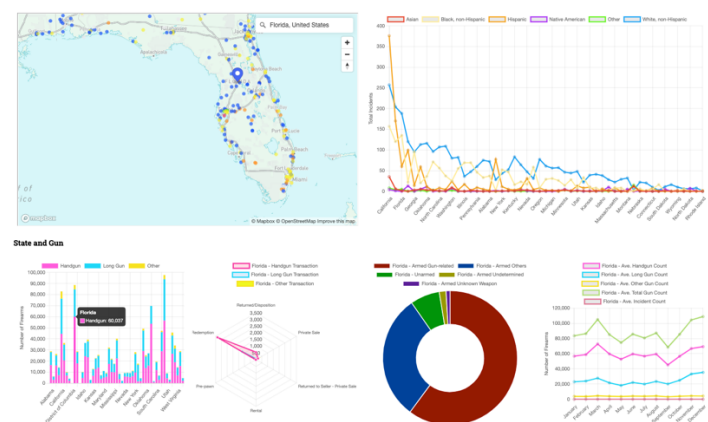


Figure 2 - An Example of Select a Specific State - Florida

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State and Race

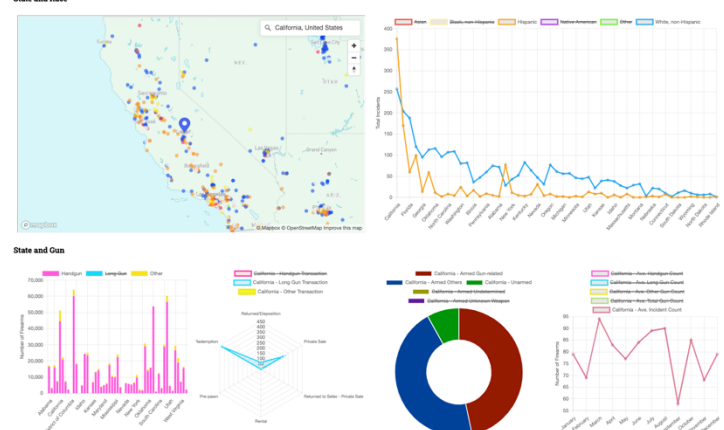


Figure 3 - An Example of Remove some Legends

Appendix

Dataset

Police Fatal Shootings Data, since January 1st, 2015, from
<https://github.com/washingtonpost/data-police-shootings>

FBI NICS Firearm Background Check Data, since January 1st, 2015, from
<https://github.com/BuzzFeedNews/nics-firearm-background-checks>

Data Preprocessing

Data integration, cleaning, calculation, selection, and transformation were done in Tableau, Excel, and online tool for convert CSV to JSON. If the police shooting incidents has a missing value for the required field, the data is removed. If the aggregated measure for a state has no value, a zero was inputted.

Metadata

DATA FIELD	DESCRIPTION	DATA TYPE
STATE	States in the United States	String
RACE	Six types: "White, non-Hispanic", "Black, non-Hispanic", "Asian", "Native American", "Hispanic", "Other"	String
NUMBER OF GUN TRANSACTIONS	Handgun, Long gun, Other, Total	Number
TRANSACTION TYPES	Six types: Returned, Private Sale, Redemption, Rentals, Pre-pawn, Return to seller	String
VICTIM ARMED	Five types: Gun related, others, unarmed, undetermined, unknown weapon	String
NUMBER OF INCIDENTS	Average number of total incidents in each month	Number
MONTH	Twelve months: January, February, March, April, May, June, July, August, September, October, November, December	String

Library

Chart.js and Mapbox