Sedition Hunters: Countering Extremism through Collective Action

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ABSTRACT

Online extremism can quickly spill over into the physical world and have dangerous consequences, as when rioters attacked the U.S. Capitol on January 6, 2021. While information and communication technologies have enabled such events to be planned and organized, they have also enabled collective action by others to identify the perpetrators and hold them accountable. Through a mixed-methods case study of Sedition Hunters, a Twitter-based community whose goal is to identify individuals who took part in the January 6th attack, we explore: 1) how the community formed and changed over time; 2) their motives, ethos, and roles; and 3) the methods and software tools they used to identify individuals and coordinate their activities.

Figure 1: Two (of four) composite images created by the Sedition Hunters community that are referenced in an official DOJ arrest warrant [3].

CCS CONCEPTS

• **Human-centered computing** → **Empirical studies in HCI**; **Empirical studies in collaborative and social computing**.

KEYWORDS

crowdsourcing, collective action, investigations, crowdsourced investigations, extremism, expertise

INTRODUCTION

Prior research on extremism has studied how to characterize [23], track [25], and prevent [27] extremism in both offline and online contexts. For example, the U.S. government has engaged in in-person outreach and engagement measures, as well as targeted interventions by training educators, social workers, and police officers [27].

Despite these efforts, instances where online extremism leads to violence are on the rise [12]. Most recently, on January 6, 2021, the U.S. Capitol was violently attacked by hundreds of rioters, resulting in the loss of lives, hundreds of injuries, and millions of dollars in property damages [7, 11]. This was the most severe assault on the U.S. Capitol since the War of 1812 and "shook the very foundation of American Democracy" [10]. This attack was partially planned online [19] and fueled by online extremism [20].

Traditionally, law enforcement professionals are tasked with dealing with the aftereffects of such violent extremism by identifying, tracking down, and prosecuting perpetrators [26]. Likewise, following the Capitol attack, the U.S. Department of Justice (DOJ) began its investigation on what was arguably the most documented crime in history, with hundreds of individuals livestreaming and uploading social media posts during and after the attack [5]. This overabundance of evidence coupled with the large number of suspects involved has resulted in "the most complex investigation ever prosecuted by the Department of Justice" [6]. Despite over 500 arrests, hundreds of suspects remain unidentified, prompting the DOJ to seek assistance from the public [4].

Immediately after the Capitol attack, and perhaps in response to the DOJ's request for help, a Twitter-based community of tens of thousands of individuals — called Sedition Hunters[1] — began to collaboratively collate, investigate, and distribute images of suspects on social media. The community's efforts are notable not only for their longevity — they remain active over nine months after the attack — but also their success, having directly contributed to numerous arrests and being cited in legal proceedings [2, 3, 18, 22]. As we will show, one reason for the community's success may be due to
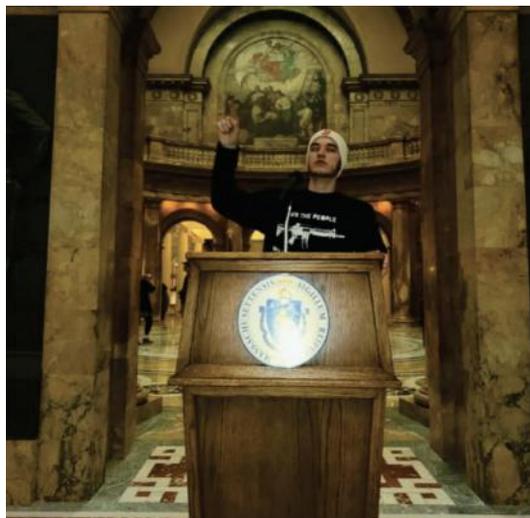
Figure 2: One (of two) images submitted to the DOJ by the Sedition Hunters community that was referenced in an official DOJ arrest warrant. The warrant states, *"FBI received a tip that originated from a group known as the Sedition Hunters, that provided a possible identity for the individual depicted in Photograph 211-AOM"* **[2].**

how it crowdsources the collection, investigation, and dissemination of the vast amount of imagery that exists from the day of the attack.

While other crowdsourced investigations have resulted in similar successes, such as locating missing persons [1, 26] and supporting crisis response efforts [16] other initiatives have led to their own forms of harmful behavior, including doxxing and misidentification [9, 17, 21]. What factors contribute to the success of some crowdsourced investigations and the failure of others? In this work, we present preliminary findings from a mixed-methods case study of Sedition Hunters, addressing the following research questions:

- **RQ1**: What is the history and narrative around the Sedition Hunters community?
- **RQ2**: Who participates in the Sedition Hunters community? How and why do they participate, and what are their roles?
- **RQ3**: What methods and software tools do members of the Sedition Hunters community use to identify suspects and coordinate their work?

APPROACH

We are conducting a mixed methods analysis of the Sedition Hunters community on Twitter. The qualitative methods include interviews, trace ethnography, and content analysis, while the quantitative methods include social network analysis and natural language processing.

Specifically, regarding qualitative methods, we are conducting interviews with prominent individuals who participate in the Sedition Hunters community to understand the history of the community, their perspectives and motives for participating, and the methods they employ. Through trace ethnography of tweets, we seek to understand how hashtags are used, as well as the various roles within the community, such as passive broadcasters, investigators, and trolls. Also, content analysis will allow us to categorize the various techniques and tools that individuals use when investigating suspects.

Regarding quantitative methods, social network analysis will give us a better understanding of the user accounts that comprise the network and how participation changes over time. Additionally, through natural language processing, we will be able to characterize the discourse within the community and how it differs between subgroups.

SEDITON HUNTERS

The Sedition Hunters community is centered around the eponymous hashtag (#SeditionHunters) and Twitter account (@SeditionHunters). The account, hashtag, and community emerged immediately following the Capitol riot aftermath and remains active over nine months later.

Figure 3: An example tweet posted by the @SeditionHunters account. Note the unique hashtag for this individual, #SmokeyInsider, and explicit instructions to contact the FBI and to not post names on social media (inset in the top center of the image). URL for tweet: bit.ly/3nZChm2.

[2]http://capitolmap.com/faces, https://facesoftheriot.com/

There are several other prominent, anonymous accounts within the community, including: @SeditionTrack, @capitolhunters, and @riotfaces. Other frequently co-occurring hashtags include: #DoYouKnow, #CapitolFaces, #CapitolRiots, and #SeditionInsiders.

This community is notable for its efforts that have directly contributed to several arrests by the FBI and their use in court proceedings [2, 3]. For example, the DOJ has cited composite images created by the Sedition Hunters community in prosecuting an individual who allegedly assaulted police officers [3] (see Fig. 1). A federal judge has also delayed the sentencing hearing of a rioter after the Sedition Hunters found new video evidence of the rioter allegedly assaulting a police officer [8]. This was a crime that the rioter had not been charged with at the time of the hearing, although he had plead guilty to less serious offenses. Further, and as a result of the Sedition Hunters' successes, numerous mainstream media outlets have featured and even incorporated this community in its reporting of the attack on the U.S. Capitol [18, 22].

How has the Sedition Hunters community successfully sifted through and investigated such a vast, distributed trove of online imagery to support the DOJ? We have found three methods that may have contributed to their success: 1) leveraging crowdsourcing to scale up data collection and analysis, 2) using preexisting and custom-built software tools to further their analysis, and 3) using their large social media following to increase the likelihood of identifying a suspect.

First, to help identify suspects, community members have leveraged crowdsourcing to collect and investigate imagery of suspects. Yet, suspects may be difficult to identify due to face coverings and low quality imagery. The community has attempted to overcome this challenge by collecting multiple images of each suspect to create *composite images*. To increase the likelihood of identifying and locating a suspect, the community has also crowdsourced the identification of objects within these images, such as brand names, equipment, and clothing, some of which is distinctive or unique and can be sourced to specific geographic locations, organizations, or merchants.

Second, to support their own investigative efforts as well as the broader community's, members have drawn upon their knowledge across a range of domains, from law enforcement to software development. For example, some have taken advantage of publicly accessible software tools and APIs, including tools for mapping and satellite imagery, face recognition, and image enhancement. To aid in finding other imagery of suspects, members have even built custom face recognition databases consisting of images and videos that can be searched by uploading target images [2].

Finally, to increase the likelihood that a suspect is identified, community members widely distribute the composite images on Twitter with the hashtag, #DoYouKnow, and a call to action asking individuals to provide additional information or retweet. See Fig. ??) for an example tweet. To collectively refer to and keep track of different images of suspects, as well as distinguish suspects one from one another, community members have created unique hashtags based on suspects' attire or actions. Some examples include, #RackFighter and #FlagGaiterCopHater. The latter hashtag was referred to

Figure 4: A crowdsourced spreadsheet created by the Sedition Hunters community with images, hashtags, and links to composite images for unidentified suspects.

13 times in an official DOJ arrest warrant for that individual [3]. The community's efforts are not only coordinated on Twitter, but also through Facebook Groups, crowdsourced spreadsheets (see Fig. 4), and collaborative documents. The latter two enable community members to more easily track each others' efforts and collect information about suspects.

The Sedition Hunters may have erred on occasion, however. We have found instances where individuals were misidentified [13] or the output of software tools were incorrectly interpreted. For example, individuals incorrectly inferred that the logo on a suspect's hat was taped over because of artifacts created by deep learning-based image enhancement [15]. In addition, a suspect who wore a hat with the letters "CFD" on it was misidentified as a retired firefighter from the Chicago Fire Department (CFD) with similar facial features [13]. Tweets with this incorrect information can still be found, including a tweet [14] that was posted by an account with 26,200 followers. This account does not appear to be directly associated with the Sedition Hunters community, however.

We have found that, despite initial setbacks, the community is willing to learn from its mistakes. Soon after a string of misidentifications, several prominent accounts within the Sedition Hunters community began explicitly instructing others to refrain from naming suspects, and instead, to submit information directly to the FBI [24]. See Fig. 3 for a recent exemplary tweet.

We welcome feedback on how to protect study participants and researchers from outside harm, as well as other research questions, data sources, and methods of analysis to consider.

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