



# Transportation Data Science Seminar Series

## Urban Streetscape and Human Movement Dynamics

### Seminar summary

The street is the basic unit of the city and a focal point of human activity, acting as the foundation for transportation and information exchange. Moreover, because cities are complex systems that integrate the physical with the social spaces, streetscapes play an important role influencing social interactions. Taken together, city streets become one of the most critical urban landscape features effecting, or reflecting, people's lifestyles and physical, mental, and social well-being. It follows that a thorough quantification and understanding of the physical streetscape (i.e., features and dynamics) would offer great utility to those investigating the urban environment, its physical social interactions, and implications on human well-being. This talk will introduce the research on using massive amount of Google Street View images and machine learning to model and quantify urban built environment. It will also present how to use GPS movement data at the street-level to understand human walking behaviors and investigate the impacts of urban street-level built environment on human walking behaviors. In addition, this talk will introduce how to use deep learning and street-level images for mapping the sun glare occurrence; and estimate human heat exposure using microclimate modeling and GPS trajectory mining. This seminar series is co-organized by Dept. of Landscape Architecture & Urban Planning, Transportation Institute, and Institute of Data Science at Texas A&M U.

### Speaker's information



Dr. Xiaojiang Li is an assistant professor in Urban Analytics and Spatial Data Science at the Department of Geography and Urban Studies, Temple University, where he leads the Urban Spatial Informatics Lab (USIL). He is also the co-founder of *Biometeors* (<http://www.biometeors.com/>). He received his PhD in geography from University of Connecticut. He was a Postdoctoral Fellow at Department of Urban Studies and Planning, Massachusetts Institute of Technology. He has been selected as the 50 Rising Stars in Geospatial World. His research focuses on Urban Analytics for Sustainability, Spatial Data Science, Urban Resilience to Climate Change, High Performance Urban Computing, and Geovisualization. He has proposed to use Google Street View and machine learning for urban environmental studies and developed the Treepedia project (<http://senseable.mit.edu/treepedia>), which aims to map and quantify street greenery for cities around the world. He is also working on

using artificial intelligence, remote sensing, urban microclimate modeling, and urban analytics with the support of Microsoft AI for Earth Grant to investigate the different vulnerabilities to climate change across different neighborhoods in the U.S, especially for under-represented communities (<https://xiaojianggis.github.io/heatexpo/>). His work has been featured in popular media outlets, including TIME, Scientific American, Wall Street Journal, Forbes, The Guardian, Wired, CBC News, Fox News, The Atlantic, Associated Press, and MIT News.

Time: 8:00-9:00 p.m. US Central Time (Thursday, Oct 7, 2021)

Zoom Meeting ID: 732 641 0814 Passcode: 575829

Direct Link: <https://tamu.zoom.us/j/7326410814?pwd=cGZKY045dmVkdzVRLy9MYWhocWorQT09>

Faculty Host: Xinyue Ye, Dept. of Landscape Architecture and Urban Planning & Urban Data Science Lab



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