

Mingyi Li

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Research Interest

My research interest lies in Human-Computer Interaction, Human-AI Collaboration, Accessibility, and Creativity Support. My goal is to design and build content authoring and creativity support tools that augment people's abilities. My recent work applies AI/ML techniques or multimodal interaction to enhance accessibility or creativity.

Skills

Languages: Java, Python, JavaScript/TypeScript, React, Node.js **Frameworks & Libraries:** PyTorch, TensorFlow, scikit-learn, OpenCV **VR Development:** Unreal/Unity **Engine Design Prototyping:** Figma, Tableau, Canva, Miro

Education

Northeastern University, PhD in Computer Science	GPA: 4/4 9.2024-present
• Advisor: Maitraye Das	
• Relevant Courses: Information Visualization, Algorithms, Computer Networking, Human-Centered AI.	
University of California, San Diego, BS in Computer Science & Cognitive Science	GPA: 3.9/4 9.2020-6.2024
• Advisors: Steven Dow, Jane E	
• Relevant Courses: Software Engineering, Advanced Data Structures, Computer Vision, Machine Learning, Artificial Intelligence, Statistical Methods, HCI Technical Systems, Ubiquitous Computing, Social Computing.	

Experience

Graduate Research Assistant, Northeastern University	9.2024 – present
• Conducting research on building creative ideation tools for blind or low vision people. Implemented an accessible ML-powered whiteboarding tool for screen reader users with multimodal sensory outputs (e.g. audio).	
Research Collaborator, University of Virginia & Google Research, Papers [4, 5]	4.2024 – 4.2025
• Assisted on a project that applies text-to-3D and image-to-3D models for artifact discussion in XR meetings.	
• Designed an authoring tool that uses LLMs and text/audio-to-audio models for simulating agents conversations.	
Research Intern, Microsoft Research	6.2023 – 9.2023
• Investigated the applications of generative AI for professionals to manage their 3D avatars in a virtual workplace.	
• Conducted semi-structured interviews, did thematic analysis, and wrote a report on the use of dynamic avatars.	
Student Researcher, The Design Lab at UCSD, Papers [1, 2]	6.2022 - 9.2025
• Implemented a computational visual design tool that automatically detects design issues using OCR analysis and OpenCV contour detection to extract text elements and generate multimodal design feedback (text & visual).	
• Built a Wizard-of-Oz interface to study the impact of feedback timings on novices' design and learning processes.	
• Implemented a process-based gallery that helps novices learn design principles via contrasting example pairs.	
Research Assistant, University of Michigan, Paper [3]	1.2023 – 9.2023
• Developed a conversational agent that facilitates communication between caregivers and older adults.	
• Conducted semi-structured interviews with care partners and performed mixed-method analysis on the results.	
XR Developer Intern, Arthur C. Clarke Center for Human Imagination	1.2022 – 9.2022
• Implemented Procedural Foliage Spawner and built realistic 3D tree models using Unreal Engine. Used ArcGIS plugin to set up a base map and contributed to a campus-wide XR test bed as part of ARNO visualization system.	
• Addressed the shortcomings of Git LFS system in the GitLab by interfacing with S3 and RClone.	

Publications

[5] **Thing2Reality: Enabling Spontaneous Creation of 3D Objects From 2D Images Using Generative AI in Distributed XR Meetings.** (UIST '25)

Erzhen Hu, Mingyi Li, Jungtaek Hong, Xun Qian, Alex Olwal, David Kim, Seongkook Heo, Ruofei Du.

[4] **DialogLab: Authoring, Simulating, and Testing Dynamic Group Conversations in Hybrid Human-AI Conversations.** (UIST '25)

Erzhen Hu, Yanhe Chen, **Mingyi Li**, Vrushank Phadnis, Pingmei Xu, Xun Qian, Alex Olwal, David Kim, Seongkook Heo, Ruofei Du.

[3] **CareJournal: A Voice-Based Conversational Agent for Supporting Care Communications.** (CHI '24)
John Rudnik, Sharadhi Raghuraj, **Mingyi Li**, and Robin N. Brewer.

[2] **ProcessGallery: Contrasting Early and Late Iterations for Design Principle Learning.** (CSCW '24)
Yu-Chun Grace Yen*, Jane L. E*, Hyoungwook Jin, **Mingyi Li**, Grace Lin, Isabelle Yan Pan, and Steven P. Dow.

[1] **When to Give Feedback: Exploring Tradeoffs in the Timing of Design Feedback.** (C&C '24)
Jane L. E*, Yu-Chun Grace Yen*, Isabelle Yan Pan, Grace Lin, **Mingyi Li**, Hyoungwook Jin, Mengyi Chen, Haijun Xia, and Steven P. Dow.

* indicates Equal Contribution.

Under-Review Papers

Mingyi Li, Mengyi Chen, Sarah Luo, Yining Cao, Haijun Xia, Maitraye Das, Steven Dow, Jane E. *Topic:* Computational Design Tools for Novices.

Mingyi Li, Huiru Yang, Nihar Sanda, Maitraye Das. *Topic:* Creativity Support Tools for Blind Screen Reader Users.

Awards

Khoury Distinguished Fellowship , Northeastern University	2024
Undergraduate Excellence in Research , UC San Diego CSE Department	2024
Best Paper Award Honorable Mention , ACM CHI conference	2024
Imagination Fellowship , Arthur C. Clarke Center for Human Imagination	2023
Ethics & Society Award , UC San Diego CSE Department	2023

Teaching Experience

Principles of Human-Computer Interaction , Teaching Assistant	2025
Accel. Intro to Programming , Tutor	2024
Interaction Design , Instructional Assistant	2023
Intro to Programming 2 , Tutor	2022-2023

Services

Collective Intelligence Conference , Student Volunteer	2025
ASSETS Conference , Student Volunteer (Online)	2024
Disabled United Student Community , Co-founder & Vice President	2021-2023
Women in Computing , Active Member & Mentor	2022-2023
Peer Review , UIST Papers '25, C&C Papers '25*, C&C Posters and Demos '25, CHI LBW '24*, CSCW Posters '24	

* indicates Recognition for Outstanding Reviews.