



Gun Violence Analysis- MSiA 411 Final Project

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Team Profile

- Jiong Li: Data generation, Modeling
- Zhonghao Zhao: Data cleaning, Transformation
- Junpeng Jiang: Data manipulation, Visualization
- Zipeng Ma: Data manipulation, Visualization

Executive Summary

- **Business Problem:** A recent gunshot news: 'Jason Nightengale kills 3, wounds 5 in his shooting spree before being shot by Evanston police' has called public's attention on gun violence in USA. Since the motivation behind the spree was unknown, this incidence quickly terrified the public. While people are protesting against gun ownership and speaking out their concerns about guns, the local government decide to analyze the gun violence incidents in recent years to know:
 - Whether or not gun violences has been increasing over the years, especially severe incidents.
 - Identify scenarios which are more vulnerable to gun violence and offer safety recommendations.
 - Trace most significant cause and factors involved in gun violence and come up with possible solutions.
- **Business objectives:** By analyzing the gun violences incidents, the government hopes to
 - Understand the trend of gun violence at nation better.
 - Make appropriate adjustment to provide a safer local environment
 - Propose tips to lower the risks of involving in gun incidents for the general public
 - Identify potential dangerous areas and reinforce the corresponding safety force.

Data Background Information

- **Data Source**: This data is retrieved from the Gun Violence Archive (GVA).
- **Rationale for data source**: Gun violence is a serious topic and it is important for us to ensure that our data is accurate and comprehensive. The GVA is a non-profit organization that aims to provide free online public access to information regarding gun violence in the US. The organization checks for accuracy and has no affiliation with any advocacy organizations. Thus, we believe that we can rely on this dataset to provide transparency regarding the subject of gun crime. The dataset includes detailed information, such as the location and date of occurrence, number of people involved, and demographic information of victims. With this information, we can explore a variety of aspects regarding gun violence incidents.

Dataset Introduction

Geographics: State, City, District, Address, Longitude, Latitude (of incidents)

Incident Description: Date of an incident, Incident source (urls), Number of deaths, Number of injuries, Information of Guns Involved (Gun Types, Stolen Guns, number of guns)

Participants: Number of participants (victims & suspects), participants' age, Gender, Name, Special Relationship

Based on these three categories of information, we aim to dissect gun violence incidents through different aspects. By analyzing the geographical information of the incidents, the characteristics of the incidents, and the participants involved, we aim to present insightful patterns and provide corresponding advice to lower gun violence incidents.

