Locked and Loaded: Analyzing Gun Culture Data and Strategies for Online Hate Speech Moderation

Kirthikraj Kamaraj
Computer Science
Binghamton University
Binghamton, New York, USA
kkamara1@binghamton.edu

Riddhi Patel
Computer Science
Binghamton University
Binghamton, New York, USA
rpate112@binghamton.edu

Sayoni Arup Nath
Computer Science
Binghamton University
Binghamton, New York, USA
snath2@binghamton.edu

Sathwik Krishtipati
Computer Science
Binghamton University
Binghamton, New York, USA
skrisht1@binghamton.edu

Anirudh Nori
Computer Science
Binghamton University
Binghamton, New York, USA
anori1@binghamton.edu

ABSTRACT

In an era of burgeoning digital discourse, discussions related to gun culture have assumed a prominent role, reflecting the multifaceted societal debates surrounding firearms and their implications. This research endeavors to illuminate the complex interplay of these dialogues with an often contrasting element—the presence of hate speech. By examining vast datasets from online platforms such as Reddit and 4chan, we seek to comprehend the dynamics of hate speech within the context of gun culture discussions. This study explores the prevalence, drivers, and implications of hate speech, providing a comprehensive understanding of the contemporary discourse landscape surrounding this critical societal issue.

KEYWORDS

Hate speech, gun culture, social media, public perception

1 INTRODUCTION

In an age where the internet serves as a pervasive platform for the expression of diverse viewpoints, online communities have emerged as crucibles of public discourse, encompassing topics ranging from politics and technology to hobbies and cultural interests. Among these subjects, discussions related to gun culture occupy a unique and often contentious space, reflecting the broader societal debates surrounding firearms, their regulations, and their role in contemporary life. These digital spaces provide individuals with an avenue to share their experiences, perspectives, and opinions on a topic that intertwines with personal identity, values, and public policy.

As we delve into the intricacies of online discussions related to gun culture, we encounter a multifaceted dimension of discourse: the presence of hate speech. This research embarks on a journey to illuminate the coexistence of two starkly contrasting aspects within these digital dialogues—passionate discussions about gun culture and the manifestation of hate speech. We explore how these online platforms serve as a stage for both the exchange of ideas and the perpetuation of derogatory, inflammatory, or harmful language.

With the availability of vast amounts of social media data, we endeavor to investigate and comprehend the dynamics of hate speech within the context of gun culture discussions. It is essential to decipher the prevalence, drivers, and implications of hate speech in these digital realms to gain a comprehensive understanding of the contemporary discourse landscape.

This research employs a series of research hypotheses to guide our exploration:

(RQ1) To what extent do platform-specific features, such as upvoting, downvoting, or thread structure, influence the dynamics of hate speech in gun culture discussions?

(RQ2) Can social media data be used to predict or detect spikes in discussions related to gun violence incidents?

(RQ3) Do Reddit and 4chan exhibit differences in the prevalence and nature of hate speech in discussions related to gun culture?

By addressing these hypotheses, we aim to shed light on the intricate interplay between online discussions related to gun culture and hate speech, leading to a more comprehensive understanding of this complex digital landscape.

2   METHODOLOGY

2.1 Data preprocessing using NLP techniques

The journey towards understanding the dynamics of hate speech within gun culture discussions on social media platforms commences with robust data preprocessing. Leveraging Natural Language Processing (NLP) techniques, we aim to clean and structure our dataset of approximately 20,000 posts. This process includes text normalization, tokenization, stop-word removal, and stemming, enabling us to obtain a more refined and manageable dataset for analysis.

To gain insights into the emotional tones present in discussions related to gun culture, we employ sentiment analysis. This crucial step entails utilizing NLP tools to classify posts into categories such as positive, negative, or neutral. Sentiment analysis will allow us to evaluate the emotional dynamics of these discussions and potentially identify correlations with the occurrence of hate speech.

2.2 Measuring Toxicity

A significant aspect of this research involves the measurement of toxicity within the dataset. To achieve this, we integrate real-time measurements on toxicity using the ModerateHatespeech API. We have created an access key to utilize the API, which offers the capability to gauge the level of hate speech in the collected data. It is essential to emphasize that we have taken full responsibility for learning and implementing a client to interact with the ModerateHatespeech API. Our approach refrains from relying on libraries or pre-built solutions, and we utilize a regular HTTP client to ensure accuracy and control over the process.

In line with our first research hypothesis, we delve into the dynamics of platform-specific features within our dataset. This entails an examination of how upvoting, downvoting, thread structure, and other platform-specific elements influence the prevalence and intensity of hate speech within gun culture discussions. We consider these features as potential factors that contribute to the nuances of hate speech on different online platforms.

Our second research hypothesis prompts an investigation into the predictive capabilities of social media data in detecting or forecasting spikes in discussions related to gun violence incidents. We employ time-series analysis and machine learning techniques to analyze the temporal patterns of these discussions. By recognizing these patterns, we aspire to contribute to early warning systems and preventive measures in the context of gun violence. For our third hypothesis, we examine the prevalence and nature of hate speech within discussions related to gun culture on Reddit and 4chan. We analyze demographic characteristics such as age, gender, and political affiliation to identify potential correlations with a higher likelihood of engaging in or being targeted by hate speech. This demographic analysis forms an integral part of our research, shedding light on the differences and similarities between these two platforms in the context of hate speech dynamics.

The combination of these methodologies and data-driven approaches forms the foundation for our exploration of hate speech within discussions related to gun culture on social media platforms. By following these systematic procedures, we aim to gain comprehensive insights into this complex digital landscape.

RESULTS

CONCLUSION

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