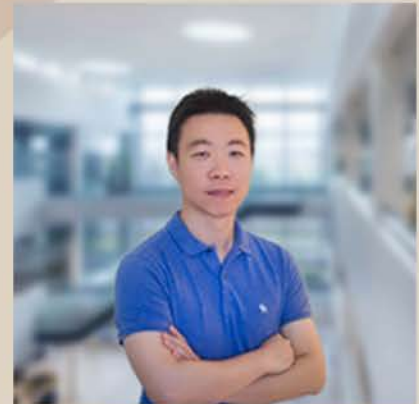# Expect the Unexpected: Empowering a Resilient Future with Responsible GIScience

Lei Zou

Day/Time: Friday, Feb 23th: 12pm ET

Location: 164 Angell Street, 3rd Floor

Abstract: In a world where natural disasters and health crises often catch us off guard, leading to unexpected catastrophic impacts, the need for a forward-thinking mindset has never been greater. Embracing the philosophy of 'Expect the Unexpected' is no longer merely an optional addition but an absolute imperative for facilitating resilience and well-being, especially in marginalized communities. Responsible GIScience, driven by burgeoning geospatial big data (e.g., data from social media, mobility, and crowdsourcing), cutting-edge technologies (e.g., GeoAI, CyberGIS, and digital twins), and responsible thinking, equips us with a diverse array of tools and channels to accurately and comprehensively monitor and predict varied, unforeseen societal impacts and human needs during hazardous events. This talk will delve into the theory, methodologies, and real-world applications of harnessing geospatial big data from various sources to uncover the unforeseen, disparate societal impacts and human needs triggered by natural disasters and health crises. Additionally, this research has designed innovative tools to effectively address these consequences and needs. The developed tools and knowledge will shed light on pathways to prepare for unexpected disaster effects and empower a resilient future in changing climates and environments

Bio: Lei Zou is an Assistant Professor in the Department of Geography at Texas A&M University (TAMU), directing the Geospatial Exploration and Resolution (GEAR) Lab. Lei's research focus is fostering a healthy, resilient, and sustainable future for human communities through spatial and responsible thinking, novel big data, AI-empowered models, interdisciplinary collaboration, and community outreach. He spearheads over 20 projects, including a $1.5 million NASEM grant as PI and three NSF projects as Co-PI. He has published 53 articles in impactful academic journals, 12 conference proceedings and 3 book chapters. Also, he received the Global Young Scientist Award from the World GIS Developers Conference (WGDC) 2022 and the Best Paper Award in the 2021 Symposium on Geospatial Approaches to Combating COVID-19. Meanwhile, he serves as the vice chair for the International Cartographic Association Commission on Geospatial Analysis and Modeling (ICA-GAM), the vice chair for the Geographic Information Sciences & Systems Group at the American Association of Geographers (AAG-GISS), a BOD member of the U.S. Cartography and Geographic Information Society (CaGIS), and an editorial board member of the *International Journal of Digital Earth and Cartography and Geographic Information Science.*