

The Use of Twitter and News Online for Enhancing Post Disaster Management Activities

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A natural disaster is an event which causes damage to both lives and properties. The detection of natural disasters is an important issue. Social media is a powerful source which can be used to improve managing disaster situations. Post-disaster management can be largely improved by proper social media mining since social media are capable of sharing information in a real-time manner. After identifying the importance of social media for post disaster management, Twitter posts were fetched from the Twitter API using predefined keywords relating to the disaster. At the second stage these posts were cleaned and the noise was reduced. Two-level filtering of non-related keywords was used. Then at the third stage, the geolocation and the disaster type was identified. The Named Entity Recognizer library and the Google Maps Geocoding API were used to obtain the geolocation. The same three steps were carried out for the news, which was fetched from the News API. Finally, each datum from the Twitter API was compared with the relevant datum from the News API to give a rating for the trueness of each post. The rating of "More accurate" was obtained by 24% of the posts. The ratings of "Moderately accurate" and "Less accurate" were obtained by 15% and 13% of the posts respectively. Remaining 48% posts obtained the rating of "No correlation". This model can be used to alert organizations to carry out their activities of disaster management in a timely manner. The future development steps are as follows: to integrate the other social media to fetch data, to integrate the weather data into the system in order to improve the precision and accuracy for finding the trueness of the disaster and location and the use of some sophisticated machine learning techniques to reduce the noise.

Keywords: social media, disaster management, data mining, twitter, news