

BRENT HECHT

Curriculum Vitae

CollabLab
Frances Searle Bldg. #2-432
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Education

Northwestern University
Evanston, IL
2008 - Present

Ph.D. Candidate, Computer Science (Ph.D. expected 2012)

- *Advisor:* Dr. Darren Gergle
- *Thesis:* Mining and Applications of Diverse Perspectives in User-Generated Content

University of California,
Santa Barbara
Santa Barbara, CA
2005 - 2007

Master of Arts, Geography

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

Macalester College
St. Paul, MN
2002 - 2005

Bachelor of Arts (Honors), Computer Science; Bachelor of Arts (Honors), Geography

- *Advisor:* Dr. Laura Smith
- *Thesis:* Mapalester: A Free, Easy to Use and Powerful Geographic Information System.
- Graduated Magna Cum Laude.

Research Interests

Human-Computer Interaction (HCI)
“Big Data” Approaches to User-Generated Content (UGC)
Geographic Human-Computer Interaction (GeoHCI)
Artificial Intelligence (AI) and Natural Language Processing (NLP)
GIScience and Geography

Publications

Refereed Papers in
Archival Conference
Proceedings

[C.10] 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.

* **Nominated for Best Paper Award.**

[C.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.

[C.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.

[C.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.**

[C.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.

[C.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**

[C.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.

[C.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.

[C.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.

[C.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.

- SIGs and Workshops Organized
- [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.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.1] **Hecht, B.**, Rohs, M., Schöning, J. and Krüger, A. (2007). Wik-Eye: 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. (2012). 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. Haggittai 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.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.

Major Papers Under Review

[UR.1] **Hecht, B.**, Quaderi, M., Carton, S., Schöning, J., Raubal, M., Gergle, D. and Downey, D. (Under Review). Using Explanatory Semantic Relatedness Measures and Explicit Spatialization to “Atlasify” Exploratory Search. *International Conference on World Wide Web (WWW 2012)*. IN REVIEW.

Grants and Awards

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).

Major Awards

ACM CHI 2012 Nomination for Best Paper Award. *Omnipedia: Bridging the Wikipedia Language Gap* (Bao, Hecht, Carton, Quaderi, Horn, Gergle) was recently nominated for “Best of CHI 2012”. Award decisions will be made at a later date.

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

2007 AAG International Geography 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. Church 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.

Grants

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.

Selected Invited Presentations

Riegelsberger, J., **Hecht, B.**, Simpson, M., Lee, M. (2012). The Extinction of Cartography? Citizen cartographers: Tools, Challenges, Opportunities. *AAG '12: Annual Meeting of the Association of American Geographers*.

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

Hecht, B. (2010). User-Generated Content and Its Applications In Cultural and Geographic Human-Computer Interaction. *German Research Center for Artificial Intelligence (DFKI)*.

Starosielski, N. and **Hecht, B.** (2007). Minotour: Narrative Theory for Wikipedia, *Screening Media: 2007 Southern California Media Studies Conference*.

Schöning, J., **Hecht, B.** (2007). Tracking of Magic Lenses on Paper Maps, *Spatial Technology Gallery, Annual Meeting of the Association of American Geographers*

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

Hecht, B. The Geography of Christian Contemporary Music (2004). *Teaching with GIS in the Liberal Arts*.

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.

Teaching Experience

Santa Barbara City College

Instructor of Record (Adjunct). *Introduction to GIS*. Spring Semester 2008.

Instructor of Record (Adjunct). *Regional Geography of North America*. Spring Semester 2008.

University of California,
Santa Barbara

Teaching Assistant. GEOG 115B: *Intermediate Remote Sensing*. Winter 2008.

Teaching Assistant. GEOG 176A: *Introduction to Geographic Information Systems*. Fall 2007.

Lab Author. Designed two labs for GEOG 176A course. Fall 2007.

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

Teaching Assistant. GEOG 210C: *Geostatistics (Graduate Level)*. Spring 2007.

Teaching Assistant. GEOG 5: *Introduction to Human Geography*. Spring 2006.

Guest Lecturer. “The Geography of Christian Rock”. GEOG 5: *Introduction to Human Geography*. Fall 2005.

FIREWISE (St. Paul, MN)

Instructor. “Introduction to GIS and GPS”. June 2005.

Macalester College

Guest Lecturer. “The Geography of Christian Rock”. Undergraduate-level GEOG 111: *Human Geography of Global Issues*. Spring 2005.

Teaching Assistant. GEOG 378: *Discipline and Methods of Geography*. Spring 2005.

Teaching Assistant. GEOG 242: *Regional Geography of the United States and Canada*. Fall 2003 - Fall 2004.

Teaching Assistant. GEOG 365: *Advanced GIS*. Spring 2004 - Spring 2005.

Teaching Assistant. GEOG 225: *Introduction to GIS*. Fall 2003 - Fall 2004.

Professional Service

Reviewing

Conference Proceedings: ACM CHI 2010 - 12, ACM CSCW 2011-12, WWW 2012, ACM IUI 2010-11, GeoSpatial Semantics 2009, INTER-ACT 2011, ACM MobileHCI 2011, ACM UbiComp 2011.

Journals: Journal of Web Semantics, Journal of Communication

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

Program Committees

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

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

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

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

Student Volunteering

CSCW 2010. *The 2010 ACM Conference on Computer Supported Cooperative Work.* Savannah, GA.

CHI 2009. *27th ACM Conference on Human Factors in Computing Systems.* Boston, MA, USA.

University Service

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.

Volunteer Teaching Assistant. University of California, Santa Barbara (2006-2007). Took unpaid, “moonlighting” teaching assistant positions to help out an over-extended, under-funded geography department and to improve my teaching skills.

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. Met with candidates to evaluate their qualifications and abilities. Organized student meetings with the candidates and met with students to discuss candidates. Represented student opinion on the committee.

Geography Department Newsletter Founder and Editor. Macalester College (2004-2005). Started the first-ever Macalester Geography Department newsletter. Organized, lead, and trained fellow students to write articles and help with the production of an 8-page average monthly publication.

Selected Media Coverage

- CHI 2011 **New York Times, ReadWriteWeb, AllThingsD, Seattle Post-Intelligencer.** 2011.
Coverage of our CHI 2011 paper was featured in these publications and others.
- IUI 2008 **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.
- PERMID 2007 **ARD TV**
CeBit New Technology Coverage. ARD TV. 2008. Coverage of our WikEye project was featured on the German equivalent of "The Today Show".

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
- IEEE Computing Society**
Sept. 2008 - present
- Geography **Association of American Geographers (AAG)**
Mar. 2004 - present
- North American Cartographic Information Society (NACIS)**
Oct. 2011 - present

Technological Toolbox

- Languages Fluent in Java, C++, C#, C, Objective-C, Python, Visual Basic, MatLab, Scheme, REALbasic, SQL, PHP, Processing
- Platforms and Unique Data-sets iPhone API, Facebook API, Twitter API, ASP, JSP, Windows Azure, Google Web Toolkit (GWT), MySQL, Wikipedia data dumps, Windows Mobile (Native and Managed), Mac OS X, Microsoft .Net, US Census, KML specification, Shapefile specification, GeoTools, Lucene, PostgreSQL, PostGIS

Specialized Applications

Fluent in ArcGIS, Photoshop, InDesign, Acrobat, Quark, ENVI, Imagine, Dreamweaver, WordPress, Drupal, Eclipse, NetBeans, MatLab, JMP

Language Skills

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