

# Daniel Ashbrook | CURRICULUM VITAE

[dan@danielashbrook.com](mailto:dan@danielashbrook.com) <http://danielashbrook.com>

## 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

- 2018–present **Associate Professor**  
Human-Centered Computing Section  
Department of Computer Science  
University of Copenhagen  
Copenhagen, Denmark
- 2014–2018 **Assistant Professor**  
Department of Information Sciences and Technologies &  
Department of Computer Science  
Golisano College of Computing and Information Systems  
Rochester Institute of Technology  
Rochester, NY, USA
- 2013–2014 **Senior Researcher**  
UX Innovations Lab and Mobile UX Lab  
Samsung Research America and Samsung Design America  
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 (h-index: 23; i-10 index: 38)

*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.*

### Thesis

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

### Peer-Reviewed Conference Presentations

- C39. Aaron Visschedijk, Hyunyoung Kim, Carlos E. Tejada, **Daniel Ashbrook**. ClipWidgets: 3D-printed Modular Tangible UI Extensions for Smartphones. In *Sixteenth International Conference on Tangible, Embedded, and Embodied Interaction (TEI '22)*, February 13–16, 2022, Daejeon, Republic of Korea. 11 pages. 24% acceptance rate.
- C38. Adwait Sharma, Michael A Hedderich, Divyanshu Bhardwaj, Bruno Fruchard, Jess McIntosh, Aditya Shekhar Nittala, Dietrich Klakow, **Daniel Ashbrook**, Jürgen Steimle. SoloFinger: Robust Microgestures while Grasping Everyday Objects. In *Proceedings of the 2021 SIGCHI Conference on Human Factors in Computing Systems (CHI'21)*, virtual conference, 2021, 15 pages. 26% acceptance rate.

- C37. Hyunyoung Kim, Aluna Everitt, Carlos E. Tejada, Mengyu Zhong, **Daniel Ashbrook**. MorpheesPlug: A Toolkit for Prototyping Shape-Changing Interfaces. In *Proceedings of the 2021 SIGCHI Conference on Human Factors in Computing Systems (CHI'21)*, virtual conference, 2021, 13 pages. 26% acceptance rate.
- C36. Yoonji Kim, Hyein Lee, Ramkrishna Prasad, Seungwoo Je, Youngkyung Choi, **Daniel Ashbrook**, Ian Oakley, Andrea Bianchi. SchemaBoard: Supporting Correct Assembly of Schematic Circuits using Dynamic In-Situ Visualization. In *Proceedings of the 33rd Annual ACM Symposium on User Interface Software and Technology (UIST'20)*, virtual conference, 2020, 12 pages.
- C35. Woojin Lee, Ramkrishna Prasad, Seungwoo Je, Yoonji Kim, Ian Oakley, **Daniel Ashbrook**, Andrea Bianchi. VirtualWire: Supporting Rapid Prototyping with Instant Reconfigurations of Wires in Breadboarded Circuits. In *Proceedings of the Fifteenth International Conference on Tangible, Embedded, and Embodied Interaction (TEI'21)*, virtual conference, 2021, 12 pages. 29% acceptance rate; **best paper award**.
- C34. Carlos E. Tejada, Raf Ramakers, Sebastian Boring, **Daniel Ashbrook**. AirTouch: 3D-printed Touch-Sensitive Objects Using Pneumatic Sensing. In *Proceedings of the 2020 SIGCHI Conference on Human Factors in Computing Systems (CHI'20)*, Hawaii, USA, 2020, 10 pages (24.3% acceptance rate).
- C33. Tom Valkeneers, Danny Leen, **Daniel Ashbrook**, Raf Ramakers. StackMold: Rapid Prototyping of Functional Multi-Material Objects with Selective Levels of Surface Details. In *Proceedings of the 2019 ACM Conference on User Interface Software Technology (UIST)*, New Orleans, LA, 2019, 13 pages (20% acceptance rate).
- C32. Carlos E. Tejada, Jess McIntosh, Klæs Alexander Bergen, Sebastian Boring, **Daniel Ashbrook**, Asier Marzo. EchoTube: Robust Touch Sensing along Flexible Tubes using Waveguided Ultrasound. In *Proceedings of ACM International Conference on Interactive Surfaces and Spaces (ISS)*, Daejeon, Korea, 2019, 9 pages (30.6% acceptance rate).
- C31. Paul Strohmeier, Victor Vähämäki Håkansson, Cedric Honnet, **Daniel Ashbrook**, Kasper Hornbæk. eTextile Pressure Matrices: Interdigitation and Algorithm Choice for Continuous Position Input. In *Proceedings of the 13th International Conference on Tangible, Embedded, and Embodied Interactions (TEI)*, Tempe, AZ, 2019, 11 pages (33% acceptance rate).
- C30. Chandan Mahapatra, Jonas Kjeldmand Jensen, Michael McQuaid, **Daniel Ashbrook**. Barriers to End-User Designers of Augmented Fabrication. In *Proceedings of the 2019 SIGCHI Conference on Human Factors in Computing Systems (CHI'19)*, Glasgow, Scotland, U.K., 2019, 15 pages (23.8% acceptance rate).
- C29. Jeeun Kim, Clement Zheng, Haruki Takahashi, Mark D Gross, **Daniel Ashbrook**, Tom Yeh. Compositional 3D printing: expanding & supporting workflows towards continuous fabrication. In *Proceedings of the 2nd ACM Symposium on Computational Fabrication*, Boston, MA, 2018, 10 pages.

- C28. Amanda Yung, Zhiyuan Li, **Daniel Ashbrook**. Printy3D: In-Situ Tangible Three-Dimensional Design for Augmented Fabrication. In *Proceedings of the 2018 Conference on Interaction Design and Children, Trondheim, Norway, 2018*, 14 pages (29% acceptance rate).
- C27. Carlos Tejada, Osamu Fujimoto, Zhiyuan Li. **Daniel Ashbrook**. Blowhole: Blowing-Activated Tags for Interactive 3D-Printed Models. In *Proceedings of the 44th Graphics Interface Conference (GI'18)*, Toronto, ON, 2018, 6 pages (43% acceptance rate).
- C26. Peregrine Hawthorn, **Daniel Ashbrook**. Cyborg Pride: Self-Design in e-NABLE. In *The 19th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS'17)*, Baltimore, MD, 2017, pp. 422-426 (22% acceptance rate).
- C25. Jeremiah Parry-Hill, Patrick Shih, Jennifer Mankoff, **Daniel Ashbrook**. Understanding Volunteer AT Fabricators: Opportunities and Challenges in DIY-AT for Others in e-NABLE. In *Proceedings of the 2017 SIGCHI Conference on Human Factors in Computing Systems (CHI'17)*, Denver, CO, 2017, 11 pages (25% acceptance rate).
- C24. Michael Rivera, Melissa Moukperian, **Daniel Ashbrook**, Jennifer Mankoff, Scott Hudson. Stretching the Bounds of 3D Printing with Embedded Textiles. In *Proceedings of the 2017 SIGCHI Conference on Human Factors in Computing Systems (CHI'17)*, Denver, CO, 2017, 12 pages (25% acceptance rate).
- C23. **Daniel Ashbrook**, Carlos Tejada, Dhwanit Mehta, Anthony Jiminez, Goudam Muralitharam, Sangeeta Gajendra, Ross Tallents. Bitey: An Exploration of Tooth Click Gestures for Hands-Free User Interface Control. In *ACM 18th International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI)*, Florence, Italy, 2016, 12 pages (23.9% acceptance rate).
- C22. **Daniel Ashbrook**, Shitao "Stan" Guo, Alan Lambie. Towards Augmented Fabrication: Combining Fabricated and Existing Objects. In *Proceedings of the 2016 CHI Conference Extended Abstracts on Human Factors in Computing Systems (CHI EA '16)*, San Jose, CA, 2016, 9 pages (20.0% acceptance rate).
- C21. KeYu 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 HCII 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.

### Peer-Reviewed Journal Publications

- J2. Minkyong Lee, Seungwoo Je, Woojin Le, **Daniel Ashbrook**, Andrea Bianchi. ActivEarring: Spatiotemporal Haptic Cues on the Ears. *IEEE Transactions on Haptics*, 12(4):554-562, October-December 2019.
- 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.

## Peer-Reviewed Conference Tutorials and Workshops

- W6. Andrés Lucero, James Clawson, Kent Lyons, Joel E. Fischer, **Daniel Ashbrook**, Simon Robinson. Mobile Collocated Interactions: From Smartphones to Wearables. At SIGCHI conference on Human Factors in Computing Systems (CHI), Seoul, South Korea, 2015.
- W5. **Daniel Ashbrook**, Moe Tanabian. Tutorial on Building Wearables: What I Wish I Knew Before I Started. At Android Developer Conference, San Francisco, CA, 2013.
- W4. Lone Koefoed Hansen, Julie Rico, Giulio 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.

## Peer-Reviewed Book Chapters

- 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.

## Peer-Reviewed Doctoral Consortium

- DC1. **Daniel Ashbrook**. Mobile Microinteractions. Doctoral Consortium of the 12th IEEE International Symposium on Wearable Computers, Pittsburgh, PA, 2008.

## Technical Reports (not submitted elsewhere)

- TR2. Jeremiah Parry-Hill and **Daniel Ashbrook**. Challenges and Opportunities in DFO-AT: A Study of e-NABLE. RIT-1801, Information Sciences and Technologies, Golisano College of Computing and Information Science, Rochester Institute of Technology, 2016.
- 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 Keynotes, Lecture Addresses, and Panels

- K13. Panel member, "Future of Mobile Interaction, Computing and Life." Organized by Aaron Quigley and Manfred Tscheligi. MobileHCI 2016, Florence, Italy, September 2016.
- K12. "Improving Interaction Speed for Mobile and Fabrication Devices." Invited seminar, Carnegie Mellon University HCI Institute. Pittsburgh, PA, July 2016.
- K11. "Democratizing Digital Fabrication." Invited seminar, SIGCHI Chapter at Rochester Institute of Technology. Rochester, NY, November 2015.
- 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.

### Guest Lectures

- GL2. "Introduction to Wearable Computing" guest lecture for Designing the User Experience (ISTE-260), RIT, April 10, 2015. Instructor: Matt Huenerfauth.



GL1. "Introduction to Wearable Computing" guest lecture for Human-Computer Interaction (CS412), University of Rochester, November 19, 2014. Instructor: M. Ehsan Hoque.

### Patents and Patent Applications

- PAT24. "Computing System with Command-Sense Mechanism and Method of Operation Thereof." Keyu Chen and **Daniel Ashbrook**. US Patent 9,733,714.
- PAT23. "Presentation of a Notification Based on a User's Susceptibility and Desired Intrusiveness." **Daniel Ashbrook** and David H. Nguyen. US Patent 9,400,551.
- PAT22. "Methods, Apparatuses, and Computer Program Products for Providing Broadband Audio Signals Associated With Navigation Instructions." **Daniel Ashbrook**, Kenneth McClure. US Patent 9,304,010.
- PAT21. "Method and Apparatus for Determining the Emotional Response of Individuals Within a Group." **Daniel Ashbrook**. Application 2014/0095109.
- PAT20. "Method and Apparatus for Determining the Attentional Focus of Individuals Within a Group." **Daniel Ashbrook**. Application 2014/0093848.
- PAT19. "Transitioning Peripheral Notifications to Presentation of Information." **Daniel Ashbrook**. US Patent 9,269,325.
- PAT18. "Method and Apparatus for Interacting With a Head Mounted Display." David H. Nguyen, **Daniel Ashbrook**, and Shigeyuki Seko. US Patent 10,013,024.
- PAT17. "Method and Apparatus for Providing an Indication Regarding Content Presented to Another User." **Daniel Ashbrook** and David H. Nguyen. Application 2014/0091984.
- PAT16. "Method and Apparatus for Responding to Input Based Upon Relative Finger Position." Kent Lyons, Ke-Yu Chen, Sean White, **Daniel Ashbrook**. Application 2014/0085177.
- PAT15. "Method and Apparatus for Determining Representations of Abbreviated Terms for Conveying Navigation Information." **Daniel Ashbrook** and David H. Nguyen. US Patent 9,069,738.
- PAT14. "Method, Apparatuses and Computer Program Products for Associating Notifications with Alert Functions of Remote Devices." **Daniel Ashbrook** and David H. Nguyen. US Patent 9,105,163.
- PAT13. "Method and Apparatus for Modifying the Presentation of Information Based on the Visual Complexity of Environment Information." **Daniel Ashbrook** and David H. Nguyen. US Patent 9,339,726.
- PAT12. "Medical Diagnostic Gaze Tracker." Sean White, David H. Nguyen, Kent Lyons, **Daniel Ashbrook**. US Patent 9,888,842.

- 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. US Patent 9,030,505.
- PAT10.* “Method and apparatus for concurrently presenting different representations of the same information on multiple displays.” **Daniel Ashbrook**. US Patent 10,019,221.
- PAT9.* “Multi-segment wearable accessory.” Kent Lyons, David H. Nguyen, **Daniel Ashbrook**. US Patent 9,122,249.
- PAT8.* “Multi-segment wearable accessory.” Kent Lyons, David H. Nguyen, **Daniel Ashbrook**. Application US 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**. US Patent 8,718,374.
- 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.
- PAT3.* “Apparatus and Method for User Input.” **Daniel Ashbrook**, Aaron Toney, and Sean White. Filed September 23, 2010. Application US 2012/0075196.
- PAT2.* “Apparatus and Method for User Input.” **Daniel Ashbrook**, Aaron Toney, and Sean White. Filed September 23, 2010. Application 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.

### Videos and Demonstrations

- D3.* Helene Brashear, Valerie Henderson, **Daniel Ashbrook**, Tracy Westeyn and Thad Starner. “Telesign: Mobile Sign Language Recognition.” CNN Headline News live demo, Atlanta, GA.
- D2.* **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.

- D1. **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

- PP9. "RIT SIGCHI: Democratizing digitization, campus outreach, and more". In ACM XRDS Magazine, Spring 2016, Vol 22, No. 3.
- PP8. "Yup, Nokia's designing a watch too". In Engadget, October 17, 2013.
- PP7. "Control your phone with a magnetic ring". In New Scientist One Per Cent blog, April 11, 2011 and Gizmodo, April 13, 2011.
- PP6. Katherine Fox. "Tech grad looks to merge wristwatch, computer". In Atlanta Journal-Constitution, May 18, 2008.
- PP5. Eric Smalley. "Conversations control computers". In Technology Research News, January 12, 2005.
- PP4. "Georgia Tech tests aware home". On 11 Alive News with Donna Lowry, April 25, 2006.
- PP3. "Help for independent living". On NBC Today Show with Katie Couric, March 19, 2002.
- PP2. "Enveloped in technology". On ABC World News Tonight with Peter Jennings, March 11, 2001.
- PP1. "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.
- 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.

### Grants and Awards

#### Rochester Institute of Technology

- 2021 Villum Experiment: Dynamically Adjustable Haptics for 3D-printed User Interfaces via Metamaterials Augmented with Force-transmission Lines. Villum fonden, 1,973,763 DKK. PI: Daniel Ashbrook.

- 2018 CAREER: Tangible Modeling Techniques for End Users of Augmented Fabrication. National Science Foundation, \$553,946. PI: Daniel Ashbrook. Note: unable to be accepted due to PI's move to Denmark.
- 2016 Teaching prototyping skills for wearable and IoT devices. RIT Provost's Learning Innovations Grants, \$5,000. PI: Daniel Ashbrook.
- 2016 Towards Universal Access for Wearable Computing Devices. RIT/GCCIS seed funding, \$10,000. PI: Daniel Ashbrook.
- 2016 Augmented Fabrication. HP, \$25,000. PI: Daniel Ashbrook.
- 2015 REU Extension to NSF Grant #IIS-1464377. \$16,000. PI: Daniel Ashbrook.
- 2015 CRII: CHS: Augmented Fabrication for Non-Expert Users of Digital Fabrication Systems. National Science Foundation, IIS-1464377, \$174,995. PI: Daniel Ashbrook.
- 2014 "This & That": Using IFFT for wearable and IoT configuration. Nokia, €10,000 (\$11,838). PI: Daniel Ashbrook.
- 2014 Early-stage Research Proposal: Towards "Skinnable" IoT Devices. RIT GCCIS Dean's Office, \$10,000. PI: Daniel Ashbrook.

## Teaching

### University of Copenhagen

- Spring 2021 NDAK16004U: Mobile Computing – 7.5 ECTS, 26 students
- Spring 2021 NDAK16008U: User Interface Technology – 7.5 ECTS, 13 students
- Spring 2020 NDAK16004U: Mobile Computing – 7.5 ECTS
- Spring 2020 NDAK16008U: User Interface Technology – 7.5 ECTS
- Spring 2020 HKMB00291U: Project in Human-Centered Computing – 15 ECTS (co-taught half)
- Spring 2019 NDAK16004U: Mobile Computing – 7.5 ECTS
- Spring 2019 HKMB00182U: Interaction Design – 7.5 ECTS

### Rochester Institute of Technology

- Spring 2018 HCIN722: Human-Computer Interaction with Mobile, Wearable, and Ubiquitous Devices – 13 students
- Fall 2017 HCIN720: Prototyping Wearable and Internet of Things Devices – 11 students
- Spring 2017 HCIN722: Human-Computer Interaction with Mobile, Wearable, and Ubiquitous Devices – 9 students
- Fall 2016 HCIN720: Designing User Experiences for Internet-Enabled Devices – 14 students

- Spring 2016* HCIN722: Human-Computer Interaction with Mobile Devices – 14 students
- Fall 2015* HCIN720: Designing User Experiences for Internet-Enabled Devices – 13 students (new course)
- Spring 2015* HCIN722: Human-Computer Interaction with Mobile Devices – 14 students (new course)

### **Stanford University**

- Spring 2014* CS377W: Human-Computer Interaction Issues with Wearable Computing – 32 students (new course sponsored by Michael Bernstein, co-taught with Sean White)

## **Service**

### **Memberships and Activities in Professional Societies**

- Association for Computing Machinery (ACM) and SIGCHI
- Charter member of Georgia Tech chapter of Upsilon Pi Epsilon, an international honor society for the Computing and Information disciplines

### **Editorial Board Memberships**

- 2017* Guest Editor, ACM TACCESS Special Issue on Fabrication and Accessibility
- 2016–present* Associate Editor for Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)
- 2012* Guest editor, Journal of Personal and Ubiquitous Computing: ISWC 2013 Best Papers.
- 2007–2012* Associate Editor for Hindawi Advances in Human-Computer Interaction (AHCI)

### **Conference Chairing & Organization Activities**

- 2018–2019* Co-Chair of Interaction Techniques, Devices and Modalities subcommittee, ACM Conference on Human Factors in Computing Systems (CHI'18–CHI'19)
- 2012–2018* Steering Committee, International Symposium on Wearable Computers (ISWC).
- 2017* Co-Chair of Tutorials, Nineteenth International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI'17).
- 2015* Co-Chair of Workshops, Seventeenth International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI'15).

- 2014 Co-Chair of Doctoral School, Eighteenth IEEE/ACM International Symposium on Wearable Computers (ISWC'14).
- 2013 Co-Chair of Program Committee, Fifteenth International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI'13).
- 2012 Co-Chair of Proceedings, Twenty-fifth ACM Symposium on User Interface Software and Technology (UIST'12).
- 2012 Co-Chair of Workshops, Fourteenth International Conference on Human-Computer Interaction with Mobile Devices and Services (MobileHCI'12).
- 2012 Co-Chair of Program Committee, Sixteenth IEEE International Symposium on Wearable Computers (ISWC'12).
- 2011 Videos Chair, Fifteenth IEEE International Symposium on Wearable Computers (ISWC'11).
- 2004–7 Chair of Publicity for IEEE International Symposium on Wearable Computers (ISWC).

### **Conference Committee Activities**

- 2019 Program Committee, ACM Conference on User Interface Software and Technology (UIST).
- 2017 Program Committee, ACM SIGCHI Symposium on Engineering Interactive Computing Systems (EICS).
- 2017 Program Committee, CHI 2017 Interactivity.
- 2017 Program Committee, ACM Conference on User Interface Software and Technology (UIST).
- 2016 Program Committee (Interaction Techniques, Devices and Modalities subcommittee), 2017 ACM Conference on Human Factors in Computing Systems (CHI).
- 2016 Program Committee, ACM Conference on User Interface Software and Technology (UIST).
- 2015 Program Committee (Design subcommittee), 2016 ACM Conference on Human Factors in Computing Systems (CHI).
- 2015 Program Committee, Future Mobile User Interfaces workshop at ACM MobiSys 2015.
- 2015 Best Papers Committee, Ubicomp 2015.
- 2015 Program Committee, ACM Conference on User Interface Software and Technology (UIST).
- 2015 Program Committee, ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp).

- 2015 Program Committee, Nineteenth IEEE International Symposium on Wearable Computers (ISWC).
- 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).
- 2013 Program Committee (Systems/Technologies subcommittee), 2014 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**

- 2019 External reviewer for Austrian Science Fund
- 2017 National Science Foundation grant funding panel review member.
- 2017 Chair of session "Fabrication and DIY," CHI 2017
- 2016 Chair of session "Tools", MobileHCI 2016

- 2016 Panel member, Doctoral Consortium, MobileHCI 2016
- 2016 External reviewer for Research Grants Council of Hong Kong
- 2015 Panel member, Doctoral Consortium, UIST 2015
- 2015 National Science Foundation grant funding panel review member.
- 2015 Chair of session "Wearable and Mobile Interactions", UIST 2015.
- 2015 Chair of session "Smartwatch Interaction", CHI 2015.
- 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**

- 2019 CHI, IMWUT, TEI
- 2017 MobileHCI, ISWC, Graphics Interface (GI), TEI.
- 2016 MobileHCI, IJHCS, Hong Kong Research Grants Council, TEI.
- 2015 WristSense workshop at IEEE Conference on Pervasive Computing (PerCom), ACM Computing Surveys, IxD&A Special Issue On Peripheral Interaction, MobileHCI, MUM.
- 2014 WristSense workshop at IEEE Conference on Pervasive Computing (PerCom), CHI Student Research Competition, TEI, UIST, UbiComp, ISWC, CHI, CHI Courses, IJHCS.
- 2013 UIST, UbiComp, ISWC, IEEE Conference on Mobile Computing, Applications and Services (MobiCASE), ACM Transactions on Interactive Intelligent Systems (TOIS), CHI.
- 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).

### **Service at the Rochester Institute of Technology**

- 2016 Wearable computing workshop for Women in Computing incoming freshman pre-orientation program (26 students).
- 2016–2018 IST departmental Faculty Search Committee
- 2015–2018 GCCIS Dean Search Committee
- 2015–2018 PhD Curriculum Committee
- 2015–2016 IST departmental Facilities Committee
- 2015 Wearable computing workshop for Women in Computing incoming freshman pre-orientation program (13 students).
- 2015 Lab tour for College of Science's IMPRESS incoming freshman pre-orientation program.
- 2015 Career fair preparation workshop volunteer: helped students with resumes and interviewing tips.
- 2014 Developed new course, HCIN-722 Human-Computer Interaction with Mobile Devices for Spring 2015

## Supervision

### Postdoctoral Fellows

*January 2020–September 2021*      Hyunyoung Kim

### Ph.D. Students

*Spring 2017–Fall 2021*      Carlos Tejada

*Summer 2016–Spring 2018*      Zhiyuan Li

*Fall 2015–Summer 2016*      Alan Lambie

*Summer 2015*      Mohsen Zare Zardeyni

### Masters Thesis Students

*Fall 2021–*      Jonas Kjeldmand Jensen

*Spring 2021–Fall 2021*      Diana Iona Saponar

*Spring 2021–Fall 2021*      Aaron Visschedijk

*Spring 2020–Fall 2020*      Anders Martin Ibsen

*Spring 2020–Spring 2021*      Mengyu Zhong

*Spring 2020–Fall 2020*      Arkadiusz Piotr Otto

*Fall 2019–Spring 2020*      Mikael Wolfson Larsen

*Fall 2014–Spring 2018*      Jeremiah Parry-Hill

### Masters Capstone Project Students: Committee Chair

*Fall 2017–Spring 2018*      Valerie Okpoko

*Summer 2017–Spring 2018*      Sangram Pawar

*Spring 2017–Spring 2018*      Yebai Zhao

*Spring 2017–Spring 2018*      Chandan Mahapatra

*Fall 2016–Fall 2017*      Tanmay Songade. Capstone project: *Building a Contactless Air-Jet Haptic Display Box for Tactile Interactions*

*Fall 2014–Spring 2017*      Dhwanit Mehta. Capstone project: *Interaction Space on and Around the Bezel of Round Smartwatches*

*Fall 2014–Fall 2017*      Amanda Yung. Capstone project: *Augmented Reality Interface for Physically Designing Embedded Electronic Devices in 3D Space (Note: part-time student)*

*Fall 2015–Spring 2016*      Sabari Nathan Masila Mani. Capstone project: *SmartGest: One-Hand Gesture Recognition System For Smartwatch Interactions*

<i>Fall 2014–Spring 2016</i>	Carlos Tejada. Capstone project: <i>Knock-on-Wood: An Exploration on Material Identification to Improve User Experiences on Digital Fabrication Equipment</i>
<i>Fall 2014–Spring 2016</i>	Anthony Jiménez. Capstone project: <i>Teethdroid: A Hands-Free Controller that Bridges Your Smartphone and Google Glass</i>
<i>Fall 2014–Spring 2016</i>	Tiago Justino. Capstone project: <i>Wire Routing for 3D Printed Embedded Electronics</i>
<i>Fall 2014–Fall 2016</i>	Shitao ‘Stan’ Guo. Capstone project: <i>Printy: UI for Non-experts to Customize “Skinnable” Internet-connected Devices</i>

### **Masters Research Assistants**

<i>Fall 2019</i>	Mengyu Zhong
<i>Summer 2018</i>	Jonas Kjeldmand Jensen
<i>Summer 2017</i>	Rohan Patel
<i>Fall 2016</i>	Pankaj Uchil
<i>Fall 2015–Spring 2016</i>	Shreya Tadas
<i>Summer 2015–Spring 2016</i>	Ameya Lonkar
<i>Summer 2015–Spring 2016</i>	Sourabh Kulhare
<i>Summer 2015</i>	Chinar Patil
<i>Fall 2014–Spring 2016</i>	Goudam Muralitharan
<i>Fall 2014–Spring 2016</i>	Xiaojie Zeng

### **Other Masters Advisees**

<i>Fall 2017–Spring 2018</i>	Yung-Chia Yun
<i>Fall 2017–Spring 2018</i>	Nayeri Jacobo
<i>Fall 2017–Spring 2018</i>	Laurene Milan
<i>Fall 2016–Spring 2018</i>	Yue Zhang

### **Bachelors Thesis Students**

<i>Spring 2019</i>	Asta Irgang Hansen
<i>Spring 2019</i>	Nanna Maria Munch Larsen

### **Undergraduate Students**

<i>Fall 2016–Spring 2018</i>	David Whitman-Kinghorn
<i>Summer 2016–Spring 2018</i>	Peregrine Hawthorn
<i>Summer 2016–Spring 2018</i>	James Spann

*Fall 2015–Spring 2018* Michael Longley  
*Fall 2015, Fall 2016* Syed ‘Tousif’ Ahmed  
*Spring 2015–Spring 2018* Osamu Fujimoto  
*Spring 2015–Spring 2016* Caitlyn Orta

### **Industrial Research Interns**

*Summer 2013* Keyu Chen, University of Washington.  
Intern at Samsung Research America. Publication: [21](#); patents:  
[16](#), [24](#).

*Summer 2012* Halley Profita, University of Colorado Boulder.  
Intern at Nokia Research. Publication: [20](#).

*Summer 2010* Felix Xiaozhu Lin, Rice University.  
Intern at Nokia Research. Publication: [17](#). Now Assistant  
Professor at Purdue University.

*Summer 2010* Bessy Liang, Art Center College of Design.  
Intern at Nokia Research.