

Inferring Traveling Time from Smart Card Data

Abstract

Rapid transit systems are the most important public transportation service modes in many large cities around the world. Understanding route travel time and passengers route choice preference can help transportation authorities to build smart public transportation systems. More and more public transportation systems are now using smart cards to record. The smart card data record the information of the origin and destination of each individual passenger trip and the corresponding travel time. However, routes of passengers inside of the public transportation system are not known. In this talk, I will introduce a series of works to inferring traveling time and route choices preference. By observing the evolution of these works, I will also discuss similarities and differences among these works in terms of network topologies (single line vs. multi-layered graph vs. flatten graph), traveling time models (linear equation vs. Poisson distribution vs. Gaussian distribution), parameter estimation approaches (regression vs. approximation approach vs. standard MLE), and route choice inference.

Speaker



Dr Chih-Chieh HUNG
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Dr. HUNG Chih-Chieh is an assistant professor of Department of Computer Science and Information Engineering in Tamkang University, Taiwan. He also serves as the general secretary of Taiwan AI Association. Dr. Hung received his PhD degree in Department of Computer Science at National Chiao Tung University (Taiwan) in 2011. In his PhD, he has published dozens of papers in top-tier conference and journals such as VLDBJ, IEEE TKDE, CIKM, ICDM, and ICDE. He has received the Best Paper Award in ACM Workshop on Location-Based Social Network in 2009. After getting his PhD degree, he joined e-commerce industry: he served as a research engineer at Yahoo! Taiwan and a data scientist at Rakuten Inc., Japan. He was in charge of improving the product search relevancy, developing inventory prediction systems and adaptive recommendation systems. Back to the way of his academic life, his research interest includes trajectory data mining, mobile computing, big data analytics and systems, and artificial intelligence.

Details

Friday, July 5, 2019
10:30 AM - 11:30 AM

Seminar Room 2-1, Level 2

School of Information Systems, Singapore Management University, 80

Stamford Road, Singapore 178902, Singapore

We look forward to seeing you at this research seminar.

Register

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