**INTRODUCTION**

Users may post explicitly their location on the tweet text they post, whereas in certain cases the location may be available implicitly by including certain relevant criteria. Tweets are not a strongly typed language, in which users may post casual with emotion images. Abbreviated form of text, misspellings, and extra characters of emotional words makes tweet texts noisy. The techniques applied for normal documents are not suited for analysing tweets. The character limitations of tweets about 140 characters may make the tweet uneasy to understand, if the tweet context is not studied.

The issue of location prediction related named as geolocation precition is examined for Wikipedia and web page documents. Entity recognition from these formal documents has been researched for years. Different types of content and context handling on these documents are also studied extensively. However, the location prediction problem from twitter depends highly on tweet content. Users living in specific regions, locations may examine neighborhood tourist spots, landmarks and buildings and related events.

Home Location: User’s residential address given by user or location given by user on account creation is considered as home location. Home location prediction can be used in various application namely recommendation systems, location based advertisements, health monitoring, and polling etc. Home location can be specified as administrative location, geographical location or co-ordinates. Tweet Location: Tweet location refers to the region from where the tweet is posted by user. By construing tweet location, one can get tweet person’s mobility. Usually home location collected from user profile, whereas tweet location can be arrived from user’s geo tag. Because of the first perspectives on tweet location, POIs are comprehensively received as representation of tweet regions. Mentioned Location: When composing tweets, user may make reference to the names of a few locations in tweet texts. Referenced location prediction may encourage better understanding of tweet content, and advantage applications like recommendation systems, location based advertisements, health monitoring, and polling etc. In this study, we include two sub-modules of mentioned location: First one is recognizing the mentioned location in tweet text, which can be achieved by extracting text content from a tweet that refers to geography names. Second one is identifying the location from tweet text by solving them toentries in a geographical database.

The use of social media is being explored as a tool for disaster management by developers, researchers, government agencies and businesses. The disaster-affected area requires both, cautionary and disciplinary measures (Sushil 2017). Dai et al. (1994) first suggested the need for a computerized decision-making system during emergencies. Nowadays, information and communication technology (ICT) is being used widely during different phases of disaster for relief activities (Kabra and Ramesh 2015). Twitter plays a major role in informing people, acquiring their status information, and also gathering information on different rescue activities taking place during both, natural disasters (tsunamis/floods) and man-made disasters (terrorist attack/food contamination) (Al-Saggaf and Simmons 2015; Gaspar et al. 2016; Heverin and Zach 2012; Oh et al. 2013).

Social media platforms can be efficiently used for supply chain management by professionals, organizations, and retailers for their operations (Chae 2015; Mishra and Singh 2016; Papadopoulos et al. 2017). Social networks like Twitter and Facebook allow users to update information on social activities that they undertake (Mishra et al. 2016). Twitter provides the space where both official and common people can post their experiences and advice regarding disasters (Macias et al. 2009; Neubaum et al. 2014; Palen et al. 2010), which makes it a popular choice for disaster management. A lot of research work is going on to make this platform more suitable for disaster management. However, as suggested by Comfort et al. (2012), a more systematic study of social media is needed to improve public response. Turoff et al. (2013) is also of the same view, and have appealed to the research community to devise methods to improve citizen-engagement during emergencies. Quick and accurate responses from the leaders during disaster may boost their personal political standing (Ulku et al. 2015). Several agencies such as BMKG in Indonesia are actively engaged in providing updates and warnings to public through Twitter. Social media is also used by various agencies to coordinate rescue efforts and help victims.

Twitter is a micro blog where users send brief text messages, photographs and audio clips. Since users write small messages, they regularly send it and check for updates from others. Twitter updates include social events such as parties, cricket match, political campaigns, and disastrous events such as storms, heavy rainfall, earthquakes, traffic jams etc. A lot of work (Atefeh and Khreich 2015) has been done to detect events, both social as well as disastrous from Twitter messages. Most disastrous event detection systems are confined to detect whether a tweet is related to the disaster or not, based on textual content. The related tweets are further used to warn and inform people about precautionary measures (Sakaki et al. 2010, 2013). These tweets are also used to study the tweeting behavior of users during disasters. We view Twitter not only as an awareness platform, but a place where people can ask for help during disaster. The tweets asking for help need to be separated from other tweets related to the disaster. These tweets then can be used to guide the rescue personnel.

To help victims in need, one needs to have his/her exact location in their tweet, which is another important issue in emergency situations. Distribution centers play a big role in helping victims. Burkart et al. (2016) proposes a multi-objective location routing-model to minimize the cost of opening a distribution center for relief routing. The real time location estimation plays a big role in logistics, stockpiles, and medical supply planning (Duhamel et al. 2016; Lei et al. 2015; Paul and Hariharan 2012; Ozdamar et al. 2004). The growing number of location-based Social Networks provide the spatiotemporal data that has substantial potential to increase situational awareness and enhance, both planning and investigation (Chae et al. 2014). The analysis by Cheng et al. (2010) shows that only 26% users mention their location at a city level or below, and the remaining are mostly a country name, or even words with not much meaning, such as Wonderland. According to Cheng et al. (2010), only 0.42% tweets have geo-tags, but Morstatter et al. (2013) found that about 3.17% tweets are geo-tagged. These analyses reveal that Twitter has limited applicability as a location-based sensing system.

The rise of mobile Internet users in the last couple of years has significantly increased the number of mobile twitter users. According to a report by IAMAI (2016), the mobile Internet users in India will be 371 million by the end of 2016. The same report also highlights the fact that in rural areas, 39% of users are using social media, whereas in urban areas, this percentage is much higher. Mobile Twitter users can switch on and off their geo-tagging, as and when preferred. The battery power of smart phones plays a significant role here, as the global positioning system (GPS) consumes significant amount of battery power. Users prefer switching off their GPS to save power. On the other hand, applications such as taxi hiring services and e-commerce sites such as flipkart.com require GPS to work properly. The analysis of mobile Twitter users thus shows some tweets with geo-tagging, and others without geo-tagging. During emergencies, people want to preserve the battery power of their phones; hence, tweets with geo-tags will be very few on such occasions.

India is a multilingual country, where English is used as the main language for communicating on social media websites. However, users of these sites also use their regional languages. Hence, event detection in the Indian context also needs to identify variations in the language used.

The major contribution of this paper is a tweet classification system to classify tweets into high and low priority. High Priority tweets are those, which ask for help, such as food, shelter, medicine etc. during a disaster. Two sample tweets of high priority. Tweet is in the English script, but the words used here are in the Hindi language. The translation of the tweet is, “Mr. @narendramodi, heavy floods in Chhapra Bihar, please arrange for administrative help, people here are very worried.” Low priority tweets convey information related to a disaster, such as “Rescue team has done a good job.” An example is where a user thanks Twitter for its help during a disaster. The other contribution of this paper is location prediction of high priority tweets, if geo-tagging information is missing in a tweet. To predict location, we use historical geo-tagged tweets of the specific users and build a Markov chain. The low priority tweets are analyzed to find the spread of the disaster. These may also be used to evaluate the performance of different agencies during a disaster.