

Ziyi Zhang

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Area of Research Interest

Human Computer Interaction, Human AI Collaboration, LLM Agents, Immersive Technology, Interaction Design, Visualization

Education

University of Illinois Urbana-Champaign, MS in Information Management – USA Sep 2025 to Jun 2027

- **Coursework:** Usability Engineering, Data Storytelling, Information Systems

Southeast University, BS in Software Engineering – Nanjing, China Sep 2021 to Jun 2025

- GPA: 3.79/4.0, Avg Score: 89.88
- Language Proficiency: TOEFL iBT 105/120 (R27, L30, S22, W26)
- **Coursework:** Analysis, Statistics, Algorithms, Operating System, Database, Software Engineering

University of California, Santa Barbara, Exchange in Computer Science – CA, USA Sep 2023 to Jan 2024

- GPA: 4.0/4.0
- **Coursework:** Computer Vision, Computer Graphics, Compilers

Projects

LLM-Powered Planning in Virtual Reality through Multi-Agent and Human Collaboration, Research Project – SEU HCI Lab Sep 2024 to Apr 2025

- Guided by formative study, We designed a modular agent orchestration framework for dynamic task decomposition and conflict resolution, and developed a Unity-based VR visualization interface that renders LLM outputs as interactive embodied avatars with contextual UI, enabling real-time user intervention via speech and gesture. Validated the system through a series of well-designed user studies, demonstrating significantly improved planning quality, engagement, and satisfaction compared to LLM-only baselines.
- **Tools Used:** C#, Unity, VR Development (Quest 3), Python, LangChain
- **Project Achievements:** [CHI 2026 Paper](#)

Augmented Reality for Smart Home Privacy Visualization and Interaction, Research Project – [Purple Mountain Laboratories](#) Jun 2023 to Sep 2023

- Designed a HoloLens-enabled Unity application that overlays sensor fields, data flows, and privacy settings into the physical environment, and built a comparative React web interface to evaluate traditional 2D interaction. Validated the AR system through controlled user studies, showing improved task accuracy, user understanding, and cognitive workload reduction relative to the web baseline.
- **Tools Used:** C#, Unity, AR Development (HoloLens 2), Object Tracking, TypeScript, React, Web Development
- **Project Achievements:** [CHI 2024 Paper](#), [IJHCI Journal Paper](#)

Vision-Based Gimbal for Target Tracking and Striking with Unmanned Aerial Vehicles, Research Project for Academic Competition – [NetSI Laboratory](#) Sep 2022 to Jun 2023

- Employed a neural network on a microcomputer to process real-time images for detection and tracking of specified moving targets. Modeled and calculated the motion state of the targets. Communicated with a two-axis gimbal controlled by STM32 on a UAV to achieve stable targeting of the specified moving targets.
- **Tools Used:** C, STM32, Hardware Development, C++, Target Detection Neural Network
- **Project Achievements:** [IEEE-MASS 2023 Paper](#), [Patent](#), [National First Prize](#), [National Second Prize](#)

Publications and Patents

Virtual Minds, Real Work: LLM-Powered Preference-Based Planning through Spatial Multi-Agent-Human Collaboration <i>Ziyi Zhang</i> , Xin Yi, Zitong Dai, Shuning Zhang, Hantao Zhao CHI '26: Proceedings of the 2026 CHI Conference on Human Factors in Computing Systems	Sep 2025
Enhancing Privacy Awareness in Buildings through Augmented Reality Technology Liru Chen, <i>Ziyi Zhang</i> , Hantao Zhao CHI '24 Workshop: 2024 CHI Conference on Human Factors in Computing Systems, HabiTech Workshop	Sep 2023
ARena of Privacy: Exploring Augmented Reality in Enhancing Smart Home Privacy Awareness and Control Hantao Zhao, Xin Yi, Liru Chen, <i>Ziyi Zhang</i> International Journal of Human-Computer Interaction (IJHCI)	Aug 2025
Through Their Eyes: User Perceptions on Sensitive Attribute Inference of Social Media Videos by Visual Language Models Shuning Zhang, Gengrui Zhang, Yibo Meng, <i>Ziyi Zhang</i> CCS '25: Proceedings of the 2025 ACM SIGSAC Conference on Computer and Communications Security, HAIPS Workshop	Aug 2025
Cooperative and Autonomous Mapping for Heterogeneous NAVs Ruiwen Xu, Yongtao Ou, Hanjie Yu, <i>Ziyi Zhang</i> 2023 IEEE 20th International Conference on Mobile Ad Hoc and Smart Systems (MASS)	Mar 2023
[Patent]Vision-Based Gimbal Control Method for Target Striking UAVs <i>Ziyi Zhang</i> , Haoyang Liu, Feng Shan Patent Application Acceptance Number: 2023115920458	Nov 2023

Scholarships and Awards

President's Scholarship Awarded to the top 0.5% of students in the school, 8,000 CNY	Aug 2023
Outstanding Student International Exchange Scholarship Awarded to the top 1% of students in the school, 84,000 CNY	Jan 2024
Software Innovation Scholarship Awarded to the top 5% of students in the school, 5,000 CNY	May 2023
Southeast University Zhishan Scholar Awarded to the top 5% of students in the school, 3,000 CNY	Aug 2022, Aug 2024
23rd National University Robot Competition RoboMaster 2024 <i>National First Prize</i>, Academic Competition Award, Sponsored by DJI 	Aug 2024
22rd National University Robot Competition RoboMaster 2023 <i>National Second Prize</i>, Academic Competition Award, Sponsored by DJI 	Aug 2023
Southeast University Innovation and Entrepreneurship Competition <i>Silver Award</i>, Innovation and Entrepreneurship Award	May 2023
Southeast University Outstanding Student Academic Excellence Award	Oct 2022, Oct 2023
Outstanding Volunteer Service Award Service and Leadership Award	Dec 2023