

## **Network-Based Modeling for Characterizing Human Collective Behaviors During Extreme Events**

### **ABSTRACT**

During extreme events, we can observe many kinds of collective behavior, such as bursts of information exchange caused by event-related seeking and sharing behaviors in mass media and social media, as people seek to deal with their anxiety and perceived uncertainty. For example, because of the known potential impacts of familiar events (e.g., tsunami), people are likely to quickly share messages via social media to warn others. And, they will take active part in event-related discussions in order to gain more information and reduce the uncertainties of unpredictable events (e.g., nuclear crisis).

### **EXISTING SYSTEM**

In Existing System, Modeling and predicting human dynamic behaviors in the face of stress and uncertainty can help understand and prevent potential irrational behavior, such as panic buying or evacuations, in the wake of extreme events. However, in terms of the types of events and the distinct human psychological factors, such as risk perception (RP) and emotional intensity (EI), human dynamic behaviors exhibit heterogeneous spatiotemporal characteristics. For example, we can observe different collective responses to the same events by people in different regions, with distinct trends unfolding over time.

### **DIS ADVANTAGES**

- It is difficult to quantitatively measure the degree to which psychosocial factors affect human behaviors.
- It is difficult for people to make decisions for dealing with extreme events.

### **PROPOSED SYSTEM**

In Proposed System, the perspective of a dynamic system, whose behavior is driven by human psychological factors and by the network structure of interactions among individuals? By making use of the available data from Twitter and GoogleTrends, we conduct a case study of human dynamic behavioral and emotional responses to the Japanese earthquake in 2011 in order

to examine the effectiveness of our proposed model. With this model, we further assess the impacts of an event by evaluating the interrelationships of human RP and levels of EI in terms of observed collective behaviors. The results demonstrate that human behaviors are subjected to personal observations, experiences, and interactions, which can potentially alter perceptions and magnify the impacts of an event.

## **ADVANTAGES**

- It improves the efficiency and effectiveness of disaster relief.
- Reduce the threat from an extreme event, based on their own perceptions of risk and their degrees of uncertainty concerning an event.

## **SYSTEM REQUIREMENTS**

### **H/W System Configuration:-**

Processor	-	Pentium –III
RAM	-	256 MB (min)
Hard Disk	-	20 GB
Key Board	-	Standard Windows Keyboard
Mouse	-	Two or Three Button Mouse
Monitor	-	SVGA

### **S/W System Configuration:-**

Operating System	:	Windows95/98/2000/XP
Application Server	:	Tomcat5.0/6.X
Front End	:	HTML, Jsp
Scripts	:	JavaScript.
Server side Script	:	Java Server Pages.

Database : MySQL 5.0

Database Connectivity : JDBC

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