

Isaac L. Johnson

Ph.D. Student
Department of Computer Science
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Research Areas

Human-Centric Algorithms, Geography and GIScience, Algorithmic Auditing, Social Computing

Education

Northwestern University, Evanston, IL

August 2016 - Present

- Doctor of Philosophy in Computer Science
- Advisor: Dr. Brent Hecht

University of Minnesota, Twin Cities

May 2016

- Master of Science in Computer Science
- Advisor: Dr. Brent Hecht
- Cumulative GPA: 3.85 / 4.00

University of Pittsburgh, Pittsburgh, PA

April 2012

- Bachelor of Arts in Environmental Studies
- Cumulative GPA: 4.00 / 4.00

Professional Experiences

Google, New York City, NY

January 2018 - April 2018

- Software Engineering Intern with Google Research
- Mentor: Dr. Chris Welty

Google, Mountain View, CA

June 2016 - September 2016

- User Experience Research Intern with Google Maps
- Mentor: Dr. Kacey Ballard

Bettis Atomic Power Laboratory, West Mifflin, PA

June 2012 - July 2014

- GIS Specialist

Peer-Reviewed Publications

[CHI 2018] Diaz, M., **Johnson, I.**, Lazar, A., Piper, A.M., Gergle, D. Understanding Age-Related Bias in Sentiment Analysis. *ACM Conference on Human Factors in Computing Systems 2018*.

[CHI 2018] Vincent, N., **Johnson, I.**, and Hecht, B. Examining Wikipedia With a Broader Lens: Quantifying the Value of Wikipedia's Relationships with Other Large-Scale Online Communities. *ACM Conference on Human Factors in Computing Systems 2018*.

[CHI 2018] Kariryaa, A., **Johnson, I.**, Schöning, J., and Hecht, B.. Defining and Predicting the Localness of Volunteered Geographic Information using Ground Truth Data. *ACM Conference on Human Factors in Computing Systems 2018*.

[The Professional Geographer] Shmool, J.L.C., **Johnson, I.**, Dodson, Z., Keene, R., Gradeck, R., Beach, S.R., Clougherty, J.E. Developing a GIS-based online survey instrument to elicit perceived neighborhood geographies to address the Uncertain Geographic Context Problem. *The Professional Geographer*. *Forthcoming*.

[PACM HCI / CSCW 2018] Klein, M., Zhao, J., Ni, J., **Johnson, I.**, Hill, B.M., and Zhu, H. Quality Standards, Service Orientation, and Power in Airbnb and Couchsurfing. *Proceedings of the ACM on Human-Computer Interaction (PACM HCI / CSCW '18)*. Vol. 1, No. 1, Article 58.

[PACM IMWUT / UbiComp 2017] **Johnson, I.**, Henderson, J., Perry, C., Schöning, J., and Hecht, B. Beautiful...but at What Cost? An Examination of Externalities in Geographic Vehicle Routing. *Proceedings of the ACM on Interactive, Mobile, Wearable, and Ubiquitous Technologies (PACM IMWUT / UbiComp '17)*. Vol. 1, No. 2, Article 15.

[ICWSM 2017] McMahon, C.*, **Johnson, I.***, and Hecht, B. The Substantial Interdependence of Wikipedia and Google - A Case Study on the Relationship between Peer Production Communities and Intelligent Technologies. *AAAI International Conference on Web and Social Media 2017*. *co-first-authors

[CHI 2017] **Johnson, I.**, McMahon, C., Schöning, J., and Hecht, B. The Effect of Population and "Structural" Biases on Social Media-based Algorithms – A Case Study in Geolocation Inference Across the Urban-Rural Spectrum. *ACM Conference on Human Factors in Computing Systems 2017*.

[CHI 2017] **Johnson, I.**, Schwanda Sosik, V., and Ballard, K. Stranger Searching in a Strange Land: The Impact of Familiarity on Local Search. *ACM Conference on Human Factors in Computing Systems 2017*. Short Paper.

[ICWSM 2016] Miller, H., Thebault-Spieker, J., Chang, S., **Johnson, I.**, Terveen, L., and Hecht, B. "Blissfully happy" or "ready to fight": Varying Interpretations of Emoji. *AAAI International Conference on Web and Social Media 2016*.

[CHI 2016] **Johnson, I.**, Sengupta, S., Schöning, J., and Hecht, B. The Geography and Importance of Localness in Geotagged Social Media. *ACM Conference on Human Factors in Computing Systems 2016*.

[CHI 2016] **Johnson, I.**, Lin, Y., Li, T., Hall, A., Halfaker, A., Schöning, J., and Hecht, B. Not at Home on the Range: Peer Production and the Urban/Rural Divide. *ACM Conference on Human Factors in Computing Systems 2016*.

[IJCAI 2015] Sen, S., **Johnson, I.**, Harper, R., Mai, H., Mathers, B., Vonessen, L., Wright, M., and Hecht, B. Towards Domain-Specific SR: A Case Study from Geography. *International Joint Conference on Artificial Intelligence 2015*.

Workshop Papers

[CSCW 2017] **Johnson, I.** and Hecht, B. Inferred Profiles: Examining How People Understand and Control What Algorithms Infer about Them. *ACM Conference on Computer-Supported Cooperative Work and Social Computing 2017 Workshop on Networked Privacy*.

[AAAI Spring Symposium 2016] **Johnson, I.** and Hecht, B. Structural Causes of Bias in Crowd-derived Geographic Information: Towards a Holistic Understanding. *AAAI 2016 Spring Symposium on Observational Studies through Social Media and Other Human-Generated Content*.

Undergraduate Students Mentored

Xunru "Rainy" Che - Northwestern University

Jessica Henderson - University of Minnesota; co-author on Ubicomp 2017 paper

Caitlin Perry - University of Minnesota; co-author on Ubicomp 2017 paper

Connor McMahon - University of Minnesota; co-author on CHI 2017 and ICWSM 2017 papers

Harmanpreet Kaur -University of Minnesota

Subhasree Sengupta - University of Minnesota; co-author on CHI 2016 paper

Service (years)

Reviewer at CHI (3), CSCW (1), InfoSocial (1), Transactions on Social Computing (1), SIGSPATIAL (1), WWW PC (1), ICWSM PC (1)

Skills

Python, Java, R, Machine Learning, Spatial Statistics, Algorithmic Experimentation, Causal Analysis, User Testing, Qualitative Methods, Survey Design, Cartography