VirginiaTech
VIRGINIA POLYTECHNIC INSTITUTE AND STATE UNIVERSITY

Computer Science Seminar Series, 2014

National Capital Region

Geographic Knowledge Discovery From Social Media: A data-driven approach

Speaker: Dr. Chen XU
George Mason University
Friday, May 2nd, 2014
1:00PM- 2:00PM, NVC 325

Abstract

The era of big data has begun, which features datasets of high volume, velocity and variety. Many of these data have spatial and temporal components and can potentially enrich geographic understanding. In the field of human geography, which has been hindered by data availability, big data offers possibilities for data-rich studies. However, big data also poses significant computational challenges to geographers. This talk presents a systematic approach for discovering geographic knowledge from social media data by following an approach called geographic knowledge discovery. Geographic knowledge discovery (GKD) uses computational methods and visualization to explore massive geo-referenced digital databases for novel and useful geographic knowledge. The approach leverages the advanced computational technologies such as Cloud Computing and Hadoop to process big amount of spatially and temporally referenced social media data distributedly in a parallel fashion. Two case studies using Twitter data are presented to demonstrate discoveries of individual social media users as well as of different cities.

Biography

Chen XU is a postdoc research fellow with the NSF spatiotemporal innovation center at George Mason University. He has accepted an Assistant Professor position with the University of Wyoming. His primary research domain is volunteered geographic information (VGI) – a multi-disciplinary field that studies the emerging phenomenon of crowdsourced geographic information. His recent work focuses on spatial web portals, volunteer computing, spatial big data and geospatial cyberinfrastructure.