

Woodbury Shortridge

HUMAN-COMPUTER INTERACTION ENGINEER

224 Degraw St. 1, Brooklyn, NY 11231

☎ (678) 925 7344 | ✉ whshortridge@gmail.com | 🏠 woodburyshortridge.github.io | 📱 woodburyshortridge

Summary

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

The Recurse Center

Brooklyn, New York

NEVER GRADUATE

Feb. 2022 - Present

Self-directed, community-driven educational retreat for programmers based in New York City.

- Creative explorations into new mediums of computer interaction working with Tensorflow.js and OpenGL Shading Language

Tufts School of Engineering

Medford, Massachusetts

HUMAN-COMPUTER INTERACTION, CERT

Aug. 2017 - 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

First Turn Media

New York, New York

HEAD OF ENGINEERING

Jan. 2019 - Present

Leading UI/UX design and development projects for a boutique media-focused digital agency. Select projects:

- World Pulse | Front-end design and full-stack development of women-led social network for social change in Next.js and Dgraph
- Localeyz | Front-end design and full-stack development of co-op platform for community media centers in React.js, React Native, Redux, Node.js, Rails and GraphQL
- Galapagos Vital Signs | Design and development of React.js and Node.js PWA for the Galapagos Conservancy focused on environmental data-visualization of sensor, survey, and satellite data streams with D3.js
- NY Mammals Atlas | New York state citizen scientist platform for recording and sharing observations with exploratory data-visualizations focused species-environment relationships. Developed with Prisma GraphQL ORM, Node.js, React.js and D3.js

The Institute for Human Centered Design

Boston, Massachusetts

LEAD HUMAN-COMPUTER INTERACTION ENGINEER

Aug. 2016 - Jan. 2019

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:

- Participatory design studies and development of auditory and head-up in-vehicle interfaces for 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)

Collaborations and Competitions

Tangible Media Group, MIT Media Lab

PARTNERS: KALLI RETZEPI AND DANIEL LEVINE

Cambridge, MA

Oct. 2017 - Feb. 2019

Making use of Tangible Displays and Body Object Space sensors to develop new assistive technologies and using computer vision to map historically inaccessible multimedia into a dynamic tangible experience

Microsoft's Machine Learning for Accessibility

PARTNERS: KALLI RETZEPI, DANIEL LEVINE, AND JUDY SHEN

Cambridge, MA

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

PARTNER: ALI DECKER

Boston, MA

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

Publications

Auditory and Head-Up Displays for Eco-Driving Interfaces

THE 23RD INTERNATIONAL CONFERENCE ON AUDITORY DISPLAY

Pennsylvania, PA

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

THE 18TH INTERNATIONAL CONFERENCE ON HUMAN-COMPUTER INTERACTION WITH MOBILE DEVICES AND SERVICES

Florence, Italy

Sept. 2016

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

Invited Talks

- 2019 **Olin College of Engineering**, Guest lecturer Boston, MA
- 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

Mentorship

- 2019 **Head of Engineering**, Remotely lead and mentor a small team of engineers and designers FTM, New York, NY
- 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, Node.js, Python
- Prototyping** Arduino, Figma, MaxMSP, Raspberry Pi
- Methods** Biometrics, Contextual inquiry, Personas/scenarios, Usability testing, Storyboarding
- Web and App Technologies** AWS, CSS, D3.js, GraphQL, JavaScript, Node.js, React, React Native, Redux, Three.js, Typescript
- Statistics** SPSS, R

Professional Service

- UXPA Boston** Volunteer
- Boston CHI** Member