Woodbury **Shortridge**

Human-computer Interaction Engineer

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Summary

I research, design, prototype, and develop technology-based experiences. I am fascinated by human interaction with technology with a special appreciation for multi-sensory experiences. I am dedicated to shaping emerging technologies with the end-user in mind, and have expertise working with users of varied abilities and in complex task environments. My work spans the fields of human-computer interaction, software engineering, user experience & interface design, and accessibility.

Education

Tufts School of Engineering   *Medford, Massachusetts*

Human-computer Interaction, Cert   *Aug. 2017 - Exp. May. 2019*

HCI Certificate program, focusing on the study of new interaction styles, user interface software, display design and perception.

- Coursework: Human-machine system design, Computer Interface Design, Object-oriented programming for Interfaces, Human-computer Interaction
- Advisor: Daniel Hannon, Ph.D

Georgia Institute of Technology   *Atlanta, Georgia*

B.S. in Psychology, with Honor   *Aug. 2009 - May. 2016*

B.S. Psychology with Honor, giving special attention to sensation & perception, human-computer interaction, and cognitive psychology.

- Coursework: Research methods, Human-factors, Cognitive psychology, Sensation & perception, Music technology, Python for multimedia, Engineering Psychology
- Thesis: Auditory and Head-Up Displays for Eco-Driving Interfaces
- Advisor: Bruce Walker, Ph.D.

Experience

The Institute for Human Centered Design   *Boston, Massachusetts*

Lead Human-computer Interaction Engineer   *Aug. 2016 - Present*

Lead a broad range of consulting and educational projects with a mission to develop accessible and inclusive technology. Responsibilities include contextual inquiry research with an emphasis on multisensory experience, prototyping, front-end development, and user-centered design. Select projects:

- National Endowment for the Arts | User-centered web app design and development
- ADA National Network | Web accessibility prototyping, user-testing, and development
- Massachusetts Bay Transportation Authority | Inclusive UI design guidance for transit web apps
- Smithsonian Institution | Inclusive touch interactives, digital immersions, and way-finding tools

Georgia Institute of Technology   *Atlanta, Georgia*

Research Assistant, Sonification Lab   *Dec. 2014 - Aug. 2016*

Worked with multiple interdisciplinary research teams developing multimodal interfaces displaying information for complex task environments. Select projects:

- Conducted participatory design studies and development of auditory and head-up in-vehicle interfaces to allow safer completion of secondary tasks (ICAD'2017)
- Research-driven development of a weather app with a talk-back UI and created earcons that provide the 'glanceable' function of visual weather icons to screen reader dependent users (MobileHCI'2016)
- Assisted research and development of interfaces displaying reliability and confidence for autonomous vehicles (AutomotiveUI '17)

Publications

Auditory and Head-Up Displays for Eco-Driving Interfaces   *Pennsylvania, PA*

The 23rd International Conference on Auditory Display   *Jun. 2017*

Shortridge, W., Gable, T. M., Noah, B. E., & Walker, B. N.

Talkin'about the weather:

Incorporating TalkBack functionality and sonifications for accessible app design   *Florence, Italy*

The 18th International Conference on Human-Computer Interaction with Mobile Devices and Services   *Sept. 2016*

Tomlinson, B. J., Schuett, J. H., Shortridge, W., Chandran, J., & Walker, B. N.

Invited Talks

2018	**HubWeek**, Inclusive Design + Innovation Immersion	*Boston, MA*
2018	**American Alliance of Museums**, Multi-Sensory Technologies for Inclusion in Museum Exhibits	*Phoenix, AZ*
2018	**Smithsonian Institution**, Design for Accessible Digital Surfaces	*Washington, DC*
2017	**American Alliance of Museums**, Multi-sensory Technology for Accessibility & Inclusion	*St. Louis, MO*

Competitions

Microsoft's Machine Learning for Accessibility   *Cambridge, MA*

PARTNERS: KALLI RETZEPI, DANIEL LEVINE, AND JUDY SHEN   *Jun. 2018*

Re-imagined the web-browsing experience with a voice and tangible interface, and leveraging natural language processing to deliver text-summarisation with an easy to navigate, interactive semantic mapping of contents

Tufts University Sonos Design Challenge   *Boston, MA*

PARTNER: ALI DECKER   *Oct. 2017*

Winning project: A design exploration into human-AI collaboration, built a mobile app that curates a music play-list based on user supplied photos

Mentorship

2018	**Tufts University Senior Capstone Sponsor**, Inclusive design for the visually impaired	*IHCD, Boston, MA*
2018	**Internship Supervisor**, Dorothy Qu	Designer, Dartmouth College	*IHCD, Boston, MA*
2018	**Internship Supervisor**, Shuangxing Liu	Engineer, Nanyang Technological University	*IHCD, Boston, MA*

Skills

Design	Ableton, Adobe Suite, Sketch
Machine Learning	dLib, Keras, OpenCV, Tensorflow
Programming	C++, Java, Python
Prototyping	Arduino, inVision, MaxMSP, Raspberry Pi, Proto.io
Methods	Biometrics, Contextual inquiry, Personas/scenarios, Usability testing, Storyboarding
Web Technologies	AWS, GraphQL, JavaScript, Node.js, PHP, React.js, SASS, SQL
Statistics	SPSS, R

Professional Service

| **UXPA Boston** | Volunteer |
| **Boston CHI** | Member |