

Human Mobility and Urban Resilience

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Abstract: Large-scale extreme events, such as pandemics, wildfires, and major storms, can significantly change routine human movement patterns. Such changes affect both the consequences of the events and the ability of urban centers to mount effective responses. In this talk, I will discuss how uniformity and heterogeneity of human movements emerge under the impact of major natural disasters; how such an understanding of the dynamics of mobility disruptions and recovery will pave a path to real-time track and response to evacuations and recoveries; how social inequality can impact the everyday movement of residents in America's cities; and how AI technologies can possibly help us build complex, just, and human-centered urban-level digital twins.

Bio: Ryan Qi Wang is an Assistant Professor in the Department of Civil and Environmental Engineering, Northeastern University. Before joining Northeastern, Ryan was a postdoc fellow at the Department of Sociology, Harvard University. He received his Ph.D. degree from the Department of Civil and Environmental Engineering at Virginia Tech. His research focuses on two interrelated areas: human movement perturbation under the influence of natural and manmade disasters, and mobility equality in big cities. His research has been published in *Nature Human Behavior*, *Proceedings of National Academy of Sciences (PNAS)*, etc. His research group has received funding support from NSF, NIST, IARPA, MacArthur Foundation, USDOT, and other foundations and local government agencies.