Rahaf Alharbi

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OVERVIEW

My research is at the intersection of accessibility, privacy, and responsible artificial intelligence (AI). Drawing from in-depth research with blind communities, my dissertation explores the possibilities and limitations of emerging AI-enabled privacy tools within assistive technologies. Grounded in disability studies and disability justice activism, I argue that while such approaches may increase autonomy, they impose additional access labor and introduce cross-cultural bias. Carving an alternative path, I propose policy recommendations to regulate data collection and use in visual assistive technologies. Outside of my dissertation project, I've led and collaborated on research related to accessible workplaces, multilingual captioning, and customizable assistive technologies. My scholarly works have appeared in several top-tier HCI venues such as ACM CHI and CSCW, and have garnered prestigious departmental and university-wide awards, including the Rackham Predoctoral Fellowship and the Gary M. Olson Outstanding PhD Student Award.

EDUCATION

University of Michigan, Ann Arbor, MI, USA   Aug. 2020 - Present
Ph.D. in Information, specialized in Accessibility and Human-Computer Interaction
Affiliated with Accessibility, HCI, Aging (AHA!) and Center for Ethics, Society, and Computing (ESC)
Advisors: Dr. Robin Brewer and Dr. Sarita Schoenebeck
Dissertation topic: *Co-Imagining Privacy Futures With Blind People: The Case of Visual Assistive Technologies*
Committee: Sarita Schoenebeck (co-chair), Robin Brewer (co-chair), Ann Heffernan, and Cynthia Bennett

University of California, San Diego, CA, USA   Sep. 2015 - Mar. 2020
B.S. in Mechanical Engineering (minor in Ethnic Studies), GPA: 3.67/4.00
Fully funded by the KAUST Gifted Students Scholarship

RESEARCH EXPERIENCE

University of Michigan, Ann Arbor, MI, USA   Aug. 2020 - Present
Graduate Research Assistant
• Led, designed, and conducted studies with over 70 people with disabilities to understand accessibility barriers, benefits, and trade-offs in various contexts such as AI assistance technologies and live streaming
• Collaborated with over 10 researchers across various institutions and departments (e.g., computer science and communication)
• Resulted in several first-authored and co-authored papers

Meta, Menlo Park, CA, USA   May 2023 - Aug. 2023
UX Research Intern (Responsible AI Team)
Manager: Dr. Amy Piedalue, collaborators: Dr. Jessica Heal, Dr. Ella Gamze Strack, and Dr. Chloé Bakalar
• Collaborated with UX team members and Chief Ethicist to design and conduct a foundational research study
• Performed an extensive literature review on internal and external research articles
• Collected and analyzed in-depth qualitative data
• Delivered implications that critically shaped Meta's Responsible AI approach to various teams, including directors and managers
• Published two internal research papers

Microsoft Research, Redmond, WA, USA   May 2022 - Aug. 2022
Research Intern (Ability Team)
Mentored by Dr. John Tang (at Microsoft Research) and Karl Henderson (at Experiences & Devices)
• Designed and conducted qualitative interviews with 21 professionals with disabilities to understand their experiences in hybrid meetings
• Uncovered the unique accessibility benefits, drawbacks, and conflicts of hybrid meetings
• Generated design implications to improve the accessibility of hybrid meetings and videoconferencing
• Resulted in a first-authored CHI 2023 paper

PUBLICATIONS

- **Peer-Reviewed Journals and Conference Publications**[*]

[P7] Misfitting With AI: How Blind People Verify and Contest AI Errors
<u>Rahaf Alharbi</u>, Pa Lor, Jaylin Herkovitz, Sarita Schoenebeck, Robin Brewer
To Appear in ASSETS 2024
Acceptance rate: 30%

[P6] ProgramAlly: Creating Custom Visual Access Programs via Multi-Modal End-User Programming
Jaylin Herskovitz, Andi Xu, <u>Rahaf Alharbi</u>, Anhong Guo
To Appear in UIST 2024

[P5] Accessibility Barriers, Conflicts, and Repairs: Understanding the Experience of Professionals with Disabilities in Hybrid Meetings
<u>Rahaf Alharbi</u>, John Tang, Karl Henderson
Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI), 2023
Acceptance rate: 28.4%

[P4] Hacking, Switching, Combining: Understanding and Supporting DIY Assistive Technology Design by Blind People
Jaylin Herskovitz, Andi Xu, <u>Rahaf Alharbi</u>, Anhong Guo
Proceedings of the ACM Conference on Human Factors in Computing Systems (CHI), 2023
Acceptance rate: 28.4%

[P3] Denition drives design: Disability models and mechanisms of bias in AI technologies
Denis Newman-Griffis, Jessica Sage Rauchberg, <u>Rahaf Alharbi</u>, Louise Hickman, Harry Hochheiser
First Monday, 2023

[P2] Understanding Emerging Obfuscation Technologies in Visual Description Services for Blind and Low Vision People
<u>Rahaf Alharbi</u>, Robin N. Brewer, Sarita Schoenebeck
Proceedings of the ACM on Human-Computer Interaction (CSCW), 2022

[P1] Beyond Borders: Womens Perspectives on Harm and Justice after Online Harassment
Jane Im, Sarita Schoenebeck, Marilyn Iriarte, Gabriel Grill, Daricia Wilkinson, Amna Batool, <u>Rahaf Alharbi</u>, Audrey N. Funwie, Tergel Gankhuu, Eric Gilbert, Mustafa Naseem
Proceedings of the ACM on Human-Computer Interaction (CSCW), 2022

- **Workshops Organized**

[W2] **Bridging the Gap: Towards Advancing Privacy and Accessibility**
<u>Rahaf Alharbi</u>, Robin Brewer, Gesu India, Lotus Zhang, Leah Findlater, Yixin Zou, and Abigale Stangl
ACM SIGACCESS Conference on Computers and Accessibility (ASSETS'23)

[W1] Dreaming Disability Justice in HCI
Cella Sum, <u>Rahaf Alharbi</u>, Franchesca Spektor, Cynthia Bennett, Rua Williams, Katta Spiel, Christina Harrington
ACM CHI Conference on Human Factors in Computing Systems - Extended Abstract (EA CHI'22)

- **Invited Articles**

[A1] **Challenging Ableism: A Critical Turn Toward Disability Justice in HCI**
Cella Sum, Franchesca Spektor, <u>Rahaf Alharbi</u>, Leya Breanna Baltaxe-Admony, Erika Devine, Hazel Anneke Dixon, Jared Duval, Tessa Eagle, Frank Elavsky, Kim Fernandes, Leandro S. Guedes, Serena Hillman, Vaishnav Kameswaran, Lynn Kirabo, Tamanna Motahar, Kathryn E. Ringland, Anastasia Schaadhardt, Laura Scheepmaker, and Alicia Williamson
XRDS, Summer 2024, VOL.30, NO.4

- **Selected Peer-Reviewed Workshop Papers and Extended Abstracts**

[WP3] **Speculating Perfect Algorithmic Reparations for Disability**
Robin Brewer, <u>Rahaf Alharbi</u>, Sarita Schoenebeck
Algorithmic Reparation Workshop, University of Michigan, 2022

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[*]In the field of human-computer interaction, conference papers are rigorously peer-reviewed, archived, and considered to be prestigious.

[WP2] **On Obfuscation, Privacy & Visual Description: Rethinking Access Technology as Contested**
Rahaf Alharbi, Jasmine Duong, Robin Brewer, Sarita Schoenebeck.
Presented in Articially Intelligent Technology for the Margins: A Multidisciplinary Design
Agenda CHI 2021 Workshop

[WP1] I Am Not an Engineer: Understanding How Clinicians Design & Alter Assistive Technology
Rahaf Alharbi, Ada Ng, Rawan Alharbi, Josiah Hester
ACM CHI Conference on Human Factors in Computing Systems - Extended Abstract (EA CHI'20)

TEACHING EXPERIENCE

University of Michigan, Ann Arbor, MI, USA
Teaching Assistant for Introduction to Accessibility (Graduate Level)   Fall 2021

AWARDS AND HONORS

Gary M. Olson Outstanding PhD Student Award, UM School of Information   2024
Human Computer Interaction Consortium (HCIC) invite with travel funding   2024
Rackham Predoctoral Fellowship   2024-2025
Most prestigious award offered by the University of Michigan, aimed to support dissertations that are "unusually creative, ambitious, and impactful"
UMSI Travel Grant x 2 (granted twice)   2023
Rackham Graduate School Travel Grant x 2 (granted twice)   2023
DEI Travel Grant from ACM SIGACCESS   2022
Mini grant from UM Initiative On Disability Studies (UMInDS)   2021
DEI Travel Grant from ACM SIGACCESS   2020
KAUST Gifted Student Scholarship (KGSP)   2015
Awarded to top 1% of Saudi high school students for achievement in international science olympiads. Includes full tuition and stipends to pursue an undergraduate degree in the United States.

TALKS AND PRESENTATIONS

[T5] **Co-Imagining Privacy Futures with Blind People: The Case of Visual Assistance Technologies**
• Presented at Master's level course at Northeastern University, 2024
• Presented at Master's level course at the University of Michigan, 2024

[T4] **Accessibility Barriers, Conflicts, and Repairs: Understanding the Experience of Professionals with Disabilities in Hybrid Meetings**
• Presented research and product-oriented talks to various groups at Microsoft
• Presented at CHI 2023

[T3] **Understanding Emerging Obfuscation Technologies in Visual Description Services for Blind and Low Vision People**
• Presented at Fourth Annual U-M Center for Disability Health and Wellness Research Symposium, 2023
• Presented at a Ph.D. level course on Algorithms and Society at the University of Michigan, 2022
• Presented at the Michigan Interactive and Social Computing (MISC) research group, 2022
• Presented at a Master's level course in the University of Michigan, 2021
• Presented at CSCW 2022

[T2] **Understanding the Motivations and Practices of Disabled Live Streamers**
• Co-presented at UMSI Lighting Talks at the Intersections of Information, Diversity, Inclusion and Equity. Ann Arbor, Michigan, 2021

[T1] **I Am Not an Engineer: Understanding How Clinicians Design & Alter Assistive Technology**
• Presented at the ACM Special Interest Group on Accessible Computing (SIGACCESS), Riyadh, 2020

SERVICE AND LEADERSHIP

• Research Mentorship

Angela Cheong, UMSI Undergraduate   Winter 2024 - Present

Pa Lor, UMSI Masters, co-authored [P7]   Fall 2023 - Winter 2024

Jasmine Duong, UMSI Undergraduate, co-authored [W2]   Fall 2020 - Winter 2021

• Service to the university

Making Research Communication Accessible Panel   2023

Served as co-panelist at Michigan Interactive and Social Computing (MISC) research group to share accessibility practices for designing presentations.

Community Advisory Board at the Motor & Visual Development Lab   2023-2024

Served as a research and community advisor to the MVD lab at the School of Kinesiology (University of Michigan). My responsibilities included reviewing research projects, study design materials, and brainstorming projects that are inclusive of neurodivergent people.

Neubacher Award Committee Member   2023

Reviewed nominees and selected winners for the James T. Neubacher Award which is presented to University of Michigan faculty, students, and staff who empower people with disabilities, advocate for disability rights, and increase accessibility in the university.

Co-Authored Proposal to Increase UMSI Travel Funding   2023

Assisted Doctoral Executive Committee (DEC) at UMSI to research and author a proposal to address equity concerns and increase travel funding for Ph.D. students who attend and present in conferences. As a result our successful proposal, the current policy increased by a maximum of $1300 from the original funding amount.

Accessibility, HCI, Aging (AHA) Research Group at the University of Michigan   2022 - 2023

Co-moderator of biweekly group meetings with faculty and students across the School of Information and the Computer Science & Engineering department.

Personal Care Assistant Graduate Student Scholarship at the University of Michigan   2021

My responsibilities included advertising and reviewing scholarship applicants.

Disability Studies & HCI Reading Group at the University of Michigan   2020 - 2021

Organizer.

Services for Students with Disability Office at the University of Michigan   2020 - 2021

Advisory Board.

- Service to the the field

ACM Designing Interactive Systems (DIS)   2022 - 2023

Assisted Accessibility Chairs (Robin Brewer and Cynthia Bennett) with numerous tasks such as co-authoring a guide for creating accessible figures and tables, selecting accessibility services, and evaluating the in-person venue for access.

ACM Conference On Computer-Supported Cooperative Work And Social Computing (CSCW)   2021

Student Volunteer (Day Lead): assigned tasks to various student volunteers and created a document for writing alternative texts on images shared on CSCW Twitter.

- Reviewing

ACM CSCW   2020 - Present

2-3 reviews per year

Associate Chair (AC) for posters in CSCW 2024

ACM CHI   2020 - Present

2-3 reviews per year

Special Recognition for Outstanding Reviews in CHI 2022 & CHI 2024

ACM ASSETS   2020 - Present

1-2 workshop reviews per year

Skills

Methods: Qualitative Analysis, Interviewing, Focus Groups, Co-design Workshops, Ethnography, Usability Testing, Quantitative Analysis, Survey

Programming: Python, MATLAB

Languages: English (fluent), Arabic (native)