

# BRENT HECHT

## *Curriculum Vitae*

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USA

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### Research Areas

Human-Computer Interaction (HCI), Social Computing, Spatial Computing (Geography and GIScience), Artificial Intelligence, Natural Language Processing, Information Visualization

### Education

Northwestern University  
2008 - 2013

#### **Doctor of Philosophy, Computer Science**

- *Advisor:* Dr. Darren Gergle
- *Thesis:* Mining and Applying Diverse Perspectives in User-Generated Content (received Best Dissertation Award)

University of California,  
Santa Barbara  
2005 - 2007

#### **Master of Arts, Geography**

- *Advisors:* Dr. Martin Raubal and Dr. Keith Clarke
- *Thesis:* Utilizing Wikipedia as a Spatiotemporal Knowledge Repository.

Macalester College  
2002 - 2005

#### **Bachelor of Arts (Honors), Computer Science; Bachelor of Arts (Honors), Geography (Graduated Magna Cum Laude)**

- *Advisor:* Dr. Laura Smith
- *Thesis:* Macalester: A Free, Easy to Use and Powerful Geographic Information System

### Professional Experience

Northwestern University  
2016 - present

#### **Assistant Professor**

Department of Electrical Engineering and Computer Science and School of Communication

University of Minnesota  
2013 - 2016

#### **Assistant Professor**

Department of Computer Science and Engineering

Internships

#### **Research Intern**

Microsoft Research Intern (Fall 2010; Dr. Meredith Morris and Dr. Jaime Teevan), Xerox PARC Research Intern (Summer 2010; Dr. Ed Chi and Dr. Lichan Hong)

Adjunct Faculty Positions

#### **Adjunct Instructor**

Department of Earth Science, Santa Barbara City College (Spring 2007)

## Publications

Refereed Papers in Archival  
Publication Venues

[P.43] Johnson, I., Henderson, J., Perry, C., Schöning, J., and Hecht, B. (2017) 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 / Ubi-Comp '17)*. New York : ACM Press.

[P.42] McMahon, C., Johnson, I., and Hecht, B. (2017) The Substantial Interdependence of Wikipedia and Google – A Case Study on the Relationship Between Peer Production Communities and Intelligent Technologies. *Proceedings of the International AAAI Conference on Weblogs and Social Media (AAAI ICWSM '17)*. Menlo Park, CA: AAAI Press.  
\* Best Paper Candidate (Top 1% of Submissions)

[P.41] Miller, H., Kluver, D., Thebault-Spieker, J., Terveen, L., and Hecht, B. (2017) Understanding Emoji Ambiguity in Context: The Role of Text in Emoji-Related Miscommunication. *Proceedings of the International AAAI Conference on Weblogs and Social Media (AAAI ICWSM '17)*. Menlo Park, CA: AAAI Press.

[P.40] Wenig, N., Wenig, D., Ernst, S., Malaka, R., Hecht, B., and Schöning, J. (2017) Pharos: Improving Navigation Instructions on Smartwatches by Including Global Landmarks. *Proceedings of the 19th International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI 2017)*. New York : ACM Press.

[P.39] Thebault-Spieker, J., Terveen, L., and Hecht, B. (2017) Towards a Geographic Understanding of the Sharing Economy: Systemic Biases in UberX and TaskRabbit. *ACM Transactions on Computer-Human Interaction (TOCHI)*. In press.

[P.38] Johnson, I., McMahon, C., Schöning, J., and Hecht, B. (2017) The Effect of Population and “Structural” Biases on Social Media-based Algorithms – A Case Study in Geolocation Inference Across the Urban-Rural Spectrum. *Proceedings of the 35th Annual ACM Conference on Human Factors in Computing Systems (CHI 2017)*. New York : ACM Press.

[P.37] Lin, A.Y., Kuehl, K., Schöning, J., and Hecht, B. (2017) Understanding “Death by GPS”: A Systematic Analysis of Catastrophic Incidents Associated with Personal Navigation Technologies. *Proceedings of the 35th Annual ACM Conference on Human Factors in Computing Systems (CHI 2017)*. New York : ACM Press.

[P.36] Colley, A.\*, Thebault-Spieker, J.\*, Lin, Y.\*, Häkkinen, J., Nunes, N., Wenig, D., Kuehl, K., Fischman, B., Nisi, V., Runge, N., Degraen, D., Hecht, B.\*\*\*, Schöning, J\*\*\*. (2017). The Geography of Pokémon GO: Beneficial and Problematic Effects on Places and Movement. *Proceedings of the 35th Annual ACM Conference on Human Factors in Computing Systems (CHI 2017)*. New York : ACM Press. \* Indicates co-first authors, \*\*\* Indicates co-Principal Investigators.

[P.35] Hall, A., Roberts, S., Thebault-Spieker, J., Lin, Y., Sen, S., Hecht, B., and Terveen, L. (2017) “Be Bold” versus “Be Standard”: Structured Data Generation in a Peer Production Community. *Proceedings of the 35th Annual ACM Conference on Human Factors in Computing Systems (CHI 2017)*. New York : ACM Press.

[P.34] Sen, S., Swoap, A., Li, Q., Jackson, B., Boatman, B., Dippenaar, J., Gold, R., Ngo, M., Pujol, S., and Hecht, B. (2017) Cartograph: Unlocking Spatial Visualization Through Semantic Enhancement. *Proceedings of the ACM International Conference on Intelligent User Interfaces. (IUI 2017)*. New York: ACM Press.

[P.33] Lin, A.Y., Yu, B., Hall, A., and Hecht, B. (2017) Problematizing and Addressing the Article-as-Concept Assumption in Wikipedia. *Proceedings of the 20th ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2017)*. New York: ACM Press.

[P.32] Miller, H., Thebault-Spieker, J., Chang, S., Johnson, I., Terveen, L., and Hecht, B. (2016) “Blissfully happy” or “ready to fight”: Varying Interpretations of Emoji. *Proceedings of the International AAAI Conference on Weblogs and Social Media (AAAI ICWSM '16)*. Menlo Park, CA: AAAI Press.

[P.31] Wenig, D., Schöning, J., Steenbergen, A., Hecht, B., and Malaka, R. (2016). ScrollingHome: Bringing Image-based Indoor Navigation to Smartwatches. *Proceedings of the 18th International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI 2016)*. Short paper. New York: ACM Press.

\* Honorable Mention Award (Top 5% of Submissions)

[P.30] Johnson, I., Lin, Y., Li, T., Hall, A., Halfaker, A., Schöning, J., and Hecht, B. (2016) Not at Home on the Range: Peer Production and the Urban/Rural Divide. *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2016)*. New York: ACM Press.

[P.29] Johnson, I., Sengupta, S., Schöning, J., and Hecht, B. (2016) The Geography and Importance of Localness in Geotagged Social Media. *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2016)*. New York: ACM Press.

[P.28] Soll, M., Naumann, P., Schöning, J., Samsonov, P., and Hecht, B. (2016). Helping Computers Understand Geographically-Bound Activity Restrictions. *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2016)*. Short paper. New York: ACM Press.

[P.27] Sen, S., Johnson, I., Harper, R., Mai, H., Olsen, S., Mathers, B., Vonessen, L., Wright, M., and Hecht, B. (2015) Towards Domain-Specific SR: A Case Study from Geography. *Proceedings of the 24th International Joint Conference on Artificial Intelligence (IJCAI '15)*.

[P.26] Wenig, D., Schöning, J., Hecht, B., and Malaka, R. (2015) StripeMaps: Improving Map-based Pedestrian Navigation for Smart-watches. *Proceedings of the 17th International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI 2015)*. New York: ACM Press.

\* Best Paper Award (Top 1% of submissions)

[P.25] Warncke-Wang, M., Ranjan, V. Terveen, L., and Hecht, B. (2015) Misalignment Between Supply and Demand of Quality Content in Peer Production Communities. *Proceedings of ICWSM 2015*. Menlo Park, CA: AAAI Press.

[P.24] Sen, S., Ford, H., Musicant, D., Graham, M., Keyes, O., and Hecht, B. (2015) Barriers to the Localness of Volunteered Geographic Information. *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2015)*. New York: ACM Press.

\* Honorable Mention (Top 5% of submissions)

[P.23] Samsonov, P., Tang, X., Schöning, J., Kuhn, W., and Hecht, B. (2015) You Can't Smoke Here: Towards Support for Space Usage Rules in Location-aware Technologies. *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2015)*. Short Paper. New York: ACM Press.

[P.22] Sen, S., Lesicko, M., Giesel, M., Gold, R., Hillman, B., Naden, S., Russell, J., Wang, Z., and Hecht, B. (2015) Turkers, Scholars, "Arafat" and "Peace": Cultural Communities and Algorithmic Gold Standards. *Proceedings of the 18th ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2015)*. New York: ACM Press.

\* Best Paper Award (Top 1% of submissions)

[P.21] Thebault-Spieker, J., Terveen, L., and Hecht, B. (2015) Avoiding the South Side and the Suburbs: The Geography of Mobile Crowdsourcing Markets. *Proceedings of the 18th ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2015)*. New York: ACM Press.

- [P.20] Warncke-Wang, M., Ayukaev, V., Hecht, B., and Terveen, L. (2015) The Success and Failure of Quality Improvement Projects in Peer Production Communities. *Proceedings of the 18th ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW 2015)*. New York: ACM Press.
- [P.19] Hecht, B. and Stephens, M. (2014) A Tale of Cities: Urban Biases in Volunteered Geographic Information. *Proceedings of the International AAAI Conference on Weblogs and Social Media (ICWSM 2014)*. Menlo Park, CA: AAAI Press.
- [P.18] Stockx, T., Hecht, B., and Schöning, J. (2014) SubwayPS: Towards Enabling Smartphone Positioning in Underground Public Transportation Systems. *Proceedings of the ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems 2014 (ACM SIGSPATIAL 2014)*. New York: ACM Press.
- [P.17] Sen, S., Li, T., and Hecht, B. (2014). WikiBrain: Democratizing computation on Wikipedia. *Proceedings of the 10th International Symposium on Open Collaboration (OpenSym / WikiSym 2014)*. New York: ACM Press.
- [P.16] Gao, T., Hullman, J., Adar, E., Hecht, B., and Diakopoulos, N. (2014) NewsViews: An Automated Pipeline for Creating Custom Geovisualizations for News. *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2014)*. New York: ACM Press.
- [P.15] Schöning, J., Hecht, B., and Kuhn, W. (2014) Informing Online and Mobile Map Design with the Collective Wisdom of Cartographers. *ACM Conference on Designing Interactive Systems (DIS 2014)*. New York: ACM Press.
- [P.14] Wang, T., Harper, F. M., and Hecht, B. (2014) Designing Better Location Fields in User Profiles. *The International ACM Conference on Supporting Groupwork (GROUP 2014)*. New York: ACM Press.
- [P.13] Oeldorf-Hirsch, A., Hecht, B., Morris, M., Teevan, J., and Gergle, D. (2014) To Search or to Ask: The Routing of Information Needs Between Traditional Search Engines and Social Networks. *Proceedings of the ACM Conference on Computer Supported Cooperative Work (CSCW 2014)*. New York: ACM Press.
- [P.12] Hecht, B., Carton, S., Quaderi, M., Schöning, J., Raubal, M., Gergle, D., and Downey, D. (2012) Explanatory Semantic Relatedness and Explicit Spatialization for Exploratory Search. *Proceedings of ACM SIGIR 2012*. New York: ACM Press.
- [P.11] Bao, P., Hecht, B., Carton, S., Quaderi, M., Horn, M. and Gergle, D. (2012). Omnipedia: Bridging the Wikipedia Language Gap. *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2012)*. New York: ACM Press.

[P.10] Hecht, B., Teevan, J., Morris, M., Liebling, D. (2012) Search-Buddies: Bringing Search Engines into the Conversation. *Proceedings of the International AAAI Conference on Weblogs and Social Media (ICWSM 2012)*. Selected for oral presentation. Menlo Park, CA: AAAI Press.

[P.9] Hecht, B., Hong, L., Suh, B. and Chi, E.H. (2011). Tweets from Justin Bieber's Heart: The Dynamics of the "Location" Field in User Profiles. *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2011)*, pp. 237-246. New York: ACM Press.

[P.8] Böhmer, M., Hecht, B., Schöning, J., Krüger, A. and Bauer, G. (2011). Falling Asleep with Angry Birds, Facebook and Kindle – A Large Scale Study on Mobile Application Usage. *Proceedings of the ACM Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI 2011)*, pp. 47-56. New York: ACM Press.

[P.7] Hecht, B. and Gergle, D. (2010). The Tower of Babel Meets Web 2.0: User-Generated Content and Its Applications in a Multilingual Context. *Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI 2010)*, pp. 291–300. New York: ACM Press.

\* Best Paper Award (Top 1% of Submissions)

[P.6] Hecht, B. and Gergle, D. (2010). On The "Localness" of User-Generated Content. *Proceedings of the ACM Conference on Computer Supported Cooperative Work (CSCW 2010)*, pp. 229-232 (short paper). New York: ACM Press.

[P.5] Hecht, B. and Moxley, E. (2009). Terabytes of Tobler: Evaluating the First Law of Geography in a Massive, Domain-Neutral Representation of World Knowledge. *Proceedings of the International Conference on Spatial Information Theory (COSIT 2009)*, pp. 88-105. Berlin: Springer-Verlag.

\* Best Presentation Award (given to 2 out of 30 accepted papers)

[P.4] Hecht, B. and Gergle, D. (2009). Measuring Self-Focus Bias in Community-Maintained Knowledge Repositories. *Proceedings of the International Conference on Communities and Technologies (C&T 2009)*, pp. 11-19. New York: ACM Press.

[P.3] Schöning, J., Hecht, B., Raubal, M., Krüger, A., Marsh, M. and Rohs, M. (2008). Improving Interaction with Virtual Globes through Spatial Thinking: Helping Users Ask "Why?" *Proceedings of the International Conference on Intelligent User Interfaces (IUI 2008)*, pp. 129-138. New York: ACM Press.

[P.2] Hecht, B. and Raubal, M. (2008). GeoSR: Geographically explore semantic relations in world knowledge. *AGILE International Conference on Geographic Information Science (AGILE 2008)*, pp. 95-114. Berlin: Springer-Verlag.

SIGs and Workshops  
Organized

[P.1] Hecht, B., Starosielski, N. and Dara-Abrams, D. (2007). Generating Educational Tourism Narratives from Wikipedia. *Proceedings of the Association for the Advancement of Artificial Intelligence Fall Symposium on Intelligent Narrative Technologies*, pp. 37-44. Menlo Park, CA: AAAI Press.

[WKSHP.3] Hecht, B., Schöning, J., Haklay, M., Capra, L., Mashhadi, A.J., Terveen, L., and Kwan, M. 2013 Workshop on Geographic Human-Computer Interaction (GeoHCI 2013). *Extended Abstracts of the ACM Conference on Human Factors in Computing Systems (CHI EA 2013)*.

[WKSHP.2] Ackerman, M., Adamic, L., Ellison, N., Gergle, D., Hecht, B., Lampe, C., Morris, M.R., Teevan, J. 2013 Workshop on Social Media Question Asking. *Extended Abstracts of the ACM Conference on Computer Supported Cooperative Work (CSCW EA 2013)*.

[WKSHP.1] Schöning, J., Hecht, B., Krüger, A., Raubal, M., Rohs, M. Trends in Pervasive and Ubiquitous Geotechnology and Geoinformation (TIPUGG 2008). *Proceedings of the International Conference on Geographic Information Science (GIScience 2008)*.

[SIG.1] Hecht, B., Schöning, J., Erickson, T. and Priedhorsky, R. (2011). Geographic human-computer interaction. *Extended Abstracts of the ACM Conference on Human Factors in Computing Systems (CHI EA 2011)*, pp. 447–450. New York: ACM Press.

Posters and Extended  
Abstracts

[c.7] Hecht, B. and Terveen, L. The Role of Human Geography in Collective Intelligence. *Collective Intelligence 2017 (CI '17)*. New York City, New York, USA.

[c.6] Li, T. Sen, S., and Hecht, B. (2014) Leveraging Advances in Natural Language Processing to Better Understand Tobler's First Law of Geography. *Extended Proceedings of the ACM SIGSPATIAL International Conference on Advances in Geographic Information Systems 2014 (ACM SIGSPATIAL 2014)*. New York: ACM Press.

[c.5] Samsonov, P., Schöning, J., and Hecht, B. A User Interface for Encoding Space Usage Rules Expressed in Natural Language. *Extended Abstracts of the ACM Conference on Human Factors in Computing Systems (CHI EA 2015)*. New York: ACM Press.

[c.4] Hecht, B. and Schöning, J. (2008). Mapping the Zeitgeist. *Extended Abstracts of the International Conference on Geographic Information Science (GIScience 2008)*. Berlin: Springer-Verlag.

\* Best Extended Abstract Award.

[c.3] Schöning, J., Hecht, B. and Starosielski, N. (2008). Evaluating automatically generated location-based stories for tourists. *Extended Abstracts of the ACM Conference on Human Factors in Computing Systems (CHI EA 2008)*, pp. 2937–2942. New York: ACM Press.

- [c.2] Schöning, J., Hecht, B., Rohs, M. and Starosielski, N. (2007). WikEar - Automatically Generated Location-Based Audio Stories Between Public City Map. *Extended Abstracts of the International Conference on Ubiquitous Computing (UbiComp EA '07)*. New York: ACM Press.
- [c.1] Rohs, M., Schöning, J., Krüger, A. and Hecht, B. (2007). Towards real-time markerless tracking of magic lenses on paper maps. *Adjunct Proceedings of the Conference on Pervasive Computing, Late Breaking Results (Pervasive LBR 2007)*, pp. 69-72. Berlin: Springer-Verlag.
- Workshop Papers
- [W.5] Johnson, I. and Hecht, B. Inferred Profiles: Examining How People Understand and Control What Algorithms Infer about Them. *In Whose Best Interest? Exploring the Real, Potential, and Imagined Ethical Concerns in Privacy-Focused Agenda (A CSCW 2017 Workshop)*.
- [W.4] Johnson, I. and Hecht, B. Structural Causes of Bias in Crowd-derived Geographic Information: Towards a Holistic Understanding. (2016). *Association for the Advancement of Artificial Intelligence (AAAI) 2016 Spring Symposium on Social Media and Other Human-Generated Content*. Palo Alto, CA.
- [W.3] Thebault-Spieker, J., Hecht, B., Terveen, L. Crowdsourcing Space Usage Rules. *Information Technology and City Life Workshop* in conjunction with *CSCW 2015*.
- [W.2] Samsonov, P., Hecht, B., and Schöning, J. From Automatic Sign Detection To Space Usage Rules Mining For Autonomous Driving. *Experiencing Autonomous Vehicles: Crossing the Boundaries between a Drive and a Ride (CHI 2015 Workshop)*.
- [W.1] Hecht, B., Rohs, M., Schöning, J. and Krüger, A. (2007). WikEye: Using Magic Lenses to Explore Georeferenced Wikipedia Content. *Proceedings of the Third International Workshop on Pervasive Mobile Interaction Devices (PERMID 2007)* in conjunction with *Pervasive 2007*.
- Book Chapters
- [BC.2] Hecht, B. and Gergle, D. (2015). How we learned to stop worrying (or worry less) and love the diverse challenges of our fast-moving, geographically-flavored interdisciplinary research area. *Digital Research Confidential: The Secrets of Studying Behavior Online*. E. Hargittai and C. Sandvig, eds. Cambridge, MA: MIT Press.
- [BC.1] Hecht, B. and Gergle, D. (2011). A Beginner's Guide to Geographic Virtual Communities Research. *Handbook of Research on Methods and Techniques for Studying Virtual Communities: Paradigms and Phenomena*. pp. 333-347. IGI Global.
- Refereed Doctoral Consortia
- [DC.1] Hecht, B. (2011). Culturally- and geographically-aware social computing systems. *National Science Foundation Socio-Computational Systems Doctoral Consortium*. Minneapolis, MN.



## Other Publications

[O.5] Hecht, B. (2012). Map of the Iron Range. "Home on the Range". *American Snowmobiler Magazine*, 27(3), December 2012.

[O.4] Hecht, B. (2010). Position Statement on Spatio-Temporal Constraints on Social Networks. *NSF and Army Research Office Specialist Meeting on Spatio-Temporal Constraints on Social Networks*. Santa Barbara, CA.

[O.3] Hecht, B. (2010). Data Indexing. *Encyclopedia of Geography*. SAGE Publications.

[O.2] Hecht, B. (2007). Wikipedia Volunteered Geographic Information. *NSF and Army Research Office Specialist Meeting on Volunteered Geographic Information*. Santa Barbara, CA.

[O.1] Hecht, B. (2007). Popularity of Christian Contemporary Music in the United States. *Understanding Place: GIS and Mapping Across the Curriculum*. D.S. Sinton and J.J. Lund, eds. pp. 264-265. Redlands, CA: ESRI Press.

## Grants, Awards, and Recognitions

### Grants

#### **National Science Foundation CAREER (Award #1707296)**

Title: "Understanding and Addressing Geographic Inequalities in Location-Aware Technologies"

Role: PI

Amount: \$458,079

Period: 2016-2021

#### **National Science Foundation III Small (Award #1707319)**

Title: "Human-Centered Semantic Relatedness"

Role: PI (collaborative proposal with Shilad Sen at Macalester College)

Amount: \$248,277

Period: 2015-2018

#### **Microsoft FUSE Research Award**

Title: "The Socioeconomic Geography of the Peer Economy: Understanding Challenges, Leveraging Opportunities"

Role: PI (collaborative proposal with Loren Terveen)

Amount: \$25,000

Received: 2015

#### **Wikimedia Foundation Engagement Grant**

Title: "WikiBrainTools"

Role: Co-PI (w/ Shilad Sen)

Amount: \$29,500

Period: 2015

**Amazon Web Services in Education Research Grant**

Title: “Scaling Atlasify From Research Prototype to a System that is Accessible Around the World”

Role: PI

Amount: \$9,180

Received: 2015

**Amazon Web Services in Education Grant**

Title: “Supporting CSci 5117 – Developing the Interactive Web”

Role: PI

Amount: \$5,000

Received: 2015

**Microsoft Azure Educator Award**

Title: “Supporting CSci 5117 – Developing the Interactive Web”

Role: PI

Amount: \$27,000

Period: 2015-2016

**Social Media and Business Analytics Collaborative Micro-Grant**

Title: “Scaling and deploying Omnipedia, a multilingual Wikipedia (and social media) browsing engine”

Role: PI

Amount: \$5,000

Period: 2015-2016

**National Science Foundation III Small (Award #1421655 / 1702440)**

Title: “Automatically Generating Contextually-Relevant Visualizations”

Role: PI (collaborative proposal with Eytan Adar at Univ. Michigan)

Amount: \$120,832

Period: 2014-2017

**National Science Foundation II-NEW (Award #1512877)**

Title: “Research Infrastructure for Big Spatial and Temporal Data”

Role: Co-PI (w/ Mohamed Mokbel, Ravi Janardan, Shashi Shekhar)

Amount: \$391,512

Period: 2015-2017

**Google Geo Education Award**

Title: “A Massive Open Online Course on Spatial Computing: Democratizing Spatial Computing While Doing on Research on How to Teach Geospatial Subjects”

Role: PI

Amount: \$20,000

**3M Non-Tenured Faculty Award**

Title: “Exploratory Search Technologies: Moving Beyond Simple Requests for Information”.

Role: Awardee

Amount: \$45,000

Period: 2013-2016

**Yahoo! ACE (Academic Career Enhancement) Award**

Given to “five top young professors at leading research universities around the world who are competitively selected among many promising first- and second-year faculty members”.

Role: Awardee

Amount: \$10,000

**Google Faculty Research Award**

*Title:* We have been mapping the world for over 8,000 years. Why do we keep doing so many things wrong in mobile map applications, again and again?

Role: Co-PI (w/ Johannes Schöning and Werner Kuhn)

Amount: \$75,000

Period: 2013-2014

**National Science Foundation Graduate Research Fellowship.** 2010 - 2013. Full funding for 3 years.

**Association of American Geographers (AAG) Student Travel Grant.**

AAG International Geographic Information Fund (IGIF). \$750. 2007.

**Jack Dangermond Travel Fellowship.** UCSB Department of Geography and ESRI. \$2,000. 2006.

**AGILE Student Grant Programme.** Travel grant to go to AGILE 2008 conference in Girona, Spain. Funded by ESRI. \$1,000. 2008.

**Keck/Bigelow Student/Faculty Summer Research Collaboration Grant.** Macalester College. \$5,410. 2004.

Major Awards and  
Recognitions

**ACM Future of Computing Academy (ACM FCA) Inductee.** I am one of 46 young computing researchers and practitioners in the inaugural class of the ACM Future of Computing Academy (<https://www.acm.org/fca>). We are tasked with becoming “the voice of the future of the computing field at large and of ACM specifically.”

**AAAI ICWSM 2017 Best Paper Candidate.** “The Substantial Interdependence of Wikipedia and Google – A Case Study on the Relationship Between Peer Production Communities and Intelligent Technologies” was nominated for a Best Paper at the 2017 AAAI International Conference on Web and Social Media (ICWSM), which indicates the top 4 of 357 submissions (top ~1%).

**ACM MobileHCI 2016 Honorable Mention.** *ScrollingHome: Bringing Image-based Indoor Navigation to Smartwatches* was awarded a Honorable Mention at ACM MobileHCI 2016, which designates the top 5% of papers.

**ACM MobileHCI 2015 Best Paper Award.** *StripeMaps: Improving Map-based Pedestrian Navigation for Smartwatches* was awarded a Best Paper Award at ACM MobileHCI 2015, which designates the top 1% of papers.

**ACM CHI 2015 Honorable Mention.** *Barriers to the Localness of Volunteered Geographic Information* was given an Honorable Mention at ACM CHI 2015, which designates the top 5% of papers.

**ACM CSCW 2015 Best Paper Award.** *Turkers, Scholars, "Arafat" and "Peace": Cultural Communities and Algorithmic Gold Standards* was awarded a Best Paper Award at CSCW 2015, which designates the top 1% of papers.

**GeoForAll Global Educator of the Year Award 2015 (Nominee).** Open Source Geospatial Foundation (Foundation that operates projects including PostGIS, QGIS, GeoServer, GeoTools and OpenLayers). For “excellent contributions to Open Education principles in the Geo domain” with respect to our Spatial Computing MOOC.

**Best Dissertation Award.** Northwestern University Department of Electrical Engineering and Computer Science. 2013.

**ACM CHI 2010 Best Paper Award.** *Tower of Babel Meets Web 2.0* (Hecht and Gergle 2010) was awarded “Best of CHI 2010”, which designates the top 1% of papers.

**COSIT 2009 Best Presentation Award.** COSIT 2009 conference attendees selected *Terabytes of Tobler* (Hecht and Moxley 2009) as the best talk at the conference.

**GIScience 2008 Best Extended Abstract Award.** Conference attendees selected *Mapping the Zeitgeist* (Hecht and Schöning 2008) as the best extended abstract at the conference.

**2007 AAG International Geographic Information Fund Outstanding Student Paper Award.** *Generating Educational Tourism Narratives from Wikipedia* (Hecht, Starosielski, and Dara-Abrams 2007) was given award for “outstanding student paper in any area of spatial analysis or geographic information science or systems.” The Association for American Geographers (AAG) is the world’s leading geography organization.

**2005 Robert R. Churchill Memorial Prize for Student Scholarship in GIS.** Given nationally to one geography student at a liberal arts institution by the National Institute for Technology and Liberal Education.

**National Council for Geographic Education Outstanding Senior.** Macalester College. 2005.

**Minnesota GIS/LIS Consortium Scholarship Award.** MN GIS/LIS Consortium. 2004.

Fellowships

**National Science Foundation Graduate Research Fellowship.** 2010 - 2013. Full funding for 3 years.

**Royal E. Cabell Endowed University Fellowship.** Northwestern University. 2008 - 2009. Full funding for one year. "Available on a competitive basis to the most outstanding students".

**NSF Integrative Graduate Education and Research Traineeship (IGERT).** University of California, Santa Barbara. Full funding for two years. 2005 - 2007.

**UC Santa Barbara Regents Fellowship.** Two years of full funding to be used from 2005 to 2010 (one year used).

**Invited Presentations**

Keynotes

**ER&L 2014:** 9th Annual Electronic Resources and Libraries Conference. Austin, TX. March 2014.

**GIO 2014:** Workshop on Geographic Information Observatories 2014 (co-located with GIScience 2014).

**WikiSym 2012:** 8th International Symposium on Wikis and Open Collaboration. Linz, Austria. August 2012.

Invited Talks

**Pre-Ceremony Erasmus Prize Lecture.** The Dutch Royal family invited me to give a talk preceding the 2015 Erasmus Prize ceremony, which awarded that year's prize to Wikipedia. The Erasmus Prijs is the Dutch version of the Nobel Prize. November 2015.

**KAIST Post-CHI 2015 Workshop.** April 2015

**Wiki-ICWSM 2015.** Wikipedia, a Social Pedia: Research Challenges and Opportunities Workshop (co-located with ICWSM).

**University of Minnesota Institute on the Environment (IonE) "Frontiers in the Environment: Big Questions" Series.** April 2015.

**Carlson School of Management.** Minneapolis, MN. February 2015.

**Facebook Headquarters.** Menlo Park, CA. January 2015.

**3M Headquarters.** St. Paul, MN. October 2014.

**Social Media and Business Analytics Collaborative Fall Kickoff Event.** Minneapolis, MN. October 2014.

**2014 International Conference on Collaboration Technologies and Systems (CTS 2014).** Minneapolis, MN. May 2014.

**Macalester College MSCS Seminar.** St. Paul, MN. November 2013.

**Microsoft Research.** Redmond, WA. October 2013.

**Universität Münster Institute for Geographic Information.** Münster, Germany. July 2013.

**Hasselt University Expertise Center for Digital Media.** Hasselt, Belgium. July 2013.

**AAG '13:** Annual Meeting of the Association of American Geographers. Invited panelist at the session “Critical Interventions into Gender & the Geoweb”. Los Angeles, CA. April 2013.

**AAG' 12:** Annual Meeting of the Association of American Geographers. Riegelsberger, J., Hecht, B., Simpson, M., Lee, M. “The Extinction of Cartography? Citizen cartographers: Tools, Challenges, Opportunities”. New York, NY. April 2012.

**Media, Technology, and Society Symposium.** Northwestern University. March 2012.

**NACIS '11:** 2011 Conference of the North American Cartography and Information Society. Hecht, B., Hofmann, P., Lee, M., Simpson, M. The Extinction of Cartography? Mapping for Today's Audience.

**German Research Center for Artificial Intelligence (DFKI).** Saarbrücken, Germany. October 2010.

**Screening Media '07:** 2007 Southern California Media Studies Conference. Starosielski, N. and Hecht, B. Minotour: Narrative Theory for Wikipedia. Los Angeles, CA. 2007.

**AAG '07 Spatial Technology Gallery:** Annual Meeting of the Association of American Geographers. Schöning, J., Hecht, B. Tracking of Magic Lenses on Paper Maps.

**Private College Scholars at the Capitol.** Hecht, B., Smith, L. Mapalester: A Free, Easy to Use and Powerful GIS. St. Paul, MN. 2005.

**Teaching with GIS in the Liberal Arts.** The Geography of Christian Contemporary Music. Colorado Springs, CO. 2004.

## **Intellectual Property**

### Patent Applications

**Designing Automated Agents As Friends in a Social Network Service.** Meredith J. Morris, Jaime Teevan, Brent Hecht, and Daniel J. Liebling. United States Patent Application 20110252108. Submitted July 17, 2011.

## Research Internships and Scholarly Visits

- Research Internships      **Microsoft Research (Redmond)**. Fall 2010. Advisors: Merrie Morris and Jaime Teevan. Groups: Adaptive Systems and Interaction (ASI) and Context, Learning, and User Experience for Search (CLUES)
- Palo Alto Research Center (PARC)**. Summer 2010. Advisors: Ed Chi and Lichan Hong. Group: Augmented Social Cognition.
- Scholarly Visits            **Institute for Geoinformatics, Münster, Germany** (Scholarly Visit). 2006-2007. Advisor: Antonio Krüger.

## Students Advised

- Doctoral Advisees        Isaac Johnson  
                                 Allen (Yilun) Lin  
                                 Jacob Thebault-Spieker (with Loren Terveen)  
                                 Hannah Miller (with Loren Terveen)  
                                 Morten Warncke-Wang (with Loren Terveen) (Defended December 2016, now at the Wikimedia Foundation)
- Dissertation Committees    Mikhail Masli (Defended August 2013, now at IBM)  
                                 S. Andrew Sheppard  
                                 Fernando Torre  
                                 Chandra Sekhar Bhagavatula
- Undergraduate Advisees    Toby Li (now a Ph.D. student at Carnegie Mellon)  
                                 Josh Ford (now at Apple, Inc.)  
                                 Harmanpreet Kaur (now a Ph.D. student at the University of Michigan)
- Master's Advisees        Ting-Yu Wang
- Master's Committees       Daniel Taylor (ECE; Defended December 2014, now at 3M)  
                                 Yanjie Liu (Defended December 2013)

## Teaching Experience

- MOOCs Taught            *User Interface Design (Specialization)*. Five four-week Coursera courses with a Capstone. Co-taught w/ Joe Konstan, Lana Yarosh, Loren Terveen, and Haiyi Zhu.
- From GPS and Google Maps to Spatial Computing*. Coursera. Co-taught w/ Shashi Shekhar
- Courses Taught            CSCI 5115: *User Interface Design, Implementation, and Evaluation*. University of Minnesota. Spring 2016.
- CSCI 1933. *Introduction to Algorithms and Data Structures*. University of Minnesota. Fall 2015.
- CSCI 5117. *Developing the Interactive Web*. University of Minnesota. Spring 2015.

CSCI 5715. *From GPS and Google Maps to Spatial Computing*. University of Minnesota. Fall 2014. (Co-taught w/ Shashi Shekhar)

CSCI 5980. *Location-aware Technologies: Theory and Practice*. University of Minnesota. Spring 2014.

ERTH 142 / GEOG 105. *Regional Geography of the United States and Canada*. Santa Barbara City College. Spring 2008.

ERTH 171-2 / GEOG 171-2. *GIS and Maps*. Santa Barbara City College. Spring 2008.

*Introduction to GIS and GPS*. FIREWISE Minnesota. June 2005.

#### Teaching Assistantships

COMMST 351. *Technology and Human Interaction*. Northwestern University. Spring Quarter 2012.

EECS 330. *Human-computer Interaction*. Northwestern University. Winter Quarter 2012.

GEOG 115B. *Intermediate Remote Sensing*. UC Santa Barbara. Winter 2008.

GEOG 176A. *Introduction to Geographic Information Systems*. UC Santa Barbara. Fall 2007.

GEOG 210C. *Geostatistics (Graduate Level)*. UC Santa Barbara. Spring 2007.

GEOG 5. *Introduction to Human Geography*. UC Santa Barbara. Spring 2006.

GEOG 378. *Discipline and Methods of Geography*. Macalester College. Spring 2005.

GEOG 242. *Regional Geography of the United States and Canada*. Macalester College. Fall 2003, Spring 2004, Fall 2004.

GEOG 365. *Advanced GIS*. Spring 2004, Fall 2004, Spring 2005.

GEOG 225. *Introduction to GIS*. Fall 2003, Spring 2003, Fall 2004.

#### Other Teaching Positions

*UCSB Research Mentorship Program*. Mentored a high-achieving high school student while he assisted the Minotour project and learned research skills. Summer 2007.

### Professional Service

#### Organizing Committees

**ICWSM Organizing Committee – Sponsorship Chair.** In charge of corporate and national funding agency sponsorships for the *International Conference on Web and Social Media*.



**CHI 2017 Senior Program Committee.** “Interaction Beyond the Individual” Sub-Committee Co-Chair. *2017 ACM CHI Conference on Human Factors in Computing Systems*. Denver, CO.

**WikiSym + OpenSym 2014 (Technical Program Co-Chair).** *The 2014 International Symposium on Open Collaboration*. Berlin, Germany.

**IUI 2015 (Student Consortium Co-chair).** 2015 International Conference on Intelligent User Interfaces. Atlanta, GA.

**HCOMP 2015 Student Consortium Chair.** Third AAAI Conference on Human Computation and Crowdsourcing. San Diego, CA.

**GeoHCI 2013 (Chair).** *2013 Workshop on Geographic Human-Computer Interaction*. In conjunction with CHI 2013. Paris, France.

**MobileHCI 2012 (Student Volunteer Co-chair).** *14th International Conference on Human-Computer Interaction with Mobile Devices and Services*. San Francisco, CA.

**TIPUGG 2008 (Co-Chair).** *First International Workshop on Trends in Pervasive and Ubiquitous Geotechnology and Geoinformation*. In conjunction with GIScience 2008. Park City, Utah.

Conference Program  
Committees

**CHI 2017 Senior Program Committee.** Denver, CO.

**ACM CHIIR 2017 Program Committee.**

**WWW 2017 Program Committee.**

**CSCW 2017 Program Committee (Systems).** Portland, OR.

**ICWSM 2016 Senior Program Committee.** Cologne, Germany.

**ACM CHIIR 2016 Program Committee.**

**CSCW 2016 Program Committee.** Copenhagen, Denmark.

**CHI 2016 Program Committee.** San Francisco, CA.

**CHI 2015 Program Committee.** Seoul, Korea.

**ICWSM 2015 Program Committee.** London, UK.

**ICWSM 2014 Program Committee.** Ann Arbor, MI.

**ICWSM 2013 Program Committee.** Boston, MA.

**WikiSym 2013 + OpenSym 2013.** Hong Kong, China.

Workshop Program  
Committees

**GIR 2014.** *8th ACM SIGSPATIAL Workshop on Geographic Information Retrieval.* In conjunction with ACM SIGSPATIAL 2014. Orlando, FL.

**MapInteract 2014.** *2nd ACM SIGSPATIAL Workshop on Map Interaction.* In conjunction with ACM SIGSPATIAL 2014. Dallas, TX.

**GIO 2014.** *2014 Workshop on Geographic Information Observatories.* In conjunction with GIScience 2014. Vienna, Austria.

**GIR 2013.** *7th ACM SIGSPATIAL Workshop on Geographic Information Retrieval.* In conjunction with ACM SIGSPATIAL 2013. Orlando, FL.

**MapInteract 2013.** *1st ACM SIGSPATIAL Workshop on Map Interaction.* In conjunction with ACM SIGSPATIAL 2013. Orlando, FL.

**EuroHCIR 2013.** *The 3rd European Workshop on Human-Computer Interaction and Information Retrieval.* In conjunction with SIGIR 2013. Dublin, Ireland.

**LocWeb 2010.** *Third International Workshop on Location and the Web.* In conjunction with Internet of Things (IoT) 2010. Tokyo, Japan.

**LocWeb 2008.** *First International Workshop on Location and the Web.* In conjunction with the 17th International World Wide Web Conference (WWW 2008). Beijing, China.

Doctoral Consortia

**ACM SIGSPATIAL Ph.D. Symposium 2014 Program Committee Member.** Dallas, TX.

**WikSym 2012 Doctoral Consortium Mentor.** Linz, Austria.

Reviewing

**Proposals:** National Science Foundation, National Research Foundation of Korea, Israeli Science Foundation, Estonian Research Council

**Conference Proceedings:** ACM CHI, ACM CSCW, WWW, ACM IUI, GeoSpatial Semantics, INTERACT, ICIC, ACM MobileHCI, ACM UbiComp, AAI ICWSM, EuroHCIR, ACM UIST, OpenSym / Wiki-Sym, and others.

**Journals:** ACM Transactions on Computer-Human Interaction; Geoinformatica; The Professional Geographer; Journal of Web Semantics; Journal of Communication; American Behavioral Scientist; ACM/IEEE Transactions on Networking; Information, Communication and Society, Computer Supported Cooperative Work (CSCW), Information Systems Research, ACM Transactions on Spatial Algorithms and Systems, and others.

**Book Chapters:** Scientific Studies of Virtual Communities: A Handbook of Research on Methods and Techniques for Studying Virtual Communities: Paradigms and Phenomena (2010)

University Service

**Admissions Committee.** University of Minnesota, Department of Computer Science and Engineering. 2014-2015.

**Faculty Search Committee.** University of Minnesota, Department of Computer Science and Engineering. 2014-2015.

**International Student Institute.** Northwestern University (2009). Assisted new international graduate students in their acclimation to academia in the U.S. (and life in the U.S. in general). Northwestern University. 2009.

**Laboratory Instructor Candidate Search Committee.** Macalester College (2005). Chosen by department chair to serve on committee to select first GIS lab instructor. Met with candidates to evaluate their qualifications and abilities.

**Faculty Search Committee.** Macalester College (2004-2005). Elected by geography students to serve on the Geography Department search committee to select a candidate for a new GIS tenure-track position.

## Selected Media Coverage

Emoji in Communication Project

**The Washington Post, Science Friday, Marketplace Tech, NPR, New York Magazine, El País (Spanish), Le Monde (French), Die Zeit (German), Jetzt (German), Der Standard (Austrian), Kottke.org, Die Welt (German) ABC News, Time Magazine, Buzzfeed, The Verge, Gizmodo, The Daily Dot, Boing Boing, LifeHacker, The Star Tribune, The Pioneer Press.**

Coverage of our ICWSM 2016 paper was featured in these publications and others.

Knowledge Diversity in User-Generated Content Project

**Ö1 Matrix Digital.Leben , ACM TechNews, Library Journal, New Scientist, The Atlantic, Бесең.Ru (Russian), RU en Español (Spanish), Nyelv és Tudomány (Hungarian), 21.století (Czech) [among others]**

Coverage of our CHI 2010 and/or CHI 2012 papers was featured in these publications and others.

User Behavior and the Location Field Project

**Wall Street Journal, New York Times, ReadWriteWeb, AllThingsD, Seattle Post-Intelligencer [among others]**

Coverage of our CHI 2011 paper was featured in these publications and others.

SubwayPS Project

**Metro (Belgium), datanews.be, Le Vif, ZDNet [among others].**

Coverage of our ACM SIGSPATIAL 2014 paper was featured in these publications and others.

Atlasify Project                      **ACM Tech News, Wired, Gazeta.pl, Tendencias 21, Chicago Inno, Northwestern University McCormick Magazine [among others]**  
Coverage of our SIGIR 2012 paper and subsequent public launch of the Atlasify system was featured in these publications and others.

Multitouch Technologies for Spatial Thinking Project      **Il Sole 24 Ore**  
Chittaro, L. Mixare “Wikipedia e Google Earth con interfaccia stile iPhone” *Il Sole 24 Ore*, Confidustria, Milan, 2008. Coverage of our IUI 2008 paper was featured in a large Italian national daily newspaper.

WikEye Project                      **ARD TV**  
CeBit New Technology Coverage. ARD TV. 2008. Coverage of our WikEye project was featured on the German equivalent of "The Today Show".

Miscellaneous                      **Library Journal, Wall Street Journal, American Snowmobiler Magazine, The Atlantic, and others.** I have been interviewed and/or featured in these and other publications.

## Professional Affiliations

Computer Science                      **Association for the Advancement of Artificial Intelligence (AAAI)**  
*Sept. 2007 - present*

**Upsilon Pi Epsilon (Computer Science Honors Society)**  
*Inducted Mar. 2004*

**Association for Computing Machinery (ACM)**  
*Sept. 2008 - present*

Geography                              **Association of American Geographers (AAG)**  
*Mar. 2004 - present*

## Language Skills

English (native)  
Spanish (proficient)  
German (limited)