COMP 2013

ACM SIGSPATIAL International Workshop on Computational Models of Place

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Editors:
Simon Scheider, University of Muenster, Germany
Benjamin Adams, University of Auckland, New Zealand
Krzysztof Janowicz, University of California, Santa Barbara, USA
Maria Vasardani, University of Melbourne, Australia
Stephan Winter, University of Melbourne, Australia

http://stko.geog.ucsb.edu/comp2013/

The Association for Computing Machinery, Inc.
2 Penn Plaza, Suite 701
New York, NY 10121-0701

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Foreword

Place related information still needs to be generated, linked, and curated in a mostly manual and time consuming fashion. This problem has become increasingly pressing in the age of Big Data, where the generation, provenance, curation, and quality of place related data is almost unmanageable and does not scale with the growth of other data in need of georeferencing.

This workshop aimed at computational models of place, which can be used to automate the process of place information extraction and inference. Simplistic place models, which are mainly based on static name-coordinate tuples, are often insufficient. Gazetteer relations should be temporally indexed, but how should this be done? How to address changes of place identity, such as disappearances and merging or splits? How can we compute a snapshot representing the region occupied by a place at a certain time? And how can we do this within traditional vector models given the vagueness of such a region? How do cognitive and common language use of place map to computational models of place? From a computational viewpoint, the challenge lies in finding tractable procedures to infer places as well as their relations to other kinds of information. A new line of research may demonstrate this in the context of Linked Data.

One way to create computational place models is by extracting knowledge from user-generated content, such as tags, texts, activity streams, trajectories, and POI mapping. Recent research focused on the discovery of places and user activities by mining (semantic) trajectories. Research also investigated how to derive the region occupied by a place, or to extract place-related activities from free text. Another approach consists in identifying observation procedures and observable proxies in an environment. Such proxies may be perception-action cycles that can be traced by observed or recorded actions. Finally, one more option is to use robots, mobile sensors and actuators, as well as spatial reasoning in order to explore place extents.

The *ACM SIGSPATIAL International Workshop on Computational Models of Place* explores this area. The program of the workshop consisted of an invited keynote talk by Chris Jones, University of Cardiff, as well as ten selected papers organized in two sessions. The selection was made based on a thorough review of 14 submissions. Among the accepted papers were eight full research papers, as well as two statements of interest. The review and selection process of papers by workshop chairs were handled by an independent subcommittee consisting of Benjamin Adams and Chris Jones (special thanks to Chris Jones). The first session was called “Place identification and localization” and focused on methods and algorithms for place scoping. The second session, consisting of papers on “Place models and place descriptions”, was about place-based GIS models and textual place descriptions, including toponyms.

The workshop ended with a joined capstone session with the 7th ACM SIGSPATIAL Workshop on Geographic Information Retrieval, where participants of both workshops engaged in a lively discussion covering areas of common interest.

Simon Scheider, Benjamin Adams, Krzysztof Janowicz, Maria Vasardani, Stephan Winter
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Workshop Chairs

Simon Scheider, University of Muenster, Germany
Benjamin Adams, University of Auckland, New Zealand
Krzysztof Janowicz, University of California, Santa Barbara, USA
Maria Vasardani , University of Melbourne, Australia
Stephan Winter, University of Melbourne, Australia

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