Jaylin Herskovitz

UI/UX Researcher, Prototyper, and Developer
AI, Programming Tools, Accessibility, Augmented Reality

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Experienced human-centered researcher with a strong technical background in designing and developing accessible, AI-powered mobile applications and AR/VR experiences. Skilled in mixed-methods research (qualitative and quantitative), user-centered design, rapid prototyping, and interface development.

Education

Ph.D. Candidate, Computer Science & Engineering • University of Michigan, Ann Arbor — 2019 – Present
Thesis: *'Hacking Assistive Technology: Empowering Blind People to Create and Customize AI Tools'* — *(Expected June 2025)*

B.S., Computer Science • University of Michigan, Ann Arbor — 2015 – 2019

Experience

Apple — Seattle, WA
AI/ML Accessibility Research Intern — May 2023 – Sept 2023
- Conducted mixed-method UX research for Apple's Magnifier app: analyzed qualitative interviews and usability testing data, derived actionable usability enhancements and new feature designs, and developed comprehensive testing protocols.

AI/ML Accessibility Research Intern — May 2019 – Sept 2019
- Made mobile AR applications accessible to blind VoiceOver users: designed and implemented novel audio and gesture interaction techniques in Swift.
- Created an internal dataset of mobile AR applications on iOS, and analyzed for accessibility needs and concerns.
- Developed, facilitated, and disseminated a 10-participant study to compare techniques and evaluate spatial understanding.
- Presented work to colleagues and senior leadership at internal demo events, and to the community in ASSETS 2020 (paper) and US Patent App. 18/239,018 (pending).

University of Michigan — Ann Arbor, MI
Graduate Researcher and Teaching Assistant — Sept. 2019 – Present
- Authored and presented multiple qualitative and quantitative research papers (e.g., 1, 2, 3, 4) at top-tier human-computer interaction conferences.
- Developed experimental systems and technical prototypes for iOS, Microsoft HoloLens, web, and browser extension.
- Led and coordinated research efforts for teams consisting of undergraduate and graduate students, faculty, and stakeholders.
- Established partnerships with local accessibility organizations to design and implement AI accessibility research agendas.

Microsoft Research — Redmond, WA
EPIC (Extended Perception, Interaction & Cognition) Research Group Intern — May 2018 – Sept 2019
- Evaluated the potential of pass-through AR devices for guiding users in home improvement tasks.
- Developed a technical prototype system with Unity for Windows pass-through MR, demonstrating methods for using visual AR augmentations to guide users through hanging a shelf (measuring materials, placing nails, etc.)
- Developed and conducted a quantitative evaluation of using AR for measuring and precise placement tasks (paper)

Selected Academic Publications   *(See full list of publications and projects at: https://jayl.in)*

[1] **ProgramAlly (UIST 2024)**: Developed a multi-modal end-user programming tool (as a native iOS app with python server), enabling blind users to create customized AI programs for visual access (paper)
[2] **Hacking, Switching, Combining (CHI 2023):** Conducted a multi-part qualitative study (including interviews, a 2-week diary study, and participatory design sessions), leading to in-depth results on blind people's challenges with existing AI apps (paper)
[3] **XSpace (ISS 2022)**: Built an augmented reality toolkit facilitating distributed spatial collaboration (as a Unity toolkit), blending separate environmental meshes into a shared space for collaborative AR experiences (paper)

Technical and Methodological Skills

Research Methods: Interviews, Contextual inquiry, Surveys, Co-design, Controlled experiments, A/B testing, Usability testing, Field studies, Qualitative coding, Quantitative analysis and statistics

Programming Languages: Python, Swift (SwiftUI and UIKit), JavaScript, C#, HTML/CSS

Platforms and Development Tools: XCode, Unity, ARKit, AFrame, Flask, Firebase, NodeJS, Bootstrap, Vue, React, jQuery, Git, Machine learning integration (GPT-4, YOLO, etc.)

Design & Prototyping Tools: Figma, Adobe Suite (XD, Illustrator), Miro