

SEMINAR

Title: **“Geospatial data and graph analysis: from querying to visualized exploration”**

Speaker: Dr Tao Guo

Date: 16 January 2018

Start Time: **03.30 p.m.**

End Time: **05.00 p.m. (including Q&A session)**

Venue: Executive Room Block **E1-07-21**, Faculty of Engineering

Abstract:

With the proliferation of social sharing platforms (e.g., Foursquare and Yelp) and online social media (e.g., Twitter, Facebook and Instagram), large collections of geospatial data are becoming available, such as geo-tagged photos and geo-textual posts. The availability of substantial amount of such geospatial objects gives prominence to the geospatial data analysis. Traditional geospatial analysis includes spatial keyword query, which is to find the geo-textual objects that best match the query arguments exploiting both locations and textual descriptions. With the increasing volume of data, an emerging challenge is how to guide users to extract information and explore the data. To this end, we demonstrate a classical type of spatial keywords query and how to develop exploration systems for end users. We focus on an interactive visualization map exploration system and a system partitioning the geospatial objects into functional regions according to their utilities and spatial distributions. Graph mining is a fundamental and challenging problem in database community since many real-world relationships such as user-friendships on Facebook or road networks can be modeled as graphs. In the second part of this talk, I will introduce a distributed framework to analysis graphs which is faster than the state-of-the-art centralized methods in orders of magnitude.

Biography:

Dr. Tao Guo received his PhD from Nanyang Technological University under the supervision of Prof. Gao Cong, and he was a member of Rapid-Rich Object Search Lab (ROSE) at Interdisciplinary Graduate School. Prior to his PhD study, Tao Guo obtained his bachelor degree from Harbin Institute of Technology. His main research interest includes various topics in database such as query processing, query result diversity, parallel graph processing, data analysis and data exploration. He has published several papers in the top-tier conferences and journals, such as SIGMOD, ICDE and TODS, and he serves as the PC member of conferences including CIKM, ADMA and ADC.