

Less-Conscious Information Retrieval Techniques for Location Based Services

A Geography Colloquium Presentation

by

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Abstract:

We have developed methods which can deal with the user's interaction without conventional conscious searching. When a user generally performs map operations with certain information retrieval intentions (less-conscious), a system using our method can detect the specific operation sequences. For example, if the user performs zooming-in and centering operations, the user is narrowing down the search area to a certain location. We define such operation sequences as chunks. The system detects the chunks and uses them to analyze the user's operations and thereby detect the user's intentions. We have developed several prototype systems based on the proposed methods.

Bio:

Professor Sumiya is a faculty member at the Information Media Laboratory, School of Human Science and Environment, University of Hyogo, Japan. He is a member of the Association for Computing Machinery (ACM) and IEEE Computer Society. He is also the Chair of Database System special interest group (SIGDBS), Information Processing Society of Japan (IPSJ), and co-editor of IPSJ Transaction on Database. His current research interests include extracting intention and analyzing credibility in geographical information retrieval, modified maps, geographical recommendation systems, and monitoring geo-social activities via microblogs.

Some recent publications and presentations:

- [Shoko Wakamiya, Ryong Lee, Kazutoshi Sumiya](#): Urban Area Characterization Based on Semantics of Crowd Activities in Twitter. [GeoS 2011:108-123](#)
- [Daisuke Kitayama, Ryong Lee, Kazutoshi Sumiya](#): Deformation Analysis of Modified Maps Based on Geographical Accuracy and Spatial Context. [HICSS 2011:1-9](#)
- [Junki Matsuo, Daisuke Kitayama, Ryong Lee, Kazutoshi Sumiya](#): Modified map search engine: geographical features extraction for ranking of modified maps. [ICUIMC 2011:90](#)
- [Rika Kotera, Daisuke Kitayama, Kenta Oku, Kazutoshi Sumiya](#): Geographical recommendation method using user's interest model based on map operation and category selection. [ICUIMC 2011:126](#)
- [Ryong Lee, Shoko Wakamiya, Kazutoshi Sumiya](#): Discovery of unusual regional social activities using geo-tagged microblogs. [World Wide Web \(WWW\) 14\(4\):321-349 \(2011\)](#)
- [Kaori Kobayashi, Ryong Lee, Kazutoshi Sumiya](#): Pros and Cons of Utilizing Mobile Navigation Systems in Pedestrian Way Finding. [AINA Workshops 2010:395-400](#) [EETatsuya Fujisaka](#),
- [Ryong Lee, Kazutoshi Sumiya](#): Detection of Unusually Crowded Places through Micro-Blogging Sites. [AINA Workshops 2010:467-472](#)
- [Tatsuya Fujisaka, Ryong Lee, Kazutoshi Sumiya](#): Monitoring Geo-social Activities through Micro-blogging Sites. [DASFAA Workshops 2010:374-384](#)
- [Ryong Lee, Kazutoshi Sumiya](#): Measuring geographical regularities of crowd behaviors for Twitter-based geo-social event detection. [GIS-LBSN 2010:1-10](#)
- [Kaori Kobayashi, Daisuke Kitayama, Kazutoshi Sumiya](#): Automatic Street View Walk-through System Using Characteristics of Modified Maps. [W2GIS 2010:142-158](#)