

Ziru Wei

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Interested Topics: Technical HCI, Human-Robot Interaction, User Modeling, Multimodal Interaction, Extended Reality

EDUCATION

Carnegie Mellon University <ul style="list-style-type: none">Master of Science in Computational Design (HCI focus), GPA: 4.0/4.0Thesis: <i>Towards Multimodal Interaction with Proactive Physical Agents</i> (Advised by Prof. Alexandra Ion)	2026.05
Soochow University <ul style="list-style-type: none">Bachelor of Architecture, GPA: 3.7/4.0	2024.06

PUBLICATIONS

(In submission, CHI 2026) “Let me lend you a hand”: Understanding Contextual Perceptions of Physical Proactivity in Small-scale Personal Assistance Robots <u>Ziru Wei</u> , Violet Yinuo Han, Tanvi Handoo, Alexandra Ion	
(In submission, CHI 2026) Embodiment and Interaction Influence Perceptions of Robotic Collaborators in Everyday Physical Tasks Violet Yinuo Han, <u>Ziru Wei</u> , Aiden Yiliu Li, Chris Wu, Alexandra Ion	
On-site Holographic Building Construction: A Case Study of Aurora Sijie Liu, Ziru Wei, Sining Wang. <i>Proceedings of the Association for Computer-Aided Architectural Design Research in Asia (CAADRIA)</i> , 2022 (peer-reviewed, 30 % acceptance)	

POSTERS AND ABSTRACTS

Embodied Generative storytelling <u>Ziru Wei</u> , Jimmy Cheng. Abstract accepted, 4S 2025 Conference: Reverberations, Seattle, WA, Sept 3–6, 2025.	
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EXPERIENCE

Research Student at Interactive Structures Lab, Human-Computer Interaction Institute, Carnegie Mellon University <ul style="list-style-type: none">Designed and conducted a Wizard-of-Oz study on how users perceive a proactive portable personal robot performing different types of assistances across private, social, and public contexts; synthesized quantitative and qualitative findings into design recommendations for developing unobtrusive proactive physical assistanceDeveloping a real-time computational pipeline for proactive physical agents to perceive and reason about contextual cues, and to orchestrate multimodal proactive behaviors to initiate assistance (ongoing)	2025.04 - Present
Research Intern at WHY Research Lab, Carnegie Mellon University <ul style="list-style-type: none">Replicated the ‘Ladybug’ project, which transformed dismantled disk drives into a scanning device through disassembly, resoldering, and Raspberry Pi integrationBuilt the WasteStation database in Notion to map connections between components and potential reuse applications	2024.08 - 2025.01
Research Assistant, Humachine Lab, Soochow University <ul style="list-style-type: none">Implemented MR workflows for nonlinear façade assembly and designed four on-site collaboration methods to maximize the use of limited MR devices within a small, low-tech construction teamDocumented the design-to-construction process and contributed to academic writing	2021.08 - 2022.07

AWARDS AND HONORS

Computational Design Commendation, Carnegie Mellon University	2025
Computational Design Commendation, Carnegie Mellon University	2024
Merit Scholarship, Carnegie Mellon University	2024
Excellence Award, Shanghai Youth Architectural Design Competition	2023
Innovation & Academic Excellence Scholarship, Soochow University	2020 - 2022
Overall Excellence Award Winner, Solar Decathlon China	2022

First Prize (Top 2%) in “Zijin Award” of Architectural Design Contest	2022
METTLER TOLEDO Scholarship (Top 2%)	2019

SKILLS

Technical

- Hardware: Arduino, Raspberry Pi
- Languages: Python, R, C#, Pascal, HTML, CSS, Javascript
- Game Engine: Unity

Design & Production

- Software: Rhino, Grasshopper with GHPython, Blender, AutoCAD, Adobe Creative Suite, Figma, Procreate
- Fabrication: 3D printing, Soldering and electronic wiring, Welding (basic), Woodworking

Languages

- English (Fluent), Mandarin (Native), Portuguese (Beginner)

ACTIVITIES

Course Project Reviewer 2025.01 - 2025.05

- Worked as a Guest Reviewer for the Spring 2025 Fundamentals of Computational Design course at Carnegie Mellon University, taught by Vernelle A. A. Noel.
- Facilitated project reviews for over 50 students working in teams, providing feedback to support their growth in computational design practices.

Student Volunteer at des[AI]gn conference 2024, American Institute of Architecture Students 2024.10

- Assisted in workshop setup, documented the sessions through photography, and facilitated the use of interactive swatch-making software for creating knit samples in Textiles Lab, Carnegie Mellon University
- Coordinated logistics and facilitated the setup for an AI panel discussion and the opening session of the conference

Suzhou International Design Week 2021.12

- Exhibited ‘Layered Rafters Lodge’, a design integrating traditional material framing with modern bamboo construction techniques

Design Exhibition Curatorial Assistant 2021.05

- Organized featured models and drawings for the exhibition, assisting in the re-arrangement of the architecture department’s showcase