

Daniel Ashbrook | CURRICULUM VITAE

dan@danielashbrook.com <http://danielashbrook.com>

Research Interests

My research focuses on building and studying new devices and techniques to improve interactions between humans and their personal mobile devices. The goal of my work is to allow people to be less focused on their technology and more engaged with the world, while still reaping the creativity and productivity benefits of their devices.

Education

- 2010 **Ph.D. Computer Science**
Georgia Institute of Technology, Atlanta, GA
- 2005 **M.S. Computer Science**
Georgia Institute of Technology, Atlanta, GA
- 2001 **B.S. Computer Science**
Georgia Institute of Technology, Atlanta, GA

Employment

- 2014–present **Assistant Professor**
Department of Information Sciences and Technologies
Golisano College of Computing and Information Systems
Rochester Institute of Technology
Rochester, NY
- 2013–2014 **Senior Researcher**
Samsung Research America
UX Innovations Lab; Mobile UX Lab
San Jose, CA
- 2009–2013 **Senior Researcher II, New Mobile Forms and Experiences**
Nokia Research Center; CTO Advanced Engineering
Santa Monica, CA; Sunnyvale, CA
- 2009 **Research Scientist II**
Georgia Tech Research Institute
Atlanta, GA
- 2002–2009 **Graduate Research Assistant**
Georgia Institute of Technology
Atlanta, GA
- 2006–2007 **Expert Patent Consultant**
Devonwood Logistics
Atlanta, GA

- 2004 **Summer Intern**
University for Medical Information Technology (UMIT)
Innsbruck, Tyrol, Austria
- 2003 **Summer Intern**
Advanced Telecommunication Research Institute International (ATR)
Keihanna Science City, Kyoto, Japan
- 2002–2003 **Computer Science Engineer**
Rehabilitation Research & Development Center
Department of Veterans Affairs
Atlanta, GA
- 2002 **Exchange Graduate Research Assistant**
Swiss Federal Institute of Technology (ETHZ)
Zürich, Switzerland
- 2000–2002 **Director of Production, Atlanta**
Charmed Technology, Inc.
Atlanta, GA
- 1999–2001 **Undergraduate Research Assistant**
Georgia Institute of Technology
Atlanta, GA
- 1997–2000 **Co-Op Quality Assurance Engineer**
Xcellenet, Inc.
Atlanta, GA

Research and Creative Scholarship

Thesis

- T1. Title: Enabling Mobile Microinteractions.
Completed: May 2010.
Advisor: Dr. Thad Starner.
University: Georgia Institute of Technology.

Conference Presentations (h-index: 12; i-10 index: 14)

Note: conference publications appear above journal publications, reflecting the higher selectivity and prominence of conference publication in computer science. See, for example, the Computing Research Association's memo on [Evaluating Computer Scientists and Engineers For Promotion and Tenure](#). h-index and i-10 index are as calculated by Google Scholar.

- C21. Ke-Yu Chen, **Daniel Ashbrook**, Mayank Goel, Sung-Hyuck Lee, Shwetak Patel. AirLink: Sharing Files Between Multiple Devices Using In-Air Gestures. In *Proceedings of the ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp)*, Seattle, WA, 2014, 5 pages (20.7% acceptance rate).

- C20. Kent Lyons, David H. Nguyen, Shigeyuki Seko, Sean White, **Daniel Ashbrook**, Halley Profita. BitWear: A Platform for Small, Connected, Interactive Devices. In *Adjunct Proceedings of the ACM symposium on User Interface Software and Technology (UIST)*, St. Andrews, UK, 2013, 2 pages (poster).
- C19. Kent Lyons, David H. Nguyen, **Daniel Ashbrook**, and Sean White. Facet: a Multi-Segment Wrist-Worn System. In *Proceedings of the ACM symposium on User Interface Software and Technology (UIST)*, Pittsburgh, PA, 2012, 7 pages. (22% acceptance rate.)
- C18. Ryan McGee, **Daniel Ashbrook**, and Sean White. SenSynth: a Mobile Application for Dynamic Sensor to Sound Mapping. In *Proceedings of the International Conference on New Interfaces for Musical Expression (NIME)*, Ann Arbor, MI, 2012, 4 pages. (Short paper with poster presentation; 50% acceptance rate).
- C17. Felix Xiaozhu Lin, **Daniel Ashbrook**, and Sean White. RhythmLink: Securely Pairing I/O-Constrained Devices by Tapping. In *Proceedings of the ACM symposium on User Interface Software and Technology (UIST)*, Santa Barbara, CA, 2011, 9 pages. (26% acceptance rate.)
- C16. Daniel Kohlsdorf, Thad Starner, and **Daniel Ashbrook**. MAGIC 2.0: A web tool for false positive prediction and prevention for gesture recognition systems. In *Proceedings of IEEE Conference on Automatic Face & Gesture Recognition (FG2011)*, Santa Barbara, CA 2011, 6 pages.
- C15. **Daniel Ashbrook**, Patrick Baudisch, and Sean White. NENYA: Subtle and Eyes-Free Mobile Input with a Magnetically-Tracked Finger Ring. In *Proceedings of SIGCHI conference on Human Factors in Computing Systems (CHI)*, Vancouver, BC, Canada, 2011, 4 pages. (26% acceptance rate.)
- C14. **Daniel Ashbrook** and Thad Starner. MAGIC: A Motion Gesture Design Tool. In *Proceedings of SIGCHI conference on Human Factors in Computing Systems (CHI)*, Atlanta, GA, 2010, 10 pages. (22% acceptance rate.)
- C13. **Daniel Ashbrook**, Kent Lyons, and Thad Starner. An investigation into round touchscreen wristwatch interaction. In *Proceedings of the ACM International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI)*, Amsterdam, The Netherlands, 2008, pp. 311-314. (35% acceptance rate.)
- C12. **Daniel Ashbrook**, James Clawson, Kent Lyons, Nirmal Patel, and Thad Starner. Quickdraw: The impact of mobility and on-body placement on device access time. In *Proceedings of SIGCHI conference on Human Factors in Computing Systems (CHI)*, Florence, Italy, 2008, pp. 219-222. (30% acceptance rate.)
- C11. Kihwan Kim, Jay Summet, Thad Starner, **Daniel Ashbrook**, Mrunal Kapade and Irfan Essa. Localization and 3D Reconstruction of Urban Scenes Using GPS. In *Proceedings of IEEE Symposium on Wearable Computers (ISWC) 2008*, 8 pages.

- C10. David Minnen, Tracy Westeyn, Peter Presti, **Daniel Ashbrook**, and Thad Starner. Recognizing soldier activities in the field. In *Proceedings of International IEEE Workshop on Wearable and Implantable Body Sensor Networks (BSN)*, Aachen, Germany, March 2007, 10 pages.
- C9. **Daniel Ashbrook**, Tracy Westeyn, and Thad Starner. Dancing in the streets: Smart phones and gaming. In *Proceedings of Workshop on Ubiquitous Entertainment and Games at Seventh International Conference on Ubiquitous Computing (Ubicomp)*, Tokyo, Japan, 2005, 2-page abstract.
- C8. Thad Starner and **Daniel Ashbrook**. Augmenting a pH medical study with wearable video for treatment of GERD. In *Proceedings of the IEEE International Symposium on Wearable Computers (ISWC)*, Arlington, VA, 2004. (2-page poster paper; 29% overall acceptance rate.)
- C7. **Daniel Ashbrook** and Thad Starner. Location modeling: From raw data to user models. In *Proceedings of Workshop on Forecasting Presence and Availability at SIGCHI conference on Human Factors in Computing Systems (CHI)*, Vienna, Austria, 2004, 3 pages.
- C6. Kent Lyons, Christopher Skeels, Thad Starner, Cornelis M. Snoeck, Benjamin Wong, and **Daniel Ashbrook**. Augmenting conversations using dual-purpose speech. In *Proceedings of the ACM symposium on User interface software and technology (UIST)*, Santa Fe, NM, 2004, pp. 237–246. (20% acceptance rate.)
- C5. **Daniel Ashbrook** and Thad Starner. Learning significant locations and predicting user movement with GPS. In *Proceedings of the IEEE International Symposium on Wearable Computers (ISWC)*, Seattle, WA, 2002, pp. 101–108. (19% acceptance rate.)
- C4. **Daniel Ashbrook** and Thad Starner. Enabling ad-hoc collaboration through schedule learning and prediction. In *Proceedings of Workshop on Mobile Ad-Hoc Collaboration at SIGCHI conference on Human Factors in Computing Systems (CHI)*, Minneapolis, MN, USA, April 2002, 4 pages.
- C3. **Daniel Ashbrook**, Jake Auxier, Maribeth Gandy, and Thad Starner. Experiments in interaction between wearable and environmental infrastructure using the gesture pendant. In *Proceedings of HCI Workshop on Wearable Computers*, New Orleans, LA, 2001, 5 pages. (extended abstract reviewed)
- C2. Thad Starner, Jake Auxier, **Daniel Ashbrook**, and Maribeth Gandy. The Gesture Pendant: A self-illuminating, wearable, infrared computer vision system for home automation control and medical monitoring. In *Proceedings of the IEEE International Symposium on Wearable Computers (ISWC)*, Atlanta, GA, 2000, pp. 87–94. (32% acceptance rate)
- C1. **Daniel Ashbrook**. Context sensing with the Twiddler keyboard. In *Proceedings of the IEEE International Symposium on Wearable Computers (ISWC)*, San Francisco, CA, 1999, pp. 197–198.

Conference Tutorials and Workshops

- W5. **Daniel Ashbrook**, Moe Tanabian. Building Wearables: What I Wish I Knew Before I Started. At *Android Developer Conference*, San Francisco, CA, 2013.
- W4. Lone Koefoed Hansen, Julie Rico, Guilio Jacucci, Stephen Brewster and **Daniel Ashbrook**. Workshop on Performative Interaction in Public Space. At *SIGCHI conference on Human Factors in Computing Systems (CHI)*, Vancouver, BC, Canada, 2011.
- W3. **Daniel Ashbrook** and Kent Lyons. Workshop on Ensembles of On-Body Devices. At *12th International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI)*, Lisbon, Portugal, 2010.
- W2. **Daniel Ashbrook** and Tracy Westeyn. Tutorial on on-body sensing. At *IEEE International Symposium on Wearable Computers (ISWC)*, Montreaux, Switzerland, 2006.
- W1. **Daniel Ashbrook** and Tracy Westeyn. Workshop on on-body sensing. At *IEEE International Symposium on Wearable Computers (ISWC)*, Osaka, Japan, 2005.

Other Publications

Published Journal Papers (refereed)

- J1. **Daniel Ashbrook** and Thad Starner. Using GPS to learn significant locations and predict movement across multiple users. *Personal and Ubiquitous Computing*, 7(5):275–286, October 2003.

Published Books & Parts of Books (refereed)

- B1. **Daniel Ashbrook**, Kent Lyons, James Clawson and Thad Starner. Methods of evaluation for Wearable Computers. *Smart Clothing: Technology and Applications*. Gilsoo Cho, editor. CRC Press, 2009.

Technical Reports (not submitted elsewhere)

- TR1. Kristin Vadas, Kent Lyons, **Daniel Ashbrook**, Ji Soo Yi, Thad Starner, and Julie Jacko. Reading on the Go: An Evaluation of Three Mobile Display Technologies. *GIT-GVU-06-09*, GVU Center, College of Computing, Georgia Institute of Technology, 2006.

Other

Invited Keynote and Lecture Addresses

- K10. “Almost as Good as Being T/Here.” Keynote speaker at *Argonne National Laboratory’s Institute for Computing in Science (ICiS) Summer Workshop on Pervasive and Physical Computing in Science*, Park City, UT, July 2011.

- K9. "Situational Impairments and Mobile Microinteractions." Invited speaker at *Intel Labs Seattle*, Seattle, WA, December 2009.
- K8. "Situational Impairments and Mobile Microinteractions." Invited speaker at *Microsoft Research*, Redmond, WA, December 2009.
- K7. "The Future of Mobile Input." Invited speaker at *US Poultry & Egg Association annual Information Technology Conference*, Myrtle Beach, SC, July 2008.
- K6. "Wearables, HCI and Mobile Phones." Invited speaker at *Silicon Valley Homebrew Mobile Club (SVHMPC) monthly meeting*, Menlo Park, CA, May 2007.
- K5. "Mobile Wireless Devices: Trends and Possibilities." Invited speaker at *Rehabilitation Engineering and Assistive Technology Society of North America (RESNA) workshop on Using Mobile Wireless Technology in Rehabilitation and Community Re-Integration*, Atlanta, GA, June 2006.
- K4. "Contextual Computing Group Research Overview." Invited speaker at *Yahoo, Incorporated*, Sunnyvale, CA, June 2006.
- K3. "Contextual Computing Group Research Overview." Invited speaker at *Bosch Research and Technology Center*, San Jose, CA, June 2006.
- K2. "Contextual Computing Group Research Overview." Invited speaker at *Toyota InfoTechnology Center*, San Jose, CA, June 2006.
- K1. "Contextual Computing Group Research Overview." Invited speaker at *Ricoh Innovations*, Menlo Park, CA, June 2006.

Patents and Patent Applications

- PAT15-26. 12 other patent applications filed with USPTO during 2010-2013 with Nokia, and pending publication.
- PAT14. "Method, Apparatuses and Computer Program Products for Associating Notifications with Alert Functions of Remote Devices." **Daniel Ashbrook** and David H. Nguyen. Application 2014/0002261.
- PAT13. "Method and Apparatus for Modifying the Presentation of Information Based on the Visual Complexity of Environment Information." **Daniel Ashbrook** and David H. Nguyen. Application 2014/0002474.
- PAT12. "Medical Diagnostic Gaze Tracker." Sean White, David H. Nguyen, Kent Lyons, **Daniel Ashbrook**. Application US 2013/0321772.
- PAT11. "Method and apparatus for attracting a user's gaze to information in a non-intrusive manner." **Daniel Ashbrook**, Sean White, David H. Nguyen, Kent Lyons. Application US 2013/473681.
- PAT10. "Method and apparatus for concurrently presenting different representations of the same information on multiple displays." **Daniel Ashbrook**. Application US 2013/472941.
- PAT8,9. "Multi-segment wearable accessory." Kent Lyons, David H. Nguyen, **Daniel Ashbrook**. Applications US 2013/0271389, US 2013/0271390.
- PAT7. "Methods, apparatuses, and computer program products for adjusting touchscreen sensitivity." **Daniel Ashbrook**. Application US 2013/0106710.

- PAT6. "Method and apparatus for accessing an electronic resource based upon a hand-drawn indicator." **Daniel Ashbrook**. Application US 2013/0044954.
- PAT5. "Method and apparatus for providing a no-tap zone for touch screen displays." **Daniel Ashbrook**. Application US 2013/0044061.
- PAT4. "Methods and apparatuses for determining strength of a rhythm-based password." **Daniel Ashbrook**, Felix Xiaozhu Lin, Sean White. Application US 2012/0272288.
- PAT2,3. "Apparatus and Method for User Input." **Daniel Ashbrook**, Aaron Toney, and Sean White. Filed September 23, 2010. Applications US 2012/0075196, US 2012/0075173.
- PAT1. "Magnetic mount eyeglasses display system." Thad Starner and **Daniel Ashbrook**. Awarded May 23, 2006 (US 7048370).

Published Papers (non-refereed)

- P2. Mark T. Smith, **Daniel Ashbrook**. ISWC 2012 Best Papers. *Personal and Ubiquitous Computing*, February 2013.
- P1. **Daniel Ashbrook**, Kent Lyons, and James Clawson. Capturing experiences anytime, anywhere. *IEEE Pervasive Computing*, 5(2):8-11, 2006.

Technical Reports (not submitted elsewhere)

- TR1. Kristin Vadas, Kent Lyons, **Daniel Ashbrook**, Ji Soo Yi, Thad Starner, and Julie Jacko. Reading on the go: An evaluation of three mobile display technologies. *Graphics Visualization and Usability Center Tech Report 06-09*, 2006.

Videos and Demonstrations

- V3. Helene Brashear, Valerie Henderson, **Daniel Ashbrook**, Tracy Westeyn and Thad Starner. "Telesign: Mobile Sign Language Recognition." *CNN Headline News live demo*, Atlanta, GA.
- V2. **Daniel Ashbrook**, Erica Young, Jake Auxier, Maribeth Gandy and Thad Starner. "The Aware Home: Gesture Pendant." *ACM'01 Exposition*, San Jose, CA, 2001. Estimated 100,000 visitors.
- V1. **Daniel Ashbrook**, Erica Young, Jake Auxier, Maribeth Gandy and Thad Starner. "Gesture Pendant." Invited exhibition, *Chicago Museum of Applied Art*, Chicago, IL, 2001.

Selected Popular Press

- P8. "Yup, Nokia's designing a watch too". In *Engadget*, October 17, 2013.
- P7. "Control your phone with a magnetic ring". In *New Scientist One Per Cent blog*, April 11, 2011 and *Gizmodo*, April 13, 2011.
- P6. Catherine Fox. "Tech grad looks to merge wristwatch, computer". In *Atlanta Journal-Constitution*, May 18, 2008.
- P5. Eric Smalley. "Conversations control computers". In *Technology Research News*, January 12, 2005.

- P4. [“Georgia Tech tests aware home”](#). On *11 Alive News with Donna Lowry*, April 25, 2006.
- P3. [“Help for independent living”](#). On *NBC Today Show with Katie Couric*, March 19, 2002.
- P2. [“Enveloped in technology”](#). On *ABC World News Tonight with Peter Jennings*, March 11, 2001.
- P1. [“Gadgets of the future ‘disappear into your life’”](#). On *Good Morning America with Michael Guillen*, May 11, 2000.

Research Honors

- 2005–2009 Georgia Tech Presidential Fellow. Provided additional funding for graduate expenses.
- 2003 SAIC Best Student Paper award for “Learning Significant Locations and Predicting User Movement with GPS.”
- 2003 Ford Motor Company Research Laboratory’s Best Design Solution for schedule learning and prediction.
- 2000 Second place judges’ choice award in annual Undergraduate Research competition for Gesture Pendant.
- 2000 Second place peoples’ choice award in annual Undergraduate Research competition for Gesture Pendant.

Service

Memberships and Activities in Professional Societies

- Institute of Electrical and Electronics Engineers (IEEE) Computer Society.
- Association for Computing Machinery (ACM).
- Charter member of Georgia Tech chapter of Upsilon Pi Epsilon, an international honor society for the Computing and Information disciplines.

Editorial Board Memberships

- 2007–2012 Associate Editor for Hindawi Advances in Human-Computer Interaction (*AHCI*).

Conference Chairing & Organization Activities

- 2012–present Steering Committee, International Symposium on Wearable Computers (*ISWC*).
- 2015 Co-Chair of Panels, Seventeenth International Conference on Human-Computer Interaction with Mobile Devices and Services (*MobileHCI*).
- 2014 Co-Chair of Doctoral School, Eighteenth IEEE/ACM International Symposium on Wearable Computers (*ISWC*).
- 2013 Co-Chair of Program Committee, Fifteenth International Conference on Human-Computer Interaction with Mobile Devices and Services (*MobileHCI*).

- 2012 Co-Chair of Proceedings, Twenty-fifth ACM Symposium on User Interface Software and Technology (*UIST*).
- 2012 Co-Chair of Workshops, Fourteenth International Conference on Human-Computer Interaction with Mobile Devices and Services (*MobileHCI*).
- 2012 Co-Chair of Program Committee, Sixteenth IEEE International Symposium on Wearable Computers (*ISWC*).
- 2011 Videos Chair, Fifteenth IEEE International Symposium on Wearable Computers (*ISWC*).
- 2004–7 Chair of Publicity for IEEE International Symposium on Wearable Computers (*ISWC*).

Conference Committee Activities

- 2014 Program Committee, Fifteenth ACM International Conference on Human-Computer Interaction with Mobile Devices and Services (*MobileHCI*).
- 2014 Program Committee, ACM Conference on Designing Interactive Systems (*DIS*).
- 2014 Program Committee, Eighteenth IEEE International Symposium on Wearable Computers (*ISWC*).
- 2014 Program Committee (Systems/Technologies subcommittee), ACM Conference on Human Factors in Computing Systems (*CHI*).
- 2013 Program Committee, Seventeenth IEEE International Symposium on Wearable Computers (*ISWC*).
- 2013 Program Committee, 12th International Conference on Mobile and Ubiquitous Multimedia (*MUM*).
- 2012 Program Committee, Fourteenth ACM International Conference on Human-Computer Interaction with Mobile Devices and Services (*MobileHCI*).
- 2011 Supplemental Program Committee Member, Ninth International Conference on Pervasive Computing.
- 2011 Senior Program Committee, Thirteenth ACM International Conference on Human-Computer Interaction with Mobile Devices and Services (*MobileHCI*).
- 2011 Program Committee, Fifteenth IEEE International Symposium on Wearable Computers (*ISWC*).
- 2010 Program Committee, Twelfth International Conference on Multimodal Interfaces and Seventh Workshop on Machine Learning for Multimodal Interaction (*ICMI-MLMI*).
- 2010 Program Committee, Twelfth ACM International Conference on Human-Computer Interaction with Mobile Devices and Services (*MobileHCI*).
- 2009 Program Committee, Eleventh ACM International Conference on Human-Computer Interaction with Mobile Devices and Services (*MobileHCI*).

Non-Committee Volunteer Positions

- 2012 Guest editor, Journal of Personal and Ubiquitous Computing. *ISWC 2013 Best Papers*.

- 2012 Panel member, Doctoral Consortium, 16th Annual IEEE Symposium on Wearable Computers (*ISWC*).
- 2011 Judge, Student Design Competition, 29th Annual ACM Conference on Human Factors in Computing Systems (*CHI*).
- 2010 National Science Foundation grant funding panel review member.
- 2008 Panel member, Doctoral Consortium, 12th Annual IEEE Symposium on Wearable Computers (*ISWC*).
- 2005 Student volunteer for 24th Annual ACM Conference on Human Factors in Computing Systems (*CHI*).
- 2004 Student volunteer for Eighth IEEE International Symposium on Wearable Computers (*ISWC*).
- 2003 Student volunteer for Seventh IEEE International Symposium on Wearable Computers (*ISWC*).
- 2002 Student volunteer for Sixth IEEE International Symposium on Wearable Computers (*ISWC*).

Conference & Journal Review Activities

- 2014 *UIST, UbiComp, ISWC, CHI*.
- 2013 *UIST, UbiComp, ISWC, IEEE Conference on Mobile Computing, Applications and Services (MobiCASE), ACM Transactions on Interactive Intelligent Systems (TOIS)*.
- 2012 *ACM International Journal of Human-Computer Studies (IJHCS), International Symposium on Mixed and Augmented Reality (ISMAR), Nordic Conference on Human-Computer Interaction (NordiCHI), UIST, ISWC, MobileHCI, UbiComp, CHI*.
- 2011 *IEEE Computer magazine, International Conference on Intelligent User Interfaces (IUI), CHI, UIST, MobileHCI, ISWC*.
- 2010 *CHI, IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI), ACM Conference on Computer Supported Cooperative Work (CSCW), International Conference on Multimodal Interfaces and the Workshop on Machine Learning for Multimodal Interaction (ICMI-MLMI), ISWC, UbiComp, IEEE Pervasive Computing, MobileHCI*.
- 2009 *CHI, UIST, MobileHCI, ISWC*.
- 2008 *CHI, Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI), ACM Conference on Ubiquitous Computing (UbiComp), ISWC*.
- 2007 *ACM Conference on Human Factors in Computing Systems (CHI), ISWC*.
- 2006 *ISWC, ACM Transactions on Information Systems (TOIS)*.
- 2005 *ISWC, ACM Conference on User Interface Software and Technology (UIST), IEEE Computer Graphics and Applications (CG&A), International Forum on Applied Wearable Computing (IFAWC)*.
- 2004 *ISWC*.
- 2003 *ISWC*.

2002 IEEE International Symposium on Wearable Computers (*ISWC*).