

GRANT D. MCKENZIE

Curriculum Vitae

April 26, 2017

1129 LeFrak Hall · Department of Geographical Sciences
University of Maryland, College Park, USA

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Citizenships: Canadian & American

APPOINTMENTS

- Present **The University of Maryland, College Park** *USA*
Assistant Professor
Department of Geographical Sciences
Center for Geospatial Information Science
- 2016 **The University of California, Santa Barbara** *USA*
Postdoctoral Researcher
Department of Geography

EDUCATION

- 2015 **The University of California, Santa Barbara** *USA*
Department of Geography
Doctor of Philosophy
Supplemental emphasis in Information Technology & Society
- 2007 **The University of Melbourne** *Australia*
Department of Geomatics
Master of Applied Science (with Honors)
- 2004 **The British Columbia Institute of Technology** *Canada*
Geographic Information Systems
Technical Diploma (Advanced)
- 2002 **The University of British Columbia** *Canada*
Department of Geography
Bachelor of Arts

PUBLICATIONS

Refereed Journal Articles

- 2017 Gao, S., Janowicz, K., Montello, D., Hu, Y., Yang, J., **McKenzie, G.**, Ju, Y., Gong, Li., Adams, B., Yan, B. (In Press) A Data-Synthesis-Driven Method for Detecting and Extracting Vague Cognitive Regions. *International Journal of Geographical Information Science*. Taylor & Francis.
- 2016 **McKenzie, G.**, Hegarty, M., Barrett, T., Goodchild, M. Assessing the Effectiveness of Different Visualizations for Judgments of Positional Uncertainty. *International Journal of Geographical Information Science*. 30(2) 221–239. Taylor & Francis.
- 2016 Regalia, B., **McKenzie, G.**, Gao, S., Janowicz, K. Crowdsensing Smart Ambient Environments and Services. *Transactions in GIS*. 20(3) 382–298. Wiley Press.
- 2016 Zhu, R., Hu, Y., Janowicz, K., **McKenzie, G.** Spatial Signatures for Geographic Feature Types: Examining Gazetteer Ontologies using Spatial Statistics. *Transactions in GIS*. 20(3) 333–355. Wiley Press.
- 2016 **McKenzie, G.**, Klippel, A., The Interaction of Landmarks and Map Alignment in You-Are-Here Maps. *The Cartographic Journal*. 53(1) 43-54. Maney Press.
- 2015 **McKenzie, G.**, Janowicz, K., Gao, S., Gong, L. How Where Is When? On the Regional Variability and Resolution of Geosocial Temporal Signatures for Points Of Interest. *Computers, Environment and Urban Systems (Special issue on New insights gained from location-based social media data)*. 54. 336–346. Elsevier.
- 2015 **McKenzie, G.**, Janowicz, K. *Where* is also about time: A location-distortion model to improve reverse geocoding using behavior-driven temporal signatures. *Computers, Environment and Urban Systems*. 54. 1–13. Elsevier.
- 2015 **McKenzie, G.**, Janowicz, K., Gao, S., Yang, J., .Hu, Y. POI Pulse: A Multi-Granular, Semantic Signatures-Based Information Observatory for the Interactive Visualization of Big Geosocial Data. *Cartographica: The International Journal for Geographic Information and Geovisualization*. 50(2) 71–85. University of Toronto Press.
- 2014 **McKenzie, G.**, Janowicz, K., Adams, B. A Weighted Multi-Attribute Method for Matching User-Generated Points of Interest. *Cartography and Geographic Information Science*. 41(2) 125–137. Taylor & Francis.

Refereed Conference Proceedings

- 2017 **McKenzie, G.**, Adams, B. (Accepted) Juxtaposing thematic regions derived from spatial and platial user-generated content. *Proceedings of the 13th International Conference on Spatial Information Theory (COSIT '17)*. (September 4-8, L'Aquila, Italy)

- 2017 **McKenzie, G.**, Janowicz, K. (Accepted) The Effect of Regional Variation and Resolution on Geosocial Thematic Signatures for Points of Interest. *Proceedings of the 2017 AGILE Conference* (May 9-12, Wageningen, Netherlands)
- 2016 Ju, Y., Adams, B., Janowicz, K., Hu, Y., Yan, B., **McKenzie, G.** Things and Strings: Improving Place Name Disambiguation from Short Texts by Combining Entity Co-Occurrence with Topic Modeling. *The 20th International Conference on Knowledge Engineering and Knowledge Management* (November 19-23, Bologna, Italy)
- 2016 Janowicz, K. , Hu, Y., **McKenzie, G.**, Gao, S., Regalia, B., Mai, G., Zhu, R., Adams, B., and Taylor, K. Moon Landing or Safari? A Study of Systematic Errors and their Causes in Geographic Linked Data. *The 9th International Conference on Geographic Information Science (GIScience '16)* (September 27-30, Montreal, Canada)
- 2016 **McKenzie, G.**, Janowicz, K., Seidl, D. Geo-privacy beyond coordinates. *In Proceedings of the 18th AGILE Conference on Geographic Information Science (AGILE '16)* (June 14-17, Helsinki, Finland)
- 2015 Adams, B., **McKenzie, G.**, Gahegan, M. Frankenplace: Interactive thematic mapping for ad hoc exploratory search. *Proceedings of the 24th International World Wide Web Conference (WWW 2015)*. 12–22. (May 18-22, Florence, Italy)
- 2014 Savage, S. Forbes, A., Toxtli, C., **McKenzie, G.**, Desai, S. M., Hollerer, T. Visual Analysis of Targeted Audiences. *The 11th International Conference on the Design of Cooperative Systems* (May 27-30, Nice, France)
- 2013 Gau, S., Hu, Y., Janowicz, K., **McKenzie, G.** A Spatiotemporal Scientometrics Framework for Exploring the Citation Impact of Publications and Scientists. *Proceedings of The 21st International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL '15)*, 204–213 (November 5-8, Orlando, FL)
- 2013 **McKenzie, G.**, Janowicz, K., Adams, B. Weighted Multi-Attribute Matching of User-Generated Points of Interest. *Proceedings of The 21st International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL '15) (Short Paper)*, (November 5-8, Orlando, FL)
- 2013 Hu, Y., Janowicz, K., **McKenzie, G.**, Sengupta, K., Hitzler, P. A Linked Data-driven Semantically-enabled Journal Portal for Scientometrics. *The 12th International Semantic Web Conference (ISWC '13)* 114–129. (October 21-25, Sydney, Australia)
- 2013 **McKenzie, G.**, Adams, B., Janowicz, K. A Thematic Approach to User Similarity Built on Geosocial Check-ins. *In Proceedings of the 16th AGILE Conference on Geographic Information Science (AGILE '13)* 39–54 (May 14-17, Leuven, Belgium)

Refereed Extended Abstracts, Short Papers & Demonstration Papers

- 2017 Lee, M., **McKenzie, G.**, Aghi, R. (Accepted) Exploratory cluster analysis of urban mobility patterns to identify neighborhood boundaries. *International Symposium on Location-Based Social Media Data and Tracking Data*. (July 1-2, Washington, D.C.)
- 2017 Hu, Y., Mao, H., **McKenzie, G.** (Accepted) A NLP and Geospatial Workflow for Harvesting Local Place Names from Geotagged Social Web. *International Symposium on Location-Based Social Media Data and Tracking Data*. (July 1-2, Washington, D.C.)
- 2017 Abeyta, A., Flanagan, A., **McKenzie, G.** Exploring the credibility of online information: A proposed framework for understanding experiential credibility. *The 62nd Annual Conference of the International Communication Association (ICA '17)*. (May 25-29, San Diego, CA, USA)
- 2016 **McKenzie, G.**, Baez, C. Uber vs. Taxis: Event detection and differentiation in New York City. *Geographic Information Science (GIScience '16)*. (September 27-30, Montreal, Canada)
- 2015 **McKenzie, G.** The pretense of residential privacy in geosocial networking data. *International Conference on Location-Based Social Media Data*. (March 13-14, Athens, GA)
- 2015 Gong, L., Gao, S., **McKenzie, G.** POI Type Matching based on Culturally Different Datasets. *International Conference on Location-Based Social Media Data*. (March 13-14, Athens, GA)
- 2014 **McKenzie, G.**, Janowicz, K. Coerced Geographic Information: The not-so-voluntary side of user-generated geo-content. *Extended Abstracts of the 8th International Conference on Geographic Information Science (GIScience '14)*, Vienna, Austria.
- 2014 Gao, S., Yang, J-A., Yan, B., Hu, Y., Janowicz, K., **McKenzie, G.** Detecting Origin-Destination Mobility Flows From Geotagged Tweets in Greater Los Angeles Area. *Extended Abstracts of the 8th International Conference on Geographic Information Science (GIScience '14)*, Vienna, Austria.
- 2013 **McKenzie, G.**, Janowicz, K., Hu, Y., Sengupta, K., Hitzler, P. Linked Scientometrics: Designing Interactive Scientometrics with Linked Data and Semantic Web Reasoning. *The 12th International Semantic Web Conference (ISWC '13)* (Demonstration Paper) Sydney, Australia
- 2012 Adams, B. and **McKenzie, G.** Frankenplace: An Application for Similarity-Based Place Search. *The 6th International AAAI Conference on Weblogs and Social Media (ICWSM)* (Demonstration Paper) (June 4-7, Dublin, Ireland) AAAI Press
- 2012 **McKenzie, G.** and Raubal, M. Ground-truthing spatial activities through online social networking data. *Extended Abstracts of the 7th International Conference on Geographic Information Science (GIScience '12)* Columbus, OH.
- 2012 Hu, Y., Li, W., Janowicz, K., Deutsch, K., **McKenzie, G.**, Goulias, K. Using spatial-temporal signatures to infer human activities from personal trajectories on location-

enabled mobile devices. *Extended Abstracts of the 7th International Conference on Geographic Information Science (GIScience '12)*, Columbus, OH.

- 2011 **McKenzie, G.**, Raubal, M. Adding social constraints to location based services. *Extended Abstracts of the 8th Symposium on Location-Based Services*. (November 21-23, Vienna, Austria)

Refereed Workshop Proceedings

- 2017 Regalia, B., Janowicz, K., Hu, Y., **McKenzie, G.** Revisiting the Representation of and Need for Raw Geometries on the Linked Data Web. *Linked Data on the Web (LDOW 2017) in conjunction with the 26th International World Wide Web Conference (WWW '17)*. (April 3, 2017, Perth, Australia)
- 2016 Mai, G., Janowicz, K., Hu, Y., **McKenzie, G.** A Linked Data Driven Visual Interface for the Multi-Perspective Exploration of Data Across Repositories. *Visualization and Interaction for Ontologies and Linked Data (VOILA 2016)* in conjunction with the International Semantic Web Conference 2016. (October 16, Kobe, Japan)
- 2015 **McKenzie, G.**, Adams, B., Janowicz, K. Of Oxen and Birds: Is Yik Yak a useful new data source in the geosocial zoo or just another Twitter? *The 8th ACM SIGSPATIAL International Workshop on Location-Based Social Networks (LBSN 2015)* (In conjunction with the 23rd ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL 2015)), (November 3, 2015, Seattle, WA, USA)
- 2015 **McKenzie, G.**, Janowicz, K. Information Observatories: What Are They Good For? *Proceedings of Workshop on Geographic Information Observatories* (In conjunction with the Twelfth Conference on Spatial Information Theory (COSIT '15)), (October 12, 2015, Santa Fe, New Mexico, USA)
- 2015 Janowicz, K., Kauppinen, T., Schade, S., Ballatore, A., **McKenzie, G.** Contextual Information: Lenses for Observing the Data Universe. *Proceedings of Workshop on Geographic Information Observatories* (In conjunction with the Twelfth Conference on Spatial Information Theory (COSIT '15)), (October 12, 2015, Santa Fe, New Mexico, USA)
- 2015 Hu, Y., **McKenzie, G.**, Janowicz, K., Gao, S. Mining Human-Place Interaction Patterns from Location-Based Social Networks to Enrich Place Categorization Systems. *Proceedings of Workshop on Cognitive Engineering for Spatial Information Processes* (In conjunction with the Twelfth Conference on Spatial Information Theory (COSIT '15)), (October 12, 2015, Santa Fe, New Mexico, USA)
- 2014 Janowicz, K., Adams, B., **McKenzie, G.**, Kauppinen, T. Towards Geographic Information Observatories. *Proceedings of Workshop on Geographic Information Observatories at the Eight International Conference on Geographic Information Science (GIO @ GIScience '14)*, (September 23, Vienna, Austria)

- 2014 Hu, Y., **McKenzie, G.**, Yang, J., Gao, S., Abdalla, A., Janowicz, K. A Linked-Data-Driven Web Portal for Learning Analytics: Data Enrichment, Interactive Visualization, and Knowledge Discovery. *LAK Data Challenge Workshop at The 4th International Conference on Learning Analytics and Knowledge (LAK 2014)*, (March 24, Indianapolis, IN)
- 2013 Gao, S., Janowicz, K., **McKenzie, G.**, Li, L. Towards Platial Joins and Buffers in Place-Based GIS. *The First International Workshop on Computational Models of Place (CoMP) at the The 21st ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems*, (November 5-8, Orlando, FL)
- 2013 **McKenzie, G.**, Barrett, T., Hegarty, M., Goodchild, M., Thompson, W. Assessing the Effectiveness of Visualizations for Accurate Judgements of Geospatial Uncertainty. *Visually-Supported Reasoning with Uncertainty workshop at The 11th International Conference on Spatial Information Theory (COSIT '13)* (September 2, Scarborough, UK)
- 2013 **McKenzie, G.**, Deutsch, K., Raubal, M. What, When and Where: The real-world activities that contribute to online social networking posts. *Action and Interaction in Volunteered Geographic Information (ACTIVITY) Workshop at The 16th AGILE Conference on Geographic Information Science (AGILE '13)* (May 14-17, Leuven, Belgium)
- 2011 **McKenzie, G.** Gamification and Location-based Services. *Cognitive Engineering for Mobile GIS Workshop at the 15th International Conference on Spatial Information Theory (COSIT '11)* (September 12-16, Belfast, ME)

Refereed Book Chapter

- 2012 Adams, B., **McKenzie, G.** Inferring Thematic Places from Spatially Referenced Natural Language Descriptions. In: D. Sui, S. Elwood, and M. Goodchild (Eds.), *Crowdsourcing Geographic Knowledge*, pp 201-221. Springer

Non-refereed Publications & Magazine Articles

- 2016 American Association of Geographers. Abstracts & Presentations. 2011–2016.
- 2014 **McKenzie, G.**, Janowicz, K. Activities in a New City: Itinerary Recommendation Based on User Similarity. *Spatial Knowledge and Information (SKI) - Canada* (Feb 7-9, Banff, AB)
- 2013 Barrett, T., **McKenzie, G.**, Hegarty, M., Thompson W., Goodchild, M. Understanding the “Blue Dot” in smartphone displays. *spatial@ucsb.local13 Poster Session*, Santa Barbara, CA.
- 2012 Deutsch, K., **McKenzie, G.**, Hu, Y., Janowicz, J., Li, W., and Goulias, K. Examining the Use of Smartphones and Data Quality in Data Collection for Travel Behavior

Research. *Proceedings of the International Association of Travel Behavior Research*, Toronto, ON.

- 2011 **McKenzie, G.** Determining Social Constraints in Time Geography through Online Social Networking. *The 15th International Conference on Spatial Information Theory 2011 (COSIT '11)* - Doctoral Colloquium. (September 12-16, Belfast, ME)
- 2011 Deutsch, K., **McKenzie, G.**, Stevenson, D., Dara-Abrams, D., and Goulias, K. Integrating GPS and Smart Phone Technologies for Behavioral Data Collection. *Eurogeo: The meeting of the Association of European Geographers*. (June 2-4, Athens, Greece)
- 2008 Smith, E., **McKenzie, G.**, Duckham, M. The only game in town. *Position Magazine* 33 pp 51-54

Competitions & Demonstrations

- 2014 Hu, Y., **McKenzie, G.**, Yang, J., Gao, S., Abdalla, A., Janowicz, K. A Linked-Data-Driven Web Portal for Learning Analytics: Data Enrichment, Interactive Visualization, and Knowledge Discovery. *LAK Data Challenge: Linked Data for the Learning Analytics & Education Data Mining Community*, Indianapolis, IN. - **Awarded Second Prize**
- 2012 Hu, Y., **McKenzie, G.**, Gao, S. Citation Map: Visualization the Spread of Scientific Ideas through Space and Time. *Robert Raskin Mashup Mapping competition at The Association of American Geographers Annual Meeting 2012*, Los Angeles, CA - **Awarded Second Prize**

Doctoral Dissertation

- 2015 **McKenzie, G.** A Temporal Approach to Defining Place Types based on User-contributed Geosocial data. University of California, Santa Barbara, USA.

Master's Thesis

- 2007 **McKenzie, G.** Exploring the Influence of Landmark Presence and Map Alignment on Wayfinding Performance Using Virtual Environment Modeling. University of Melbourne, Australia.

GRANTS & AWARDS

- 2015 Grand Challenge Award Recipient – Principle Investigator
Bill & Melinda Gates Foundation
- 2015 Knight Prototype Fund Recipient – Co-PI
Knight Foundation
- 2015 Isla Vista GauchoSafe Project – Principle Investigator
Chancellor's Coordinating Committee on Isla Vista

- 2015 Spark Ideas Challenge Prize Winner – Co-PI
The University of Auckland Entrepreneurship Programme
- 2014 Coastal Fund Research Grant – Principle Investigator
UC Santa Barbara - Associated Students
- 2013 Excellence in Research Award
Department of Geography, UC Santa Barbara
- 2012 Jack & Laura Dangermond Fellowship
Awarded for promising research in GIScience
- 2012 Excellence in Teaching Award
Department of Geography, UC Santa Barbara
- 2007 J H Mirams Memorial Research Scholarship
The University of Melbourne

PROFESSIONAL EXPERIENCE (INDUSTRY & AID)

Spatial Development International

Seattle, WA

Founding Member & Geospatial Developer/Data Scientist

2009-2015

Spatial Development International is an award-winning data visualization company supporting sustainable development through spatial technology. Select projects are listed below. A portfolio of projects is available at grantmckenzie.com.

2015 *The American Red Cross - International Services*

Data conversion tools to *ETL* survey response data from on-the-ground data centers to the Red Cross internal spatial data infrastructure.

2014 *The World Bank Group*

Design and development of the Open Aid Partnership Mapping platform.

2013 *Bill & Melinda Gates Foundation*

Construction and education for the Financial Services for the Poor (FSP) mapping portal and spatial analytics tool.

2012 *Bill & Melinda Gates Foundation*

Design and development of Portfolio Mapping Tool for monitoring agricultural related spending in sub-saharan Africa.

Construction and education for the Financial Services for the Poor (FSP) mapping portal and spatial analytics tool.

Private Consultant

Vancouver, BC, Canada

Geospatial Developer

2009-2010

Select projects on which I acted as a private consultant are listed below.

- 2010 *Vancouver Translink*
Design and implementation of the Bus Station Management System
- 2009 *Mobile Application*
Design and development of the *BorderTimes* (international border wait times) mobile application.

CH2M Hill

Geospatial Developer / Systems Architect

*Seattle, WA**2007-2009*

CH2M Hill is an American engineering company that provides consulting, design, construction, and operations services for corporations, and federal, state, and local governments. Select projects are listed below.

- 2009 *GeoEye Space Imaging*
Design and development of the GeoEye GeoFuse Imagery Search Application
- 2008 *HarvestChoice*
Design and implementation of the Spatial Data Portal for searching and editing large agricultural data sets.
- 2008 *The International Food Policy Research Institute & International Water Management Institute*
Design and development of the Agricultural Gender Mapping Platform
- 2007 *California Center for Sustainable Energy*
Construction of the San Diego Solar Energy Map

TEACHING

Courses

- 2017 *Introduction to Methods of Geospatial Intelligence and Analysis* *To be taught*
Introduction to technical methods used in gathering, analyzing, and presenting geospatial information, addressing the needs of geospatial analysis, such as environmental monitoring, situational awareness, disaster management, and human systems. The course is a gateway to more advanced technical classes in geoinformatics.
- 2017 *Introduction to Computer Programming for GIS* *UMD*
Introduction of conceptual and practical aspects of programming for geographic applications and applying basic programming principles to manipulating spatial data sources within Geographic Information Systems.
- 2015 *Analytical and Computer Cartography* *UCSB*
Upper division undergraduate course on cartography in which students learn to write JavaScript code and use open source mapping software to produce web maps. I re-wrote the lectures and re-designed the labs for this course.

2012 *Introduction to Geographic Information Systems* UCSB
Upper division undergraduate course focused on data manipulation, visualization and organization in GIS.

PhD Advising Chair

Zheng Liu 2017-current

Tracy Toutant (co-chair) 2016-current

PhD Committee Member

Cheng Fu - Dept. of Geographical Sciences, University of Maryland 2017-current

Myeong Lee - School of Information Studies, University of Maryland 2017-current

Master's Committee Member

Tomi Rauchman - Cartography and Geoinformation, ETH Zürich 2013-2014

ACADEMIC & PROFESSIONAL ACTIVITIES

Events & Special Issues Organized

2016 Guest Editor. Special Issue on Provenance and Credibility in Spatial and Platial Information. *The Journal of Spatial Information Science (JoSIS)* – Vol 13 (2016)

2016 Workshop Chair. Spatial Data on the Web (SDW) 2016 at the Ninth International Conference on Geographic Information Science (GIScience '16) - Montreal, Canada.

2016 Workshop Chair. GeoVoCamp DC 2016. College Park, Maryland

2015 Workshop Chair. GeoPrivacy: 2nd Workshop on Privacy in Geographic Information Collection and Analysis at The 23rd International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL 2015) - Seattle, Washington.

2014 Workshop Chair. GeoPrivacy: 1st Workshop on Privacy in Geographic Information Collection and Analysis at The 22nd International Conference on Advances in Geographic Information Systems (ACM SIGSPATIAL 2014) - Dallas, Texas.

2014 Workshop Chair. Workshop on Geographic Information Observatories at The 8th International Conference on Geographic Information Science (GIScience 2014) - Vienna, Austria.

Referee for Peer Reviewed Journals

Editorial Board Member - *AIMS Geosciences*. AIMS Press. (2017 - current)

Reviewed 42 manuscript submissions to journals and conferences ranging from the *International Journal of Geographic Information Science*, *Cartographica*, *WWW Conference* and *ACM SIGSpatial*, to name a select few.

Invited Talks

- 2017 Panelist for the Open Geospatial Technology session at the *Association of American Geographers Meeting*.
- 2017 Invited talk at the STEAM Salon Lecture Series, *University of Maryland Libraries*.
- 2017 Invited talk at the Computational Linguistics and Information Processing Laboratory Lecture Series in the *Department of Computer Science*, University of Maryland.
- 2016 Invited talk at the Human Computer Interaction Lab Lecture Series in the *School of Information Studies*, University of Maryland.
- 2015 Invited talk & tutorial on the future of GI science and cloud computing at *National Aeronautics and Space Administration (NASA) SERVIR and Development Alternatives Incorporated (DAI)*, Washington DC, USA.
- 2014 Invited lecture & tutorial on the role of Geographic Information Systems in Aid mapping at the *Bill & Melinda Gates Foundation, Head Office*, Seattle WA, USA.
- 2012 Invited talk at the Institute for Geoinformatics at the University of Münster, Germany.

Miscellaneous

- 2016 American Red Cross - Certified CPR/AED for Professional Rescuers and Health Care Providers.
- 2015 Completed the multi-disciplinary doctoral emphasis in *Information Technology & Society* in the Center for Information Technology and Society at UC Santa Barbara.
- 2013 Work mentioned in *Wired Magazine* article: Tang, V. Five Maps That Could Help Solve Some of the World's Most Daunting Problems. *Wired Magazine* 21(12) pp. 231

Professional Membership

- Association of Canadian Geographers (CAG)
- Association of American Geographers (AAG)
- Association for Computing Machinery (ACM)



Grant D. McKenzie, Ph.D.
April 26, 2017