名古屋大学 博士課程教育リーディングプログラム
「実世界データ循環学」講演会のお知らせ

本プログラムの学外プログラム担当者であるオーストラリア クイーンズランド大学の Kevin (Kai) Zheng 博士をお招きして講演会を開催します．ぜひともご参加ください．

[演題]　**Calibrating Trajectory Data for Similarity-based Analysis**

[演者]　**Kevi (Kai) Zheng** 博士

School of Information Technology & Electrical Engineering
The University of Queensland, Australia

[日時]　2014 年 3 月 24 日（月）13:00～14:00

[場所]　名古屋大学 東山キャンパス（アクセス：http://www.nagoya-u.ac.jp/access/）

IB 電子情報館南棟 379 室
　　　　　（アクセス：http://www.engg.nagoya-u.ac.jp/access/campusmap.html）

[概要]　Due to the prevalence of GPS-enabled devices and wireless communications technologies, spatial trajectories that describe the movement history of moving objects are being generated and accumulated at an unprecedented pace. Trajectory data in a database are intrinsically heterogeneous, as they represent discrete approximations of original continuous paths derived using different sampling strategies and different sampling rates. Such heterogeneity can have a negative impact on the effectiveness of trajectory similarity measures, which are the basis of many crucial trajectory processing tasks. In this paper, we pioneer a systematic approach to trajectory calibration that is a process to transform a heterogeneous trajectory dataset to one with (almost) unified sampling strategies. Specifically, we propose an anchor-based calibration system that aligns trajectories to a set of anchor points, which are fixed locations independent of trajectory data. After examining four different types of anchor points for the purpose of building a stable reference system, we propose a geometry-based calibration approach that considers the spatial relationship between anchor points and trajectories. Then a more advanced model-based calibration method is presented, which exploits the power of machine learning techniques to train inference models from historical trajectory data to improve calibration effectiveness. Finally, we conduct extensive experiments using real trajectory datasets to demonstrate the effectiveness and efficiency of the proposed calibration system.

[略歴等]　Dr. **Kai Zheng** is an ARC DECRA Fellow of Australia. He currently works with the Data Engineering and Pattern Recognition Research Division at the University of Queensland. He received PhD degree in Computer Science from The University of Queensland in 2012. His research interests include efficient spatio-temporal query processing, uncertain data management, and spatial trajectory computing.

[主催]　名古屋大学 博士課程教育リーディングプログラム
「実世界データ循環学」リーダー人材養成プログラム

http://www.rwdc.is.nagoya-u.ac.jp/

[連絡先]　名古屋大学 大学院情報科学研究科
石川 佳治（052-789-3306, ishikawa@is.nagoya-u.ac.jp）