**Hate Crime in the United States  
Technical Report**

**Introduction:**

According to the Department of Justice, a hate crime is a crime committed based on the victim’s perceived or actual race, color, religion, national origin, sexual orientation, gender, gender identity, or disability. Our team was curious to explore the biases and crimes committed throughout the United States therefore, we built a website ([https://boojaado.github.io/group1-project3/website/.html](https://boojaado.github.io/group1-project3/website/index.html)) with interactive dashboards to allow ourselves and others to explore instances of hate crimes. Through research, our group found a dashboard driven website which reported on Dallas Crimes (<https://alfcus.github.io/SMU_Project_3/index.html>) and used the website as inspiration for our dashboards.

Our data, “FBI Hate Crimes in USA (1991-2020)”, was sourced from the Kaggle datasets database in a CSV format (<https://www.kaggle.com/datasets/jonathanrevere/fbi-hate-crimes-in-usa-19912020>). The original dataset was exported from the Federal Bureau of Investigation’s, FBI, Crime Data Explorer database. It also contained hate crime incidents dating back to 1991. For the purposes of this project and after completing a simple exploratory analysis, we chose to focus on 2015 to 2020.The features are based on the columns in our dataset which are: “Offender Race,” “Hate Bias Type,” “Number of Victims,” “Location of Incidents” and “Type of Crime Committed”. Due to the limited number of resources for our project, we identified only the necessary data from our dataset to build the interactive dashboards on our website also as less data allows our website to load faster.

**Research Questions:**

After cleaning and understanding our data, we narrowed down to the following questions we hoped to answer through visualizations:

* What is the most common hate crime in the US between 2015-2020?
* What year had the most hate crime?
* What state had the most hate crime incidents in 2020?

**Design:**

Due to the sensitivity of our topic, we chose conservative colors and fonts as we built the visualizations and website. We also designed the layout of our dashboard/Map according to best practices ( <https://chartio.com/blog/dashboard-design-best-practices-the-dashboard-layout/>). When thinking about the layout of our dashboards we opted for a global filter per page (dashboard page & Map page) placed at the top of the page to indicate its global functionality. We also chose to add the filter at the top right, so it is easy to find for the user. Below the filter, there is an explanation on how to use the filter and the visualizations. The dashboard page layout was made thinking about what users’ initial observation on our dashboard. We placed two smaller visualizations at the top to promote interaction with top dashboards before going to the larger visualization at the bottom.

**Our Visualizations:**

Link to our Website: [https://boojaado.github.io/group1-project3/website/.html](https://boojaado.github.io/group1-project3/website/index.html)

Link to our Visualizations: <https://boojaado.github.io/group1-project3/website/dashboard.html>

Link to our Map: <https://boojaado.github.io/group1-project3/website/map.html>

The lollipop chart compares the number of hate crime incidents committed per the offender’s race. When the user hovers over the circles the circles expand for interactivity. A tool tip also shows up to inform users on the count and race for that specific bubble. The chart was made using D3. An obstacle we faced with this chart was getting the number of count victims to highlight once the mouse has hovered over. With the assistance of our professor and Google, we discovered that some of our code was placed in the incorrect order and did not apply proper code within the CSS.

The bubble chart shows the differences in the number of counts per bias type. The bigger the circle the more incidents occurred. The colors in the circle show the different regions in the United States where the incidents occurred. Hovering over each circle will show information on that bubble including the count, region, and bias. The chart was made using D3 and the filter was created in CSS.

The bar chart compares the count of incidents per crime committed. It is sorted from greatest to smallest for quicker analysis. Hovering over each of the bars will give you the total number of incidents and the type of discrimination. The title of the graph will show the total number of incidents on the bar chart and the year it is being filtered by.

The map shows the total amount of hate crime incidents per state and by year. The size of the circle is dependent on the count of incidents. The larger the circle, the higher the count of incidents. Users can toggle between each year to inform themselves which state had the most hate crimes. Additionally, we included Dark, Light, Satellite, and Outdoor map layers the user can toggle between. We defaulted our map to dark for the purpose of our theme throughout the website.

**Research Questions Answered:**

1. What race had the highest hate crime offenses in the US in 2020?

Chart, bubble chart

Description automatically generated

When creating the lollipop graph our group chose this visualization due to the ease of which the sum of hate crimes can be seen distinctively within the offender’s race. One difficult scenario we ran across with this graph was understanding of the unknown race; another we discovered is that these are individuals who chose not to identify with any form of race whether it be African American, Caucasian, Haspanic, Latin, Asian etc... We made two additional observations, one being the Offender Race of “Other” committed the highest number of hate crimes followed by the Offender Race of “White” committed the second highest number of hate crimes.

1. What year had the most hate crime?

Graphical user interface

Description automatically generated with medium confidence

 The year 2020 had the most hate crime incidents, with intimidation being the highest. The Coronavirus Pandemic peaked in the year 2020 and the entire globe was remanded to their homes. As more people were locked in their homes, everyone turned to social media to stay updated on current events, as we know now that social media can be heavily skewed and create sounding boards that users are unaware off. During this period there were a multitude of situations which led to the riots from BLM, Antifa, The Proud Boys etc. We are not surprised the two highest ranked incidents are first Intimidation and second Destruction/Vandalism.

1. What state had the most hate crime incidents in 2020?

Graphical user interface

Description automatically generated with medium confidence

In 2020 New Jersey had the highest count of hate crime incidents (1428), while California came in second (1339). Looking at years 2015 through 2020 we noticed the same states repeatedly at the top. Based on findings California, New Jersey and New York are states we would consider the most dangerous. We are a bit surprised by the continuous rise every year. The incident counts do not seem to lower.

Table

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**Conclusion:**

In conclusion, we found that hate crimes are trending up, meaning every year there are more and more hate crime incidents occurring nationwide. We would like to have current information to see if the trend continues. We found that most offenders of hate crime incidents went to the white race or Other. Crimes of Intimidation or Destruction were most common across 2015-2020. Most hate crime incidents had a bias of anti black or Anti African-American. The states with highest hate crime incidents over the years were New Jersey,  California, and New York. Our year filter enabled us to flip through the five year span and globally see the changes across the charts.

**Future Work and Limitations:**

First, we would love to connect an API to allow hate crime incidents to update and load our data automatically. Adding an API connection will allow users to explore the most up to date information on hate crime and make future decisions based on our dashboards. Furthermore, adding hate crime data of incidents outside of the US will allow users to explore how the US compares to other countries of the world and analyze trends worldwide. We would love to add a crime and country filter to allow users to filter between different crimes or countries they choose.

Lastly, adding a dashboard showing year over year trend charts will allow users to analyze hate crime incident trends over years. Currently, users are limited to see visualizations based on only one year.