VirginiaTech
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Computer Science Seminar Series

National Capital Region

Toward Semantic Understanding of Spatial Trajectories

Speaker: Dr. Zhenhui (Jessie) Li
Penn State University

Friday, Oct 7, 2016
1:00PM- 2:00PM, NVC T3

Abstract

How could we harness the increasingly available big data to understand our dynamic ecosystem? For example, why people or animals move in the space in certain ways and how do their movements respond to surrounding environments? Why are crimes more frequent in certain regions and can we explain it using heterogeneous urban data? Is shale gas development contaminating our environment and how to mine the correlations between environment and all potential factors?

Our research aims to develop data mining techniques for geospatial data collected from different sources to semantically understand trajectories, urban dynamics, and environment, by closely collaborating with domain experts. In this talk, I will focus on data mining techniques to understand spatial trajectories. I will first discuss why existing methods often make trivial discoveries when contexts are not considered. I will then present our recent results in semantic understanding of trajectories with rich spatial-temporal contexts. I will also show that using cross-domain big data is critical to understand crimes and environment. Throughout the talk, I would like to share my experiences in exciting interdisciplinary collaborations

Biography

Dr. Zhenhui (Jessie) Li is Assistant Professor of Information Sciences and Technology at the Pennsylvania State University. Prior to joining Penn State, she received her PhD degree in Computer Science from University of Illinois Urbana-Champaign in 2012, where she was a member of data mining research group. Her research has been focused on mining heterogeneous and large-scale geospatial data with applications in ecology, environment, social science, urban computing, and transportation. She is a passionate interdisciplinary researcher and closely collaborates with social scientists, animal scientists, criminologists, and geoscientists. To learn more, please visit her homepage: https://faculty.ist.psu.edu/jessieli