Abstract: Nearly a million individuals get affected by natural disasters every year. Within the US only, around 400 people perish due to disasters, which cost approximately $17.6 billion to the economy. Social media plays a vital role as it links fast responders with disaster victims. Online Social media has emerged as one of the well-known source for dispersal of information during real world incidents. The goal of this paper is to show how reliable is social media during a disaster. Social media offers new channels for user-generated content and interactive communication through diverse mobile and web-based tools. Platforms like Twitter and Facebook are used widely globally and their significance is growing during times of man-made or natural disasters. Owing to their user-friendliness, social media platforms relay information efficiently, thus offering better situation awareness and essential need for emergency response. Fake content is also posted online during hazard, which can result in damage and monetary losses in the real world. People due to anxiety trust the fake post.

Keywords: Natural Disaster, Man Made Disaster, Fake Content, BuzzSumo

I. INTRODUCTION

Social networking sites definition
Web-based services that allow individuals to (1) construct a public or semi-public profile within a bounded system, (2) articulate a list of other users with whom they share a connection, and (3) view and traverse their list of connections and those made by others within the system. (Boyd and Ellison, 2007)[3]. Most social network services are web-based and provide means for users to interact over the internet, such as e-mail and instant messaging. Social network sites are varied and they incorporate new information and communication tools such as mobile connectivity, photo/video/sharing and blogging. Twitter is example of one such social networking site which is a micro blogging service, has emerged as a new medium of communication during recent happenings[1]. Social networking has become the most popular online activity, accounting for 19% of all time spent online. Various types of social networking site icon is given in Figure 1. Below are diverse types of social media platforms:

1. **WhatsApp**: The WhatsApp concept is simple: send text-style messages to anyone else using the platform, but without paying data charges. That straightforward idea has already gathered more than 900 million fans[5], making the app the world’s most popular messaging platform.

2. **Snapchat**: Using the application, users can take photos, record videos, add text and drawings, and send them to a controlled list of recipients. These sent photographs and videos are known as "Snaps". Users set a time limit for how long recipients can view their Snaps after which Snapchat claims they will be deleted from the company's servers.

3. **Instagram**: It is an online mobile photo-sharing, video-sharing, and social networking service that enables its users to take pictures and videos, and share them on a variety of social networking platforms, such as Facebook, Twitter, Tumblr[6].

Fig 1 Social Networking Site

1.1 Content Posted during hazard can be of 6 types:
- Situational announcement and alerts
- Support announcement
- Request for assistance
- Request for information
- Other
1.2 Road Hazard
Many people die due to road hazard-related accidents every day. Social networking site prove be a very useful medium that can prevent road hazard by alerting people about damaged or blocked roads. Figure 2 is a tweet about a road hazard.

![Fig 2 Tweet about road hazard](image)

This tweet will alert the other people not to travel via this road.

1.3 Earthquake detection
An earthquake is the perceptible shaking of the surface of the Earth, resulting from the sudden release of energy in the Earth's crust that creates seismic waves[2]. Using twitter people can be alert about earthquake so as to prevent them from visiting disaster prone area shown in Figure 3.

![Fig. 3 Tweet about Earthquake](image)

1.4 Alert about terrorist attack
Social networking sites could be used to alert people about terrorist attack so that they can reach at safe place. Two such alter is shown in Figure 4.

![Fig. 4 whatsapp alert message](image)

1.5 Trend analysis
Following event detection, social media enables the analysis of trends, whether by topic, location, keyword, or another variable. For example, Google offers an online tool called Google Flu Trends, which uses aggregated Google search data to estimate flu activity in near real-time. Using site as shown in Figure 5. Analyzing the trend people can be aware about spreading disease so that they can take necessary precautions.

![Fig. 5 Flu in India in July 2015](image)

1.6 Boston Marathon Blasts
We analyzed one such social media i.e. Twitter, for content generated during the event of Boston Marathon Blasts, that occurred on April, 15th, 2013. A lot of fake content and malicious profiles originated on Twitter network during this event [4] as shown in Figure 6 (a) and Figure 6 (b).
II. RELATED WORK

Spreading rumors like posting fake information on the social networking site is social spam. Hence there is a dire need to study how to find that information posted on social networking site is reliable or not.

II. RELATED WORK

Social media is a source of alerting people about hazard. So it has become a dire need to check person who posted the content has fake profile or not. Various social networking site has introduced a verification of pages and profile feature. List of some social networking site is given below:

2.1 How to identify social media fake profiles

1. Twitter: Twitter has introduced a verification feature. Visit https://twitter.com/verified and check whether person profile is verified by twitter or not as shown in Figure 7. Twitter shows a blue badge next to the account name if the profile is officially verified as shown in Figure 8.

Fig.6 Two samples of tweets containing fake content

Fig.7 verified accounts can be checked
2.2 Facebook Verification: Facebook users are trustworthy or not is verified with the help of a website https://www.quintly.com. Quintly is a web-based tool to help you track, benchmark and optimize your social media performance [7] as shown in Figure 9. Profile with blue badge means verified profile.

2.3 Verification of Your Social Media Profiles: Profile verification is the most difficult task. Most of the social networking sites verify profiles like Facebook, Twitter, LinkedIn and many more. Verified social media profiles are a sign of authenticity.

III. OUR APPROACH

Our approach is depicted in Figure 10.
3.1 Retrieving the content from tool BuzzSumo:
Enter the topic related to that BuzzSumo tool displays all the content posted on social networking site as shown in figure 11.

![Image](https://app.buzzsumo.com/research/most-shared?type=articles&result_type=total&num_days=7&general_article=infographic&video&guest_posts&grid)

Fig. 11 Searching for topic

3.2 Analyze the profile posted of person who posted the content: Profile is analyzed based on information such as page authority, Followers, reply ratio.

3.3 Tag the content as fake/true: Based on information about profile tag the content as fake or true.

3.4 Disseminate the content: Disseminate the content posed on other social networking site.

1http://buzzsumo.com/

IV. EXPERIMENT

4.1 Collect date using tool BuzzSumo as shown in Figure 12

![Image](https://app.buzzsumo.com/research/most-shared?type=articles&result_type=total&num_days=7&general_article=infographic&video&guest_posts&grid)

Fig. 12 Earthquake related content

4.2 We can also sort results displayed according to any one of social networking site share as shown in Figure 13.

![Image](https://app.buzzsumo.com/research/most-shared?type=articles&result_type=total&num_days=7&general_article=infographic&video&guest_posts&grid)

Fig. 13 sorted results according to social networking site

4.3 Then click on view sharer then following information about person tweet is displayed as shown in Figure 14.

![Image](https://app.buzzsumo.com/research/most-shared?type=articles&result_type=total&num_days=7&general_article=infographic&video&guest_posts&grid)

Fig. 14 Information displayed about person who posted content

4.4 Based on this information post is shared further by other social networking site as shown in Figure 15.

![Image](https://app.buzzsumo.com/research/most-shared?type=articles&result_type=total&num_days=7&general_article=infographic&video&guest_posts&grid)

Fig. 15 Shared by other social networking site if content is not fake
V. CONCLUSION AND FUTURE WORK

Rumors or fake or incorrect information spread via online social media, have resulted in chaos and damage to people in the real world[4]. Specially, during hazards events like earthquakes, bomb blasts, flood rumors can be very harmful. Spreading rumors is e-crime. Online social media connect millions of users’. Detection and controlling of fake information dissemination on social media has become a necessity so that social media can be used as hazard alert source and people can be alerted. Tool here used for authenticating the content show Facebook share, pin interest shares LinkedIn shares value but information about user like how many followers is displayed only who shared content with twitter. In future reliability of information is also checked with content shared with other social networking site like Google+, LinkedIn.

REFERENCES