

Muzhe Wu

CONTACT INFORMATION	Human-Computer Interaction Institute (HCII) School of Computer Science Carnegie Mellon University Pittsburgh, PA 15213 USA	(734) 358-7357 muzhew@andrew.cmu.edu wumuzhe.com
RESEARCH INTERESTS	Human-Computer Interaction, Extended Reality (AR/VR) , Human Augmentation, Cognitive Science, Learning & Education, Responsible AI	
EDUCATION	Carnegie Mellon University (CMU) Master in Educational Technology & Applied Learning Sciences (QPA: 4.16/4.00)	Aug 2023 – Aug 2024 Pittsburgh, PA
	Shanghai Jiao Tong University (SJTU) BSc. in Electrical and Computer Engineering (GPA: 3.70/4.00)	Sep 2019 - Aug 2023 Shanghai, China
	University of Michigan (UMich) BSc. in Computer Science (GPA: 3.95/4.00)	Aug 2021 - Apr 2023 Ann Arbor, MI
RESEARCH EXPERIENCE	Augmented Perception Lab, CMU <i>Research Assistant (Advisor: David Lindlbauer)</i> Designed, prototyped, and evaluated four “beyond-real” audio interaction techniques in mixed reality that empower users in search and navigation tasks [C.2]. Investigated the trade-off between user performance and sense of agency in target selection tasks under various levels of preemptive assistance [IP.1].	April 2024 – Present Pittsburgh, PA
	Collective AI Research & Evaluation Lab, CMU <i>Research Assistant (Advisor: Hong Shen)</i> Led co-design sessions with industry AI practitioners on cross-functional team collaboration for early-stage AI risk identification; developed and evaluated a web-based collaboration tool that assists industry AI practitioners in planning AI system development and identifying unethical design choices [U.1].	Oct 2023 – Sep 2024 Pittsburgh, PA
	Human-AI Lab & Lifelong Learning Lab, UMich <i>Research Assistant (Advisor: Anhong Guo & Xu Wang)</i> Developed and evaluated an AR intelligent tutoring system for Rubik’s Cube learning which improves learning gains through enabling knowledge tracing, hint generation, and practice task generation [M.1].	May 2022 – Sep 2023 Ann Arbor, MI
	Jim Team, NVIDIA <i>Developer & Research Assistant (Advisor: Jim Fan)</i> Built a retro game simulation environment for RL agent training, featuring utility classes & functions, and GUIs; enabled GPU acceleration for MineDojo RL simulation on headless machines.	Jul 2022 – Oct 2022 Remote
PEER-REVIEWED CONFERENCE PAPERS	[C.2] Muzhe Wu* , Yi-Fei Cheng*, David Lindlbauer. <i>New Ears: An Exploratory Study of Audio Interaction Techniques for Performing Search in a Virtual Reality Environment</i> . In <i>The IEEE International Symposium on Mixed and Augmented Reality (ISMAR 2024)</i> , Full Paper. Seattle, WA, USA.	

[C.1] Ying-Jui Tseng, Gautam Yadav, Xinying Hou, **Muzhe Wu**, Yun-Shuo Chou, Claire Che Chen, Chia-Chia Wu, Shi-Gang Chen, Yi-Jo Lin, Guanze Liao, Kenneth R. Koedinger. *ActiveAI: The Effectiveness of an Interactive Tutoring System in Developing K-12 AI Literacy*. In *European Conference on Technology Enhanced Learning (EC-TEL 2024)*, Full Paper. Krems, Austria.

MANUSCRIPTS [M.1] **Muzhe Wu***, Haocheng Ren*, Gregory Croisdale, Anhong Guo, Xu Wang. *Rubikon: Intelligent Tutoring for Rubik's Cube Learning Through AR-enabled Physical Task Reconfiguration*. Full Paper.

UNDER REVIEW [U.1] **Muzhe Wu***, Yanzhi Zhao*, Shuyi Han, Michael Xieyang Liu, Hong Shen. *AI LEGO: Scaffolding Cross-Functional Collaborations in Responsible AI During the Early Design of AI Products*. Full Paper.

IN PREPARATION [IP.1] **Muzhe Wu**, Byungjoo Lee, David Lindlbauer. *Performance as Agency? Investigating the Trade-off between Sense of Agency and Performance in Target Selection with Preemptive Assistance in VR*. Full Paper.

PRESENTATIONS, POSTERS, AND DEMOS [Pr.1] **New Ears: An Exploratory Study of Audio Interaction Techniques for Performing Search in a Virtual Reality Environment**. Oral Presentation at *ISMAR 2024*, Seattle, WA, USA.

[Po.1] **Rubikon: A Multimodal Tutor for 3D Physical Task Learning** ★. Poster and Demo (Best Demo) at *Michigan AI Symposium 2022*, Ann Arbor, MI, USA.

HONORS, AWARDS AND GRANTS	Graduate Student Small Project Help (GuSH) Funds, CMU (\$720 Grant)	Nov 2023
	James B. Angell Scholar, UMich	Mar 2023
	Merit Scholarship, CMU (\$7000 Grant)	Feb 2023
	Best Demo Award, Michigan AI Symposium	Nov 2022
	Dean's Honor List, UMich	Dec 2021, Apr, Dec 2022
	University Honors, UMich	Dec 2021, Apr 2022
	Undergraduate Excellent Scholarship, SJTU (top 10%)	Nov 2020, Nov 2021
	Meritorious Winner, Mathematical Contest in Modeling (MCM) (top 9.5%)	Feb 2021
Silver Medal, University Physics Competition (top 3%)	Nov 2020	

SERVICES	Peer Reviewer for CHI (1) and CHI LBW (3)	2023 – Present
	Member at Ann Arbor Figure Skating Club, Ann Arbor, MI	May 2022 – Apr 2023
	Student Advisor at Wenzhou No. 2 Foreign Language School ($N = 700$)	May 2020
	Volunteer at Jiangchuan Sunshine Nursing Home, Shanghai, China	Oct 2019 – Aug 2020

RELEVANT COURSEWORK **HCI:** Interactive Extended Reality, Interaction Design, Prototyping Algorithmic Experiences, Human-AI Interaction & Systems, Educational Design
AI/ML: Machine Learning, Natural Language Processing, Deep Learning for Computer Vision, Science for Deep Learning, Machine Learning in Production
Software: Web Systems, Operating Systems, UI Development, Computer Organization
Hardware: Circuits & Signals, Logic Design, Semiconductor Devices

SKILLS **Programming Languages:** Python, JavaScript, C#, R, C/C++, Java, SQL
Frameworks/Libraries: Meta XR SDK, ARKit, React.js, PyTorch, SwiftUI, AWS, Firebase
Tools/Software: Unity, Figma, L^AT_EX, MTurk, Docker, Adobe Creative Suite, Matlab
Research: Interview, Full-stack Prototyping, A/B Testing, Quantitative & Qualitative Analysis