

DATA MINING SOCIAL MEDIA AND NATURAL LANGUAGE PROCESSING APPLICATIONS FOR RAPID CRISIS RESPONSE

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ABSTRACT:

A vast quantity of text is posted on social media during catastrophic events. Information that can be extracted from this data may document real and immediate human needs, which if detected can provide critical help in directing the efforts of emergency responders. With natural language processing techniques and statistical algorithms performed on a database of social media posts made in relation to or in the vicinity of an event, that large quantity of data may be expeditiously processed and any information parsed may be rapidly addressed. Using geolocation metadata and timestamps in conjunction with the natural language processing can also produce maps that highlight key aspects of a crisis. Students at Michigan Tech have been working with FutureConcepts in Los Angeles to develop techniques for gathering and parsing data from social media en masse, and visualizing the linguistic patterns discerned with geospatial software.