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When Social Media Foretells a Shooting

Minimizing gun violence

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In the United States, gun violence including mass shootings is an evident problem. Nearly 20,000 people died due to gun-related homicide in 2020 alone (Statista). According to the Gun Violence Archive, a mass shooting occurs when four or more persons are injured or killed, not including the offender. In 2020, there were more than 600 such shootings, up from 417 in 2019. Almost 700 shootings occurred in 2021, with 28 mass murders in 2021.

Gun violence clearly needs to be examined, yet attempts to address gun violence are understandably subject to emotions and political influence. Perpetrators of gun violence frequently post their intentions or talk about killing and death on social media (Wells et al., 2018). These social media posts can be used to detect potential offenders to prevent mass shootings in the future. Given the importance of this problem, it is imperative to identify ways to control or reduce gun violence at least. Currently, there is no such research effort conducted to predict the likelihood of being a mass shooter based on social media postings.

To address this problem, in this research paper, we have the following goals:

1. To identify the psychometrics of word usage on social media by previous mass shooters, and
2. To predict potential offenders through social media postings

Using a list of mass shooters from Gun Violence Archive, data will be collected from social media websites (e.g., Twitter, Instagram, etc.). The methodology will include identifying the Psychometrics of Word Usage on social media by offenders through Latent Dirichlet allocation (LDA), then using machine learning to build a classifier to identify potential mass shooters.

This study has a clear broad impact: Identifying potential mass shooters has the potential to prevent further mass shootings and save the lives of many people. This study will add to the literature on gun violence. Our study will present a model to identify other mass shooters in the future. Green et al. (2017) studies social contagion in the city of Chicago or the spread of an effect or behavior through contact with peers. They advocate for a framework that predicts which individuals are likely to become victims of gun violence. However, our study focuses on developing a model to predict possible offenders who are likely to commit mass shooting crimes.

References

Green B, Horel T, Papachristos AV. (2017). Modeling Contagion Through Social Networks to Explain and Predict Gunshot Violence in Chicago, 2006 to 2014. *JAMA Intern Med.* 2017;177(3):326–333. doi:10.1001/jamainternmed.2016.8245