

XIA SU

📍 Seattle, WA 📩 xiasu@cs.washington.edu 🌐 <https://xiasu.github.io> 📖 Google Scholar

PROFILE

I am a final year Ph.D. student in Computer Science at the University of Washington, advised by Prof . Jon Froehlich. My research focuses on Human-AI Interaction, especially how AI systems can understand and support human interaction with real-world spaces.

I pursue two connected directions:

Spatial reasoning and world understanding — building indoor mapping, navigation, and assessment methods with VLM, computer vision, 3D graphics, and proprietary hardware. I aim to advance how AI perceives built environments, reasons about human-environment matches, for navigation, accessibility, and robotics control.

Creativity support tools — developing MLLM-based systems for visual, audio, and UI design. I invent creative interfaces, define domain-specific languages, and implement ML pipelines with domain data to ground AI in real creative workflows.

I'm **graduating in summer 2026** and actively seeking full-time industry opportunities as a research scientist or engineer. Please feel free to reach out if you have any opportunities!

EDUCATION

University of Washington, Seattle, WA <i>PhD of Computer Science, in Human Computer Interaction. Instructed by Prof. Jon Froehlich</i>	<i>Sep 2021 - May 2026</i>
University of Washington, Seattle, WA <i>Master of Science, in Computer Science & Engineering.</i>	<i>Sep 2021 - May 2024</i>
RWTH Aachen, Nordrhein-Westfalen, Germany <i>Exchange Study</i>	<i>Oct 2016 - Feb 2017</i>
Tsinghua University, Beijing, China <i>Bachelor and Master of Architecture</i>	<i>Sep 2014 - June 2021</i>

EMPLOYMENT

UW CSE, Seattle, WA <i>Graduate Research Assistant/ Teaching Assistant</i>	<i>September 2021 - Present</i>
- Building next-generation indoor mapping and assessment interfaces, systems, and ML workflows.	
Apple AIML, Seattle, WA <i>Machine Learning Intern</i>	<i>April 2025 - September 2025</i>
- Building UI generation systems that conform to UI design systems. - Project currently ongoing.	
Adobe Research, San Francisco, CA <i>Research Scientist Intern</i>	<i>June 2024 - September 2024</i>
- Designing and implementing image editing tools that help create 2.5D effects from depth-estimation models. - Work published and patent filed.	
Adobe Research, San Jose, CA <i>Research Scientist Intern</i>	<i>June 2023 - September 2023</i>
- Designing and implementing AR authoring pipeline that generates context-aware AR sound in real time. - Work published and patent filed.	
Microsoft Research Asia, Beijing, China <i>Research Intern</i>	<i>June 2020 - March 2021</i>
- Designing and implementing automatic retrieval pipelines to refine PowerPoint slide layouts	

SELECTED FULL PAPER PUBLICATIONS

FlyMeThrough: Human-AI Collaborative 3D Indoor Mapping with Commodity Drones

Xia Su, Ruiqi Chen, Jingwei Ma, Chu Li, Jon E. Froehlich

UIST'25 

Accessibility Scout: Personalized Accessibility Scans of Built Environments

William Huang, Xia Su, Jon E. Froehlich, Yang Zhang

UIST'25 

SonifyAR: Context-aware Sound Generation in Augmented Reality

Xia Su, Jon E. Froehlich, Eunyee Koh, Chang Xiao

UIST'24 

RASSAR: Room Accessibility and Safety Scanning in Augmented Reality

Xia Su, Kaiming Cheng, Han Zhang, Jaewook Lee, Wyatt Olson and Jon E. Froehlich

CHI'24 

Kinergy: Creating 3D Printable Motion using Embedded Kinetic Energy

Liang He, Xia Su, Huaishu Peng, Jeffrey I. Lipton, and Jon E. Froehlich

UIST'22 

Interior Layout Generation Based on Scene Graph and Graph Generation Model

Xia Su, Chenglin Wu, Wen Gao, and Weixin Huang

Design Computing and Cognition '20, Springer International Publishing, Cham, 267–282. 

Category, process, and recommendation of design in an interactive evolutionary computation interior design experiment: a data-driven study

Weixin Huang, Xia Su, Mingbo Wu, and Lijing Yang

AI EDAM 34, 2 (May 2020), 233–247. 

A data structure for studying 3D modeling design behavior based on event logs

Wen Gao, Chenglin Wu, Weixin Huang, Borong Lin, Xia Su

Automation in Construction 132, 103967. 

SELECTED POSTERS & DEMOS

Authoring 2.5D Designs with Depth Estimation

Xia Su, Cuong Nguyen, Matheus A Gadelha, Yu Shen, Stefano Petrangeli, Jon E. Froehlich

CHI'25 LBW 

A Demo of DIAM: Drone-based Indoor Accessibility Mapping

Xia Su, Ruiqi Chen, Weiye Zhang, Jingwei Ma, Jon E. Froehlich

UIST'24 Demo 

RAIS: Towards A Robotic Mapping and Assessment Tool for Indoor Accessibility Using Commodity Hardware

Xia Su, Daniel Campos Zamora, Jon E. Froehlich

ASSETS'24 Poster 

PATENTS

FlyMeThrough: Human-AI Collaborative 3D Indoor Mapping with Commodity Drones

Xia Su, Ruiqi Chen, Jon E. Froehlich

Approved by UW CoMotion, in filing procedure

Authoring 2.5D Designs with Depth Estimation

Xia Su, Cuong Nguyen, Matheus A Gadelha, Yu Shen, Stefano Petrangeli

Filed with Adobe Research

SonifyAR: Context-aware Sound Generation in Augmented Reality

Xia Su, Chang Xiao, Eunyee Koh.

Filed with Adobe Research

VOLUNTEERING & SERVICE

- Reviewer for top HCI conferences including CHI'24, CHI'24 LBW, SUI'24, UIST'24, CHI'25.
- Reviewer for top robotics conference ICRA'25.

PRESS & INVITED TALKS

- **Using augmented reality to improve accessibility**, Oregon Public Broadcast, Link *Nov 17, 2023*
- **RASSAR: Room Accessibility and Safety Scanning in Augmented Reality**, UW CSE Colloquium, *Nov 2, 2023*
- **AR for Accessibility and Creativity**, Talk at Brown HCI Lab, *Oct 26, 2023*
- **Q&A: Researchers aim to improve accessibility with augmented reality**, UW News, Link *October 17, 2023*
- **Evaluating Real-world Accessibility**, Talk at Igarashi Lab at UTokyo, *May 14, 2023*

TEACHING

- Teaching Assistant for UW CSE 442 (Data Visualization)
- Teaching Assistant for UW MHCID Prototyping Studio
- Teaching Assistant for UW CSE 412 (Introduction to Data Visualization for non-CSE majors)
- Teaching Assistant for UW CSE 160 (Data Programming)
- Guest lecturing for UW CSEP 590 B (The Future of Access Technology) 2023 Winter
- Guest lecturing for UW CSE 493 E (The Future of Access Technology) 2023 Fall & 2024 Fall

MENTORING

- Mentoring Ruiqi (Richard) Chen, Master Student, University of Washington, *May 2024 - Present*
- Mentoring Weiye Zhang, Undergraduate, University of Washington, *March 2024 - Present*
- Mentoring Qiaochu (Steve) Liu, Master Student, Tsinghua University, *December 2022 - May 2023*
- Mentoring Jackson Ma, Undergraduate, University of Washington, *October 2022 - February 2023*