Ben Kosa

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https://benskosa.github.io/

Research Interests

My research investigates how interactive and AI-enabled systems can expand access to information for people with disabilities, particularly Blind and Low Vision (BLV) and Deaf and Hard of Hearing (DHH) communities.

Areas: Human-Computer Interaction, Accessibility, DIY Technology, AR/VR, Mobile Sensing, and Applied ML

Education

Madison, WI
(Sept 2024 – June 2030)

University of Wisconsin–Madison
Ph.D. in Computer Science
Advisor: Dr. Yuhang Zhao

Seattle, WA
(Sept 2020 – June 2024)

University of Washington
B.S. in Computer Science

Fellowships & Awards

2025 **Best Paper Honorable Mention at CHI 2025,** for [5]
2024 – 2027 **NSF Graduate Research Fellowship**
2023 **Mary Gates Research Scholarship,** University of Washington
2023 **Dr. Arthur I. Karshmer Award for Assistive Technology Research for Best Submission** to CSUN AT Conference 2023
2020 – 2024 **Dean's list**, University of Washington
2020 – 2023 **Washington State Opportunity Scholarship,** University of Washington
2021 – 2022 **Leo Maddox Foundation Scholarship,** University of Washington

Professional Experience

June 2023 – Sept 2023
New York, NY

Applied Research Intern | Microsoft Research
HCI & Applied ML Research for Deaf and hard of hearing
Led a research project on improving existing feature-based sign language search systems. Published work at CHI'25 [5] with honorable mention.
Advisors: Dr. Danielle Bragg (MSR), Dr. Alex Lu (MSR), and Dr. Richard Ladner (University of Washington)

Aug 2022 – Sept 2023
Washington, D.C.

Research Intern | NSF Research Experience for Undergrads | Gallaudet University
Conducted research addressing public health disparities in U.S. Deaf community by studying ASL-based informed consent & gesture interaction; co-developed a toolkit for healthcare practitioners, evaluated DHH user experiences, and published results [1, 2].
Advisor: Dr. Raja Kushlanagar, Dr. Christian Vogler, Dr. Patrick Boudreault

Research Lab Experience

Make4All Lab | University of Washington
Research Assistant, Advised by Kate Glazko and Dr. Jen Mankoff

- Investigating how AI/LLM-based tools are leveraged by different disability communities and are biased against them.
- Worked with PhD student Kate Glazko on two papers [3, 4], helped perform qualitative analysis and paper writing.
- Helped Dr. Venkatesh Potluri revise and edit his doctoral thesis

Cognition & Cortical Dynamics Lab | University of Washington
Research Assistant, Advised by Dr. Jasmine Awad

- Worked as an undergrad RA investigating both how L1 learners of American Sign Language (ASL) learn fundamental programming concepts and how to better design a asynchronous ASL proficiency test for participants.

Publications

CHI 2026 [Submission Accepted]

[6] Not Seeing the Whole Picture: Challenges and Opportunities in Using AI for Co-Making Physical, DIY-AT for People with Visual Impairments
Ben Kosa, Hsuanling (Hannah) Lee , Jasmine Li, Sanbrita Mondal, Yuhang Zhao, Liang He
ACM CHI 2026 Conference on Human Factors in Computing Systems

CHI 2025 [Honorable Mention]

[5] Exploring Reduced Feature Sets for American Sign Language Dictionaries
Ben Kosa, Aashaka Desai, Alex Lu, Richard Ladner, Danielle Bragg
ACM CHI 2025 Conference on Human Factors in Computing Systems

FAccT 2024

[4] Autoethnographic Insights from Neurodivergent GAI "Power Users"
Kate Glazko, JunHyeok Cha, Aaleyah Lewis, Ben Kosa, Brianna L Wimer, Andrew Zheng, Yiwei Zheng, Jennifer Mankoff
CHI 2025 Conference on Human Factors in Computing Systems

CSUN AT 2024

[3] Identifying and improving disability bias in GPT-based resume screening
Kate Glazko, Yusuf Mohammad, Ben Kosa, Venkatesh Potluri, Jennifier Mankoff
ACM FAccT 2024 Conference on Fairness, Accountability, and Transparency

CSUN 2023

[2] Accessible Informed Consent Process in Interactive ASL Apps
Hannah Benjamin, Natnail Tolossa, Michaela Brandt, Ben Kosa, Poorna Kushalnagar, Raja Kushalnagar
CSUN AT Conference 2024 The Journal on Technology and Persons with Disabilities

[1] Asl consent in the digital informed consent process
Ben Kosa, Ai Minakawa, Patrick Boudreault, Christian Vogler, Poorna Kushalnagar, Raja Kushalnagar
CSUN AT Conference 2023 The Journal on Technology and Persons with Disabilities

Invited Talks/Presentations

Tokyo, Japan — **Miraikan Accessibility Lab** | Tokyo, Japan

Dec 2024 — Lightning Talks: *Exploring Reduced Feature Sets for American Sign Language Dictionaries [5]*

Madison, WI — **AI-Assisted Vision Mini Workshop** | University of Wisconsin–Madison

Lightning Talks: *AR x AI for supporting low vision people in social interaction*

Mary Gates Undergraduate Research Symposium | University of Washington

2024
- *Exploring Reduced Feature Sets for American Sign Language Dictionaries [5]*

2023
- *ASL Consent in the Digital Informed Consent Process [1]*

Volunteering/Service/Leadership

Reviewer

2025, 2026 — ACM CHI Conference on Human Factors in Computing

July, 2023 — **Gallaudet University**

GenCyber Camp for Deaf and Hard-of-Hearing High School Students
- Helped as a camp counselor for a cyber-security camp and helped teach a one week class on the fundamentals of cybersecurity.

May 2021 – June 2024 — **University of Washington**

President of American Sign Language (ASL) Club at UW
- As a CODA fluent in ASL, served as President of the UW ASL Club, overseeing club operations, coordinating officers, hosting twice-weekly meetings, and organizing community events, workshops, and socials centered on ASL and Deaf culture.

Projects

Class Project — **Alti: Alternate Text Bot for Discord [WEBSITE] [GITHUB]**
- Discord currently does NOT generate alt text for images. For a class project, we created a publicly available discord bot that leverages VLMs to automatically generate alt text for discord users who rely on screen readers.

Class Project — **Exploring Games for Awareness of Urban Accessibility Barriers**
- Developed an interactive game simulating wheelchair navigation through urban sidewalks to raise awareness of common accessibility barriers, such as broken pavement and missing curb ramps.

Class Project — **Investigate the potential of synthetic data and LLMs for Morpheme Segmentation of morphologically complex low-resource languages**
- Worked in a group of 3 to investigate if using synthetically generated Swahili verbs to finetune a pre trained Large Language Model (LLM) would beat current state of the art (SOTA) for automatic morpheme segmentation on Swahili verbs.
- Found that Transformer-based LLMs provide a 10% increase in accuracy in Swahili morpheme segmentation compared to SOTA: Swaregex. Learned how to implement LLaMA for training.

Skills

Programming Languages: Python, Swift, C/C++, C#, Javascript, Java, Linux/Command Line Scripting
Research Methods: User Studies, Qualitative and Quantitative Analysis, AI/ML Model Training
Frameworks/Tools: PyTorch, Python (Numpy, Pandas, Scikit, etc), OpenCV, Git, Node.js, Express/MySQL, React,
Applications: Slack, Overleaf, Microsoft Office, Adobe Creative Suite, Unity/Blender Miro/Figma
Spoken Languages: English, American Sign Language (ASL)