INFORMS Data Mining Society Webinar Series

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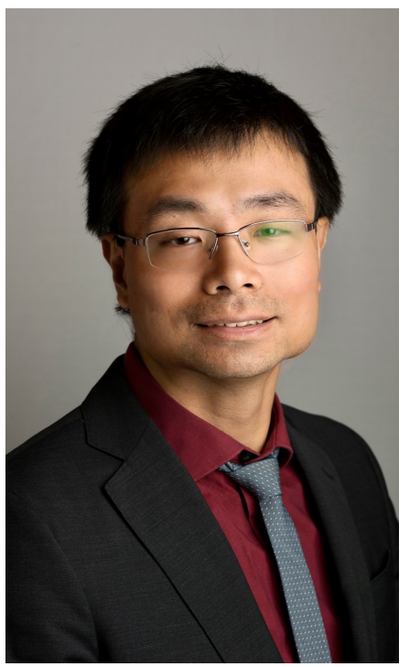
Registration Link: https://us06web.zoom.us/webinar/register/WN_01KFBVb3SA2EgyFIOLsKUA

Managing Misinformation on Social Media during Disasters: A Machine Learning and Game-Theoretical Approach



Abstract: Social media has been increasingly utilized to spread breaking news and risk communications during disasters. Unfortunately, due to the unmoderated nature of social media platforms such as Twitter and Facebook, rumors and misinformation could propagate widely. To address the problem, we develop a machine learning framework to predict the veracity of tweets that are spread during crisis events. We also develop two game-theoretical models "Rumor Selection for Clarification" and "Learning for Rumor Clarification", to help decide which rumor to clarify and when to clarify, respectively. This research provides novel insights on how to efficiently monitor misinformation that is spread during disasters. We will also discuss recent research on homeland security, supply chain risk management, and wildfire management.

Dr. Jun Zhuang is Morton C. Frank Professor, Director of Graduate Studies, and Director of the Decision, Risk & Data Laboratory, Department of Industrial and Systems Engineering, the University at Buffalo. Dr. Zhuang has a Ph.D. in Industrial Engineering in 2008 from the University of Wisconsin-Madison. Dr. Zhuang's long-term research goal is to integrate operations research, big data analytics, game theory, and decision analysis to improve mitigation, preparedness, response, and recovery for natural and man-made disasters. Other areas of interest include applications to health care, sports, transportation, supply chain management, sustainability, and architecture. Dr. Zhuang has been a principal investigator of over 30 research grants funded by the U.S. National Science Foundation, by the U.S. Department of Homeland Security, by the U.S. Department of Energy, by the U.S. Air Force Office of Scientific Research, and by the National Fire Protection Association.