

Lisa Orie

Ph.D. Student in Computer Science & Engineering
Human-Computer Interaction, Information and Communication Technologies for Development

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Research Interests

My research examines and evaluates mobile health (mHealth) deployments in low- and middle-income countries (LMICs). I utilize human-centered design and qualitative approaches with the goal of successful and locally manageable mHealth interventions that can integrate into existing health systems. I closely collaborate with local health researchers, researchers from LMICs, and Ministries of Health to prioritize the needs of local people and addressing local challenges. I am interested in examining all phases of maturity of mHealth interventions, from ideation and pre-prototyping to integration.

Education

University of Washington

Ph.D. in Computer Science & Engineering
Advisor: Professor Richard Anderson

Sept 2021 – Aug 2026 (Expected)

Wellesley College

B.A. in Computer Science and Philosophy
Advisor: Professor Orit Shaer
Magna Cum Laude, Phi Beta Kappa, Sigma Xi

Sept 2017 – June 2021

University of Oxford Worcester College

Visiting student in Computer Science and Philosophy

Sept 2019 – Dec 2019

Publications

Peer-Reviewed Publications

1. Shaan Chopra, **Lisa Orie**, Katherine Juarez, Nussara Tieanklin, James Fogarty, and Sean A. Munson. Menopause Legacies: Designing to Record and Share Lived Experiences of Menopause Across Generations. Conditionally accepted to the 27th ACM SIGCHI Conference on Computer-Supported Cooperative Work & Social Computing (CSCW '24).
2. **Lisa Orie**, Caryl Feldacker, Jacqueline Madalitso Huwa, Agness Thawani, Evelyn Viola, Christine Kiruthu-Kamamia, Odala Sande, Hannock Tweya, and Richard Anderson. 2024. HIV Client Perspectives on Digital Health in Malawi. In Proceedings of the CHI Conference on Human Factors in Computing Systems (CHI '24), May 11–16, 2024, Honolulu, HI, USA. ACM, New York, NY, USA, 13 pages. <https://doi.org/10.1145/3613904.3642245>
3. **Lisa Orie**, Caryl Feldacker, Hannock Tweya, Richard Anderson. eHealth Data Security and Privacy: Perspectives from Diverse Stakeholders in Malawi. To appear in *Proc. ACM Hum.-Comput. Interact.* 8, CSCW1, Article 46 (April 2024), 26 pages. <https://doi.org/10.1145/3637323> [Just Accepted]

4. **Lisa Orii**, Nami Ogawa, Yuji Hatada, and Takuji Narumi. 2022. Designing for Speech Practice Systems: How Do User-Controlled Voice Manipulation and Model Speakers Impact Self-Perceptions of Voice? In *Proceedings of the 2022 CHI Conference on Human Factors in Computing Systems (CHI '22)*. Association for Computing Machinery, New York, NY, USA, Article 56, 1–14. <https://doi.org/10.1145/3491102.3502093>
5. **Lisa Orii**, Diana Tosca, Andrew L Kun, and Orit Shaer. 2021. Perceptions of Trucking Automation: Insights from the r/Truckers Community. In *13th International Conference on Automotive User Interfaces and Interactive Vehicular Applications (AutomotiveUI '21)*. Association for Computing Machinery, New York, NY, USA, 137–146. <https://doi.org/10.1145/3409118.3475154>
6. **Lisa Orii**, Diana Tosca, Andrew L Kun, and Orit Shaer. 2021. Perceptions on the Future of Automation in r/Truckers. In *Extended Abstracts of the 2021 CHI Conference on Human Factors in Computing Systems (CHI EA '21)*. Association for Computing Machinery, New York, NY, USA, Article 311, 1–6. <https://doi.org/10.1145/3411763.3451637>
7. **Lisa Orii**, Luis Alonso, Kent Larson. Methodology for Establishing Well-Being Urban Indicators at the District Level to be used on the CityScope Platform. *Sustainability* 2020, 12, 9458.
8. Di Jin, Zhijing Jin, Joey Tianyi Zhou, **Lisa Orii**, and Peter Szolovits. Hooks in the Headline: Learning to Generate Headlines with Controlled Styles. In *Proceedings of the 58th Annual Meeting of the Association for Computational Linguistics (ACL 2020)*.

Other

1. Danielle Wood, Fohla Mouftaou, Temilola Fatoyinbo, David Lagomasino, Ufuoma Ovienmhada, Eric Ashcroft, Lelia Hampton, **Lisa Orii**, TojumiOluwa Adegboyega, Anisha Nakagawa and Julliet Wanyiri. (2019, December). Co-Designing an Environmental Observatory to Support Eco-Entrepreneurship in Benin. In *AGU Fall Meeting Abstracts* (Vol. 2019, pp. GC53B-01).

Under Review

1. **Lisa Orii**, Kate S. Wilson, Jacqueline Huwa, Christine Kiruthu-Kamamia, Odala Sande, Agness Thawani, Astrid Berner-Rodoreda, Evelyn Viola, Hannock Tweya, Petros Tembo, Wapu Masambuka, Richard Anderson, & Caryl Feldacker. “They provide the right kind of support.” A qualitative study of preferences for differentiated service delivery location among recipients of antiretroviral therapy at Lighthouse Trust in Lilongwe Malawi. Under review at *PLOS ONE*.

Selected Research Projects

Research methods in **blue**. Programming languages and frameworks are in **orange**.

Oct 2023 – Present

Mobile App for Expanding Contraceptive Choice in Kenya

Advisors: Professor Richard Anderson (UW CSE) & Professor Elizabeth Harrington (UW Dept. of Global Health)

Leading the development of a mobile app for Kenyan adolescent girls and young women to provide contraceptive education and decision support. Directing an app development team of 5 undergraduates.

Methods and Tools: **Human-Centered Design**, **Literature Review**, **Flutter**, **Dart**

USSD Transaction Failures in Nigeria

Sept 2023 – Present

Advisor: Professor Richard Anderson (UW CSE)

Designing a longitudinal repeated measures study to examine USSD reliability in Nigeria, in collaboration with the DFS Lab.

Methods and Tools: **Study Design** (ideation, recruitment planning, ethics approval), **Quantitative Methods**

Electronic HIV Data Security and Privacy in Malawi

May 2022 – Present

Advisors: Professor Richard Anderson (UW CSE) & Professor Caryl Feldacker (UW Dept. of Global Health)

Leading the investigation of gaps and opportunities in the security of an open-source mobile medical record system used at a HIV care program in Malawi. Developed interview guides with local researchers and conducted interviews and focus group discussions with healthcare professionals, Ministry of Health officials, and HIV clients to illuminate key data security issues. Through discussion with Malawian researchers, we developed policy and practice improvements for data security and privacy.

Methods and Tools: [Study Design](#) (ideation, ethics approval, implementation, publication writing and submission), [Fieldwork](#), [Key Informant Interviews](#), [Focus Group Discussions](#), [Thematic Analysis](#), [ATLAS.ti](#)

Designs for Recording and Sharing Menopause Experiences Across Generations

Jan 2022 – Oct 2023

Proposed designs and guidelines for recording and sharing menopause experiences across generations and within families.

Methods and Tools: [Study Design](#) (ideation, ethics approval, implementation, publication writing and submission), [Semi-Structured Interviews](#), [Co-Design Sessions](#), [Thematic Analysis](#)

Sidewalks and Socio-Demographics

Sept 2021 – Dec 2021

Advisor: Professor Jon Froehlich (UW CSE)

Mapped sidewalk presence and quality to geographic regions. Examined correlations between sidewalk characteristics and socio-demographics.

Methods and Tools: [Python](#)

Speech Practice Systems to Improve Self-Perceptions

Apr 2020 – May 2022

Advisor: Professor Takuji Narumi (University of Tokyo)

Led the investigation of the impact of listening to speech role models and voice manipulation on the self-perception of voice. Designed and executed usability study with 18 participants.

Methods and Tools: [Study Design](#) (ideation, ethics approval, implementation, publication writing and submission), [Semi-Structured Interviews](#), [Usability Study](#), [Mixed-Methods Analysis](#), [Prototyping](#), [HTML/CSS/JavaScript](#), [R](#)

Truck Drivers' Perspectives on Automation

Sept 2020 – July 2021

Advisor: Professor Orit Shaer (Wellesley College)

Led a project that analyzed the perspective of truck drivers on automation in the trucking industry. Collected Reddit posts written by truck drivers and conducted analysis.

Methods and Tools: [Study Design](#) (ideation, implementation, publication writing and submission), [Thematic Analysis](#), [Python](#)

Developing an Urban Well-Being Index

Jan 2020 – Dec 2020

Advisor: Dr. Luis Alonso (MIT Media Lab)

Led the formulation of an urban metric that predicted well-being in urban environments.

Methods and Tools: [Study Design](#) (ideation, implementation, publication writing and submission), [Literature Review](#)

Designing a Low-Cost Kit for Ecosystem Monitoring

Feb 2019 – Aug 2019

Advisor: Dr. Danielle Wood (MIT Media Lab)

Designed and engineered a sensor kit that monitored the health ecosystem in Benin with low-cost sensors, wireless data transmission, and rechargeable solar battery. Mapped vegetation growth of an invasive plant species in Benin to predict future growth.

Methods and Tools: [Arduino](#), [C++](#), [Geographic Information System Mapping \(ArcGIS\)](#), [Python](#)

Grants, Awards, Funding

"Co-Design of a Mobile App to Support Person-Centered Contraceptive Decision Support among Adolescent Girls and Young Women in Kenya in the Pharmacy Setting."

Jan 2024 – Feb 2025

Received grant from the University of Washington's Global Innovation Fund

Quad Fellowship

2022 – 2023

Selected into the inaugural cohort as a representative from Japan. Awarded fellowship to support graduate studies.

MIT Technology Review's Innovators Under 35 Japan 2022
Awarded for research that advances health technologies in LMICs.

Funai Overseas Scholarship 2020 – 2023
Awarded Ph.D. fellowship that covers tuition, insurance, and living expenses for 2 years.

Grace Hopper Celebration 2020 Scholarship 2020
Awarded to attend conference for women in tech.

Japan Student Services Organization (JASSO) Scholarship 2017 – 2021
Awarded scholarship to pursue undergraduate studies in the U.S. for 4 years.

Grew Bancroft Foundation Scholarship 2017 – 2021
Awarded scholarship to study at an American liberal arts college for 4 years.

Kanazawa Iwao Memorial Foundation Scholarship 2017
Awarded scholarship to pursue undergraduate studies in the U.S. for 1 year.

Teaching

Graduate Teaching Assistant, University of Washington
Courses: Human-Computer Interaction (Win 2024), Capstone Software Design to Empower Underserved Populations (Spr 2024)

Undergraduate Teaching Assistant, Wellesley College
Courses: Human-Automation Interaction (Spr 2021), Human-Computer Interaction (Spr 2021), Calculus II (Spr 2018)

Academic Service

Reviewing

Proceedings of the ACM on Human-Computer Interaction (PACM HCI), CSCW 2023 – Present
ACM CHI Conference on Human Factors in Computing Systems (CHI) 2023 – Present

Organization

UW CSE Prospective Student Committee Co-Chair 2023 – Present
UW Pre-Application Mentorship Service Volunteer 2023 – Present
UW Change Seminar Co-Organizer 2022 – Present
UW ICTD Seminar Co-Organizer 2022 – Present

Conference Volunteering

ICTD 2022 Student Volunteer Chair 2022
ACM COMPASS 2022 Student Volunteer 2022
Automotive UI 2021 Student Volunteer 2021

Volunteering

Parasaiyo Japan, The Philippines May 2015 – Present
Supporting orphanage in the Philippines in their pursuits for higher education.
Organizes charity events in Japan to raise donation funds. Makes annual visits to orphanage.

Chinatown Afterschool Program Mentor *Boston, MA, USA*

Assisted with providing afterschool instruction for children living in Boston's Chinatown. Supported learning for third grade students.

Sept 2017 – May 2018