TEXAS TECH UNIVERSITY
Edward E. Whitacre Jr.
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Computer Science

Mass Movements and Their Adoption in Social Media

Fang Jin
Prospective Faculty Candidate
Virginia Tech
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Abstract
As social media such as Twitter and Facebook gain popularity, they are becoming mainstream venues to stage mass movements, such as protests and uprisings. Modeling such mass movements and studying their adoption patterns gives us insight into understanding events and their precursors.

In this talk, we focus on two key problems in modeling mass movements: First, how do we capture their diffusion patterns across a wide geographical area? Second, how do we distinguish real movements from rumors or misinformation campaigns? We address the first problem by combining principles of geometric Brownian motion and traditional network graph theory to develop a new model of information diffusion. We address the second problem by developing new epidemiological models that explicitly recognize skeptics of such mass movements.

I will conclude by highlighting my future plans on using data-driven approaches in other domains such as climate change influenced events and disease spreading.

Bio
Fang Jin is a PhD candidate in the Department of Computer Science at Virginia Tech. Her current research focuses on information propagation and anomaly detection in social networks. Applications of this work include disease outbreak detection using public health data; civil unrest events forecasting using open source indicators; rumor detection in social media using contagion models. Fang Jin is very passionate about interdisciplinary research areas in data science, based on her background in anomaly detection, graph mining and social network analysis.