

# Assignment 3: Black Hat Visualisation

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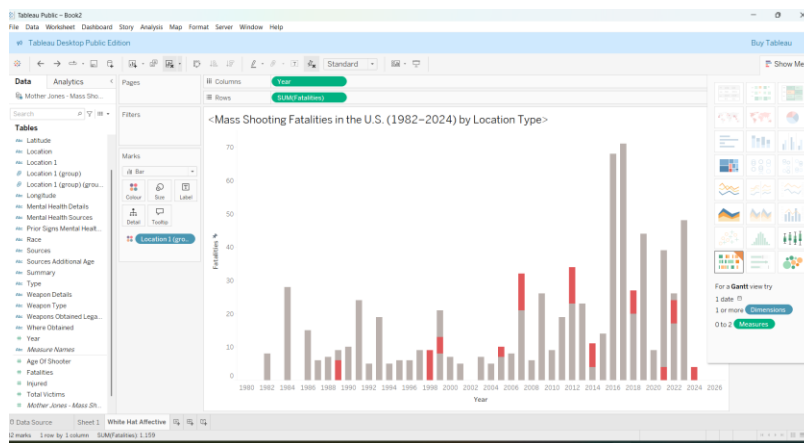
**Student Number:** 12417794

**Link to Dashboard:** [https://public.tableau.com/views/12417794\\_A3/Dashboard1?:language=en-US&publish=yes&:sid=&:redirect=auth&:display\\_count=n&:origin=viz\\_share\\_link](https://public.tableau.com/views/12417794_A3/Dashboard1?:language=en-US&publish=yes&:sid=&:redirect=auth&:display_count=n&:origin=viz_share_link)

**Title :** Mass Shooting Fatalities in the U.S. (1982–2024) by Location Type

## WHITE HAT (AFFECTIVE)

*A Tragedy in Schools: Mass Shooting Fatalities (1982–2024)*



### Description:

This visualization highlights the toll of mass shootings in U.S. schools from 1982 to 2024. Data was aggregated by year and location type without excluding any data. I used a grouped bar chart to show location comparisons while emphasizing school shootings in red to evoke emotional concern. The legend shows location types clearly.

### Motivation & Ethical Reflection:

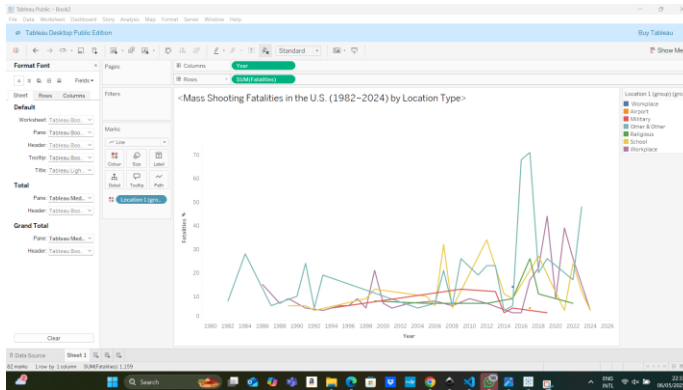
I designed this chart to engage viewers emotionally by highlighting school shootings in red, a color associated with urgency and danger, while keeping other locations in gray. This visual encoding of color intentionally evokes empathy and concern, aligning with research on affective visualization (Lee-Robins & Adar, 2022). I ensured that no categories were hidden and that all data was presented transparently despite the emotional framing. Axes begin at zero; labels and legends remain clear. The ethical balance here was between emotional engagement and truthful representation.

Due : 04.05.2025  
Used : 2 Extra days

Course:  
VIS

## WHITE HAT (NEUTRAL)

### *Mass Shooting Fatalities in the U.S. (1982–2024) by Location Type*



#### Description:

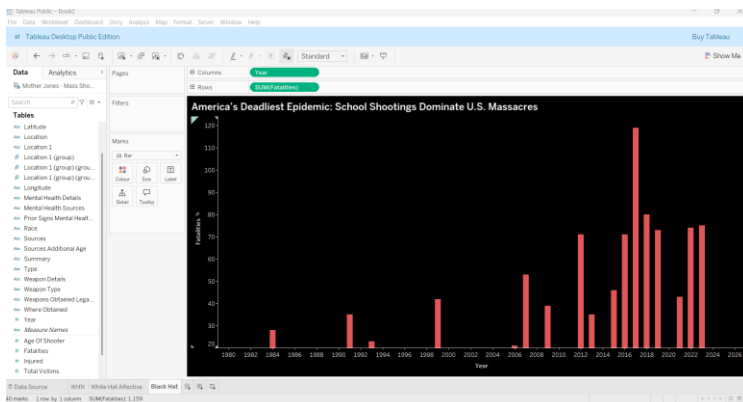
This visualization shows total fatalities from mass shootings in the U.S. from 1982 to 2024, broken down by location type: school, workplace, and other. The dataset was filtered only to include valid years (1982–2024) and aggregated per year and location type, without excluding any categories or altering values. I used the line chart as it allows a clear comparison of trends over time across categories.

#### Motivation & Ethical Reflection:

I aimed for clarity, simplicity, and neutrality by following Tufte's principles of maximizing the data-ink ratio and minimizing chartjunk. I selected a line chart to emphasize temporal trends, using neutral, non-emotional colors to differentiate categories without biasing perception. I ensured that axes start at zero, labels are clear, and legends are included to maintain interpretability. Ethically, the goal was to present data transparently and allow audiences to draw their own conclusions without design influence.

## BLACK HAT

### *School Shootings Dominate Mass Shooting Deaths in the U.S.*



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This visualization focuses only on mass shooting fatalities in U.S. schools from 1982 to 2024. The data was filtered to include only incidents labeled as “school” in location type, excluding workplace and other. I also truncated the y-axis to a maximum of 10 to exaggerate variation between years.

### **Motivation & Ethical Reflection:**

This chart was intentionally designed to mislead by omission and manipulation of the y-axis scale. By excluding other locations, the chart implies that school shootings dominate mass shooting deaths, despite their actual proportion. I used a dark red color to further dramatize the bars. Axes were truncated to visually amplify differences that would appear smaller with a full-scale axis. This approach reflects ethical risks discussed by Correll & Heer (2017) regarding subtle manipulations in visual encoding that steer interpretation without falsifying data.

### **REFLECTION:**

Designing these three visualizations reinforced my awareness of how visualization choices color, axis scaling, filtering, chart type can powerfully influence interpretation, as discussed by Correll & Heer (2017). The neutral visualization challenged me to avoid unconscious biases in design. The affective visualization showed how ethical emotional engagement can coexist with data integrity. The black hat visualization felt ethically uncomfortable but insightful, demonstrating how easily viewers can be misled even without altering data values. This assignment deepened my understanding of visualization ethics, encoding choices, and the responsibility of designers toward transparency and fairness.