

Contents

Part I Harnessing the Power of User-Generated Content

Exploring the Potential of Combining Taxi GPS and Flickr Data for Discovering Functional Regions	3
Jean Damascène Mazimpaka and Sabine Timpf	
A Semantic Region Growing Algorithm: Extraction of Urban Settings	19
Heidelinde Hobel, Amin Abdalla, Paolo Fogliaroni and Andrew U. Frank	
Central Places in Wikipedia	35
Carsten Keßler	
Applications of Volunteered Geographic Information in Surveying Engineering: A First Approach	53
Ioannis Sofos, Vassilios Vescoukis and Maria Tsakiri	
A Gamification Framework for Volunteered Geographic Information.	73
Roberta Martella, Christian Kray and Eliseo Clementini	
Privacy Preserving Centralized Counting of Moving Objects	91
Thomas Liebig	

Part II Discovering Knowledge and Detecting Changes

Enabling Semantic Search and Knowledge Discovery for ArcGIS Online: A Linked-Data-Driven Approach	107
Yingjie Hu, Krzysztof Janowicz, Sathya Prasad and Song Gao	

Real-Time Anomaly Detection from Environmental Data Streams	125
Sergio Trilles, Sven Schade, Óscar Belmonte and Joaquín Huerta	
Towards Real-Time Processing of Massive Spatio-temporally Distributed Sensor Data: A Sequential Strategy Based on Kriging	145
Peter Lorkowski and Thomas Brinkhoff	
Statistical Learning Approach for Wind Speed Distribution Mapping: The UK as a Case Study	165
Fabio Veronesi, Stefano Grassi, Martin Raubal and Lorenz Hurni	
Towards a Qualitative Assessment of Changes in Geographic Vector Datasets	181
Karl Rehrl, Richard Brunauer and Simon Gröchenig	
 Part III Understanding and Improving Mobility	
Usage Differences Between Bikes and E-Bikes	201
Dominik Allemann and Martin Raubal	
Understanding Taxi Driving Behaviors from Movement Data	219
Linfang Ding, Hongchao Fan and Liqiu Meng	
Automated Generation of Indoor Accessibility Information for Mobility-Impaired Individuals	235
Nemanja Kostic and Simon Scheider	
“Turn Left” Versus “Walk Towards the Café”: When Relative Directions Work Better Than Landmarks	253
Jana Götze and Johan Boye	
Labeling Streets Along a Route in Interactive 3D Maps Using Billboards	269
Nadine Schwartges, Benjamin Morgan, Jan-Henrik Haunert and Alexander Wolff	
 Part IV Improving Language and Representation in Spatial Computing	
Aggregating Spatio-temporal Phenomena at Multiple Levels of Detail	291
Ricardo Almeida Silva, João Moura Pires, Maribel Yasmina Santos and Rui Leal	

Designing a Language for Spatial Computing	309
Werner Kuhn and Andrea Ballatore	
Drawing with Geography	327
Takeshi Shirabe	
Voluminator—Approximating the Volume of 3D Buildings to Overcome Topological Errors	343
Horst Steuer, Thomas Machl, Maximilian Sindram, Lukas Liebel and Thomas H. Kolbe	

AGILE 2015

Geographic Information Science as an Enabler of
Smarter Cities and Communities

Bacao, F.; Santos, M.Y.; Painho, M. (Eds.)

2015, XIII, 362 p. 136 illus., 101 illus. in color.,

Hardcover

ISBN: 978-3-319-16786-2