Jaylin Herskovitz

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https://jayl.in

Research Interests

My research aims to develop tools for people with disabilities to create and customize AI-based applications to improve the accessibility of tasks in their day-to-day lives. In my work, I draw from techniques in end-user programming, mobile sensing, and machine learning, and I adopt various co-design approaches to design and build novel systems.

Areas: Human-Computer Interaction, Accessibility, DIY Technology, AR/VR, Toolkits, Mobile Sensing, Collaboration

Education

09/2019 – Present **University of Michigan**
Ann Arbor, MI PhD Student in Computer Science & Engineering, advised by Anhong Guo

09/2015 – 05/2019 **University of Michigan**
Ann Arbor, MI Bachelor of Science in Computer Science, Minor in Mathematics

Professional Experience

Summer 2023 **AI/ML Accessibility Research, Apple** Research Intern
Seattle, WA Mentored by Cole Gleason

Summer 2019 **AI/ML Accessibility Research, Apple** Research Intern
Pittsburgh, PA Developed interaction techniques to make mobile augmented reality accessible for VoiceOver users [*C.03*]
Mentored by Jeffrey Bigham

Summer 2018 **EPIC Research Group, Microsoft Research** Research Intern
Redmond, WA Evaluated the potential of current head-mounted augmented reality devices in providing guidance for home improvement projects [*P.01*]
Mentored by Eyal Ofek and Adam Fourney

Awards

2023 **Finalist, CSE Honors Competition**

2023 **CSE Service Award for Excellence in Climate and DEI, University of Michigan**

2021–2024 **NSF Graduate Research Fellowship**

2019–2020 **CSE First-Year Department Fellowship, University of Michigan**

Winter 2017 **Excellence in Undergraduate Writing Award**: Feinberg Family Writing Prize for Research Based Argument

Publications

Conference Papers

C.09 **J. Herskovitz,** A. Xu, R. Alharbi, A. Guo. Hacking, Switching, Combining: Understanding and Supporting DIY Assistive Technology Design by Blind People. In *Proceedings of the ACM Conference on Human Factors in Computing Systems* **(CHI 2023)**.

C.08 **J. Herskovitz,** Y. Cheng, A. Guo, A. Sample, M. Nebeling. XSpace: An Augmented Reality Toolkit for Enabling Spatially-Aware Distributed Collaboration. In *Proceedings of the ACM on Human-Computer Interaction* **(ISS 2022).**

C.07 A. Alkayyali, Y. Iravantchi, **J. Herskovitz,** A. Sample. UbiChromics: Enabling Ubiquitously Deployable Interactive Displays with Photochromic Paint. In *Proceedings of the ACM on Human-Computer Interaction* **(ISS 2022).**

C.06 C.Y.P. Lee, Z. Zhang, **J. Herskovitz**, J.Y. Seo, A. Guo. CollabAlly: Accessible Collaboration Awareness in Document Editing. In *Proceedings of the ACM Conference on Human Factors in Computing Systems* **(CHI 2022)**. [Honorable Mention]

C.07 J. Lee, **J. Herskovitz**, Y.H. Peng, A. Guo. Multi-Layered Touch Exploration to Encourage Skepticism Towards Imperfect AI-Generated Image Captions. In *Proceedings of the ACM Conference on Human Factors in Computing Systems* **(CHI 2022)**.

C.04 M. Nebeling, S. Rajaram, L. Wu, Y. Cheng, **J. Herskovitz.** XRStudio: A Virtual Production Technology Probe for Immersive Instructional Experiences. In *Proceedings of the ACM Conference on Human Factors in Computing Systems* **(CHI 2021)**.

C.03 **J. Herskovitz,** J. Wu, S. White, A. Pavel, G. Reyes, A. Guo, J. Bigham. Making Mobile Augmented Reality Applications Accessible. In *The 22nd International ACM SIGACCESS Conference on Computers and Accessibility* **(ASSETS 2020)**.

C.02 Y. Chen, **J. Herskovitz,** W.S. Lasecki, S. Oney. A Hybrid Crowd-Machine Workflow for Program Synthesis. In *Proceedings of the IEEE Symposium on Visual Languages and Human-Centered Computing* **(VL/HCC 2020)**.

C.01 Y. Chen, **J. Herskovitz,** G. Matute, A. Wang, S.W. Lee, W.S. Lasecki, S. Oney. EdCode: Towards Personalized Support at Scale for Remote Assistance in CS Education. In *Proceedings of the IEEE Symposium on Visual Languages and Human-Centered Computing* **(VL/HCC 2020)**. [Best Short Paper Award]

Posters and Demos

P.03 C.Y.P. Lee, Z. Zhang, J**. Herskovitz**, J.Y. Seo, A. Guo. CollabAlly: Accessible Collaboration Awareness in Document Editing. **(ASSETS 2021 Demos)**.

P.02 J.Lee, Y.H. Peng, **J. Herskovitz**, A. Guo. Image Explorer: Multi-Layered Touch Exploration to Make Images Accessible. **(ASSETS 2021 Demos)**.

P.01 **J. Herskovitz**, E. Ofek, W.S. Lasecki, A. Fourney. Opportunities for In-Home Augmented Reality Guidance. **(CHI 2019 Late Breaking Work)**.

Workshops and Consortia

W.02 **J. Herskovitz.** DIY Assistive Software: End-User Programming for Personalized Assistive Technology. ASSETS 2023 Doctoral Consortium.

W.01 **J. Herskovitz**, J. Chinnam, I. Wong, M. Liu, J. Mo, S.W. Lee, W.S. Lasecki. Crowdsourcing for Effortless Creation of Collaborative AR Spaces. In *CHI Workshop on Novel Interaction Techniques for Collaboration in VR*. 2018.

Patents

U.01 J.P. Bigham, **J. Herskovitz**, S. White, J. Wu. Accessible Mixed Reality Applications. United States Patent Application 18/239,018, filed August 28, 2023.

Invited Talks

03/2024 **Hacking, Switching, Combining: Understanding and Supporting DIY Assistive Technology Design by Blind People**
University of Michigan Disability Visibility in Engineering Symposium

01/2022 **Making Mobile Augmented Reality Accessible**
Adobe Research Seminar

12/2021 **Making Mobile Augmented Reality Accessible**
Cornell's XR Access Initiative Seminar

Service

Program Committee

2024 ACM CHI 2024 Late Breaking Work AC

Organizing Committee

2021–2022 **Web Co-Chair,** ACM ASSETS 2022 Organizing Committee

University of Michigan

2022–2023 **DEI Chair,** UMich Computer Science and Engineering Graduate Student Organization (CSEG)

2022–2023 **Volunteer Mentor,** University of Michigan CSE Wellness Buddy Program

Fall 2022 **Volunteer Mentor,** University of Michigan CSE PhD Application Feedback Program for Underrepresented Students

Fall 2022 **Volunteer NSF GRFP Coach,** University of Michigan

Spring 2022, 2023 **Volunteer Speaker,** University of Michigan Visit Day DEI Student Panel

2021–2022 **Volunteer Student Representative,** University of Michigan CSE DEI Committee

2020–2022 **Secretary**, UMich Computer Science and Engineering Graduate Student Organization (CSEG)

Reviewer

2019– **ACM CHI:** 2021, 2022, 2023**, 2024*

ACM UIST: 2021*

ACM ISS: 2024

ACM DIS: 2022

ACM CHI Late Breaking Work: 2019, 2021, 2022, 2024*

* *Denotes special recognition for outstanding reviews*

Outreach

Winter 2023 **Volunteer Speaker, Washtenaw Community College Stem Scholars Program**: Presented to students on research opportunities and career paths in computer science.

Summer 2020 & Fall 2020 **Volunteer Mentor and Team Lead,** Bold Idea Website Development course for 4^{th}–12^{th} grade students, won Outstanding Mentor Award.

November 2017 **Wolverine Pathways Visit Day Volunteer:** Led HCI research activity for high school students.

Teaching

Winter 2021 **Graduate Student Instructor: User Interface Development (EECS 493)**
- Administrative work for a class of 300+ undergraduates learning web design and development.
- Developed and graded course materials such as projects, quizzes, and exams.
- Held office hours and moderated an online course forum.

Summer 2016 **M-STEM Academies Academic Facilitator**
Led discussion sections for a calculus course for incoming freshmen.

Mentoring

2022–2024 **Andi Xu** (University of Michigan, project mentor)
First Position: Software engineering at Meta and CS Masters at Stanford

2021–2022 **Yi Fei Cheng** (University of Michigan, project mentor)
First Position: PhD at CMU HCII