Caitlyn Seim
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Education:

PhD, Human-Centered Computing, anticipated 2018
Georgia Institute of Technology, Atlanta, GA

Bachelors of Science in Electrical Engineering with Highest Honors, May 2013
Georgia Institute of Technology, Atlanta, GA

Work Experience:

- **Wearable Computing Research / Development** (Fall 2013-Present)
  Georgia Inst. of Technology, Contextual Computing Group
  - Research Passive Haptic Learning stimulated by wearable computers, adapt for new applications; HCI / Hardware / Mobile and Wearable Computing / Learning

- **Software Engineering Intern** (Summer 2014)
  Google Inc. / Android / Google Research
  - Develop to a mobile game to teach Gesture Typing on Google Keyboard; created APK to maximize entertainment and education, and collect data for algorithm refinement and HCI research; Andorid / Learning / Text Entry / Gaming / Mobile Databases / HCI

- **Adapted Gaming Design** (Spring 2013)
  Children's Healthcare of Atlanta / Emory University School of Medicine / Georgia Inst. of Technology
  - Designed and built a hands-free video game controller for C4 tetraplegics, using mounted sensors and microcontrollers; Hardware / Human Factors / Embedded Systems, project leader
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- **Health Monitoring Systems (smartCapture) Research** (Fall 2012)
  Behavior Imaging Sol'n. / Georgia Inst. of Technology / Small Business Innovation Research / NIH
  - Design computer vision scripts to monitor behavior, study user experience for in-home video capture interface for physician-patient communication; UX / HCI / Ubiquitous Computing / Autism (ASD) / Health

- **Intelligent Tutoring Systems (ITS) Research** (Fall 2012)
  Georgia Inst. of Technology, Atlanta, GA
  - Build online collaboration/tutoring system, implement hierarchical question selection, analyze use database, refine user interface; Online Learning / CSCW / Databases / DSP / HCI

- **Computer Vision Research** (Summer 2012)
  NSF Expeditions / Georgia Inst. of Technology, Atlanta, GA / University of Miami, Miami, FL
  - Automate behavior experiments using Computational Behavioral Science: capture and analyze human social behavior using Computer Vision techniques; Vision / Health / Ubicomp / Autism

Work Experience, Cont'd:

- **Election Monitoring and Social Computing (eDemocracy) Research** (Spring 2012)
  Georgia Institute of Technology, Atlanta, GA / Carter Center, Atlanta, GA
  - Design secure technologies to inform citizens and facilitate democratic elections in developing regions around the world, analyze Social Network activity; Social Computing / Data Mining / Secure App Development / Interfaces / C4G / ODK

- **Production, Audio Engineering Internship** (Summer 2010)
  Georgia Institute of Technology, Atlanta, GA / Fernbank Science Center, Decatur, GA
  - Researched, wrote, recorded and executed post-production of a Planetarium show, podcast

- **President's Undergraduate Research Award – Telescopic Res. in Visual Binary Stars** (Sum. '09)
  Georgia Institute of Technology, Atlanta, GA / Fernbank Observatory, Decatur, GA
  - Studied Visual Binary Stars in a collaborative research project, published – JDSO

College Activities:

- Women in Engineering / Women in ECE Mentor, Speaker (2008-Present)
- GT Trailblazers: Environmental Service and Outdoor Adventure Club (Fall 2011-Present)
- International House Resident / Chairperson, Culture Committee (2010-2013)
- Legislative Council Voting Representative (Fall 2009-Spring 2012)
- Residence Hall Association
  - Social Chair, Graduate Housing (Fall 2013-2014)
  - Campus Elections Chair (Fall 2010-Spring 2011)
  - Vice President, Fourth Street Apartments (Fall 2009-Spring 2012)
- Georgia Tech Judicial Board Justice (Fall 2011-Spring 2012)
- Alpha Omega Epsilon Sorority (AΩE) (Fall 2009-Spring 2013)

Community Activities:

- **Instructor, Center for the Visually Impaired - Atlanta** (2011-Present)
  - Taught visually impaired teens to be proficient with/interested in computing
- **Volunteer Docent, Fernbank Science Center** (2006-2012)
  - Host and guide at the Fernbank Astronomical Observatory
- **Linking Ideas and Networking Kids with Science (LINKS) Team**
  - Instructor/Lesson Planner (2007-2012), hands-on science nights for students

Special Skills / Qualifications

- Proficient with ASM, C/C++, CATIA, MATLAB, Python, Java, VHDL, HTML, PHP, MySQL
- Experienced in Unix / Linux, Android Development, IC Fabrication, DSP, Hardware and Sensors, Microelectronic Circuit Design, Astrophotography / Astronomical Tools, Vision
- Conversational French, Business Chinese

Awards and Honors:

- National Design Awards Curated Nominee (2014)
- Google Grace Hopper Scholar; SWE Scholar ('14)
- National Science Foundation (NSF) Fellowship ('14)
- Georgia Tech President's Fellowship ('13-Present)
- Amazon Scholar (Fall 2013)
- Outstanding Contribution to Georgia's Community Award (Spring 2013)
- National Federation of the Blind Scholar (Fall 2012)
- Verizon; United Technologies Scholar (Spring 2012)
- Google Anita Borg Scholar (Summer 2011)
- Alcoa; Northrop-Grumman Scholar (Spring 2011)
- Lockheed Martin Scholar (Spring 2010)
- PURA Research Grant Winner (Summer 2009)
- National Merit Scholar (2009-2013)
- Texas Instruments Scholar (Spring 2009)

Publications and Presentations:

Seim, C. , et. al. (2015). Haptics and the Hands: Placement, Simultaneous Stimuli, and Vibration Motor Comparisons. In *Proc. of the SIGCHI Conference on Human Factors in Computing Systems.* ACM. (submitted, under review)

Seim, C. "Passive Haptic Learning and Passive Haptic Rehabilitation." President Obama's National Council on Disability. Ferst Center for the Arts. Atlanta, GA. 6 October 2014. Poster Presentation and Demo.

Seim, C. "Passive Haptic Learning Facilitated by Wearable Computers." Google PhD Research Conference. Google Headquarters. Mountain View, CA. 7 July 2014. Presentation.

Seim, C. , et. al. (2014). Passive Haptic Learning of Braille Typing. In *Proc. of the* ACM *ISWC International Symposium on Wearable Computers.* ACM. IEEE. Seattle, WA. 17 September 2014.

Seim, C. "Passive Haptic Learning of Typing and Vibration Stimuli Perception for Tactile Interfaces." CRA-W Grad Cohort Workshop. Computing Research Association (CRA). Santa Clara, CA. 12 April 2014. Presentation.

Seim, C. "The MMT Gloves: Wearable Computers for Passive Haptic Learning and Passive Haptic Rehabilitation." Institute for People and Technology Forum. Georgia Institute of Technology Global Learning Center. Atlanta, GA. 6 November 2013. Poster Presentation and Demo.

Seim, C. "The Mobile Music Touch Gloves." GVU Center Research Showcase. Georgia Institute of Technology. Atlanta, GA. 30 October 2013. Poster Presentation and Demo.

Seim, C. , et. al. (2014). Passive Haptic Learning of Typing Skills Facilitated by Wearable Computers. In *Proc. of the SIGCHI Conference on Human Factors in Computing Systems.* ACM. Toronto, Ontario, Canada. 30 April 2014.

Seim, C. et al. "Free2Wii: A Paralyzed Patient's Gaming Headset." Capstone Design Expo. Georgia Institute of Technology. Atlanta, GA. 25 April 2013. Poster Presentation and Demo.

Nazneen**, Seim, C.**. "smartCapture: Mobile System for Video Capture of Behavior Specimens." GVU Center Research Showcase. Georgia Institute of Technology. Atlanta, GA. 30 October 2012. Poster Presentation and Demo.

Seim, C. "Integrated Circuit Fabrication Using Photolithography and SUPREM." Google Scholars' Conference. Google Headquarters. Mountain View, CA. 28 July 2011. Poster Presentation.

Seim, C. (Writer and Producer). (2010). *NASA MESSENGER: Journey to the Innermost Planet* [Planetarium Show]. Fernbank Science Center. Atlanta, GA.

Seim, C. (2010). Double Star Observations Conducted at the Fernbank Observatory. *Journal of Double Star Observations*, *6*, 235-242.