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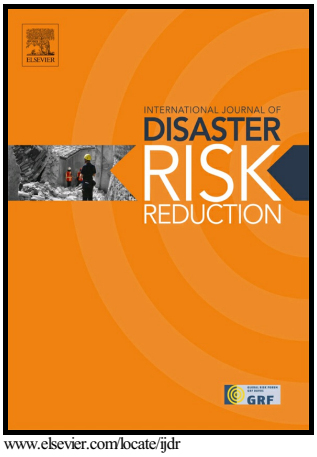

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Mining Crisis Information: A Strategic Approach for Detection of People at Risk through Social Media Analysis

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Abstract

Situational awareness of the rapidly changing environment in the event of disaster is vital for effective response and recovery management. The major challenges in achieving such awareness are lack of access to various sources of information and tools. Social media plays a vital role in understanding the real situation at the place of disaster as the information is received directly from the affected people. If the collected information is leveraged effectively, the crisis situation can be brought under control and the risks of the disaster affected people or disaster prone areas are reduced. This indeed minimizes the casualty and helps the affected people in serving with their basic needs and medical emergencies. In this paper, we propose a hybrid method for segregating and classifying the texts[1] received from the people who are at risk in the affected region. The proposed hybrid method combines rule based methodology and machine learning algorithms with linguistic features for segregating the texts and classifying them according to the needs. The results of the real-time text classification algorithm help the emergency responders to locate the people at risk and reach them during the hour of their need.

Keywords

Disaster management; Support Vector Machine; Sentiment analysis; Text classification; Social media analysis; Situational awareness

1. INTRODUCTION

The occurrence of disaster is hard to predict but, their effects can be minimized through scientific methods. There is always a chaos and disorganization at the time of the disaster which ruins all the

[1]Text, Message and Tweet are used interchangeably throughout the paper which refers to information received from disaster affected or prone area.