

CHENCHEN (AMILY) ZHENG

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777 University Ave., Madison, WI 53715 | U.S. Permanent Resident

RESEARCH INTERESTS

- I build interactive robots and AI systems that learn what people want, adjust how they act, and keep people in control. My current work looks at how everyday user preferences can guide robot manipulation, and how people and robots can refine a task plan together in a way that stays easy to follow and correct.
- **Areas of focus:** Human-Computer Interaction, Human-Robot Interaction, Human-Centered AI, Mixed-Initiative Interaction, User Agency, Robotics, Social Computing, Creative Computing.

EDUCATION

University of Wisconsin–Madison

B.S. in Computer Sciences (Honor); Mathematics; Art Studio Certificate

Madison, WI

Expected May 2027

- GPA: 3.951/4.0
- **Relevant Coursework:** Computer Graphics, Numerical Linear Algebra, Introduction to Algorithms, Data Ethics and Policy, Software Engineering.
- **Honors Thesis:** "Preference-Aware Robot Manipulation" (Advisor: Prof. Bilge Mutlu)
Studying how broad user preferences can guide a robot to arrange objects on its own while people stay in control. Building a real-robot system that turns these preferences into executable actions with a vision-language-action (VLA) model, followed by a planned user study on effort, clarification requests, and perceived control.

PUBLICATIONS & PRESENTATIONS

ACM UIST (User Interface Software and Technology)

1. "SHRIMP: Iterative Refinement of Robot Task Plans"

Chenchen Zheng, co-author. Accepted for presentation and publication at the ACM Symposium on User Interface Software and Technology (UIST 2026).

ACM/IEEE HRI (Human-Robot Interaction)

2. "Same Trashbot, Different Streets: Local Legibility in Cross-Community Public Robot Deployment"

Chenchen Zheng, co-second author. Submitted as a full paper to the ACM/IEEE International Conference on Human-Robot Interaction (HRI 2027).

EAI RAIDS (Responsible AI and Data Science)

3. "Exploring Jailbreak Attacks Against LLMs" Chenchen Zheng, sole author. Published and presented at the 2nd EAI International Conference on Responsible Artificial Intelligence and Data Science (EAI RAIDS 2026).

Journal Submission

4. Chenchen Zheng, sole author. "Evaluating and Strengthening Jailbroken Prompts for LLMs" Under review at AI Magazine.

RESEARCH EXPERIENCE

Research Assistant, People and Robots Laboratory

2025 – Present

UW–Madison | Advisor: Prof. Bilge Mutlu

- Developing human-centered robot manipulation pipelines that translate natural-language user intent into structured task plans through LLM-based task decomposition and interactive refinement, then execute them on real robots.
- Implemented RGB-D perception and robot integration, including camera calibration, object localization, and point-cloud processing using RealSense, OpenCV, and Open3D for real-robot manipulation.
- Contributed to SHRIMP (ACM UIST 2026) by developing the interface, setting up and conducting user studies, integrating and testing the robot system, and revising the manuscript.

Research Assistant, Interaction Research Lab

May 2026 – Sept. 2026

Cornell University | Advisor: Prof. Wendy Ju

- Conducted qualitative analysis for a cross-community public-space HRI study ("Trashbot") examining how local infrastructure, social context, and prior experience shaped people's interpretations of mobile service robots.
- Contributed to literature synthesis, qualitative coding, cross-site comparison, contrastive case analysis, and manuscript development for the cross-community HRI study, including refinement of findings and design implications.

Independent Researcher, LLM Jailbreak Evaluation

2024 – 2026

UW–Madison | Mentor: Prof. Shengzhi Zhang (Boston University)

- Designed and executed an independent study comparing jailbreak prompts from real-world user communities with attack methods from academic research, focusing on attack effectiveness and evaluator reliability.
- Built two prompt datasets and evaluated them with the StrongREJECT rubric and human-annotation cross-checks, leading to a sole-authored publication and presentation at EAI RAIDS 2026 and a follow-up manuscript submitted to AI Magazine.

Independent Study, Math Lens: Ways of Seeing Through Geometry

2026 – Present

UW–Madison | Mentor: Prof. Yue Sun

- Developing browser-based creative computing prototypes that connect computational geometry, image processing, and visual perception, with planned participation in the *Algorithmic Forms* exhibition at Oceanside Museum of Art.
- Exploring Voronoi diagrams, triangulation, and path-based representations as interactive visual lenses that let viewers compare how different geometric structures reshape, abstract, and reinterpret the same source image.

SELECTED DESIGN & DEVELOPMENT PROJECTS

Day Echo: Multimodal Adaptive Ambient Companion

May 2026 – Present

- Designed and developed a multimodal ambient AI companion that uses speech, visual media, contextual signals, and learned preferences to adapt the physical environment under user-configurable levels of AI agency.
- Built a 60×8 LED matrix with dual ESP32/WLED controllers that uses light, motion, and timing cues to show agent states, and supports adaptive transitions and hands-free ambient interaction.

Submission Studio: AI-Assisted LaTeX Submission Preparation System

2026

- Independently designed and developed an AI-assisted system that converts LaTeX manuscripts into venue-specific submission packages through LLM-guided transformation, deterministic repair, compilation, and requirement checks.
- Built a human-in-the-loop review workflow covering layout, anonymity, citations, page limits, metadata, venue requirements, compilation issues, and final submission-package export validation.

JourneyCraft: Local-First Travel Companion

2025 – 2026

- Co-designed and developed a cross-platform, local-first travel companion spanning inspiration capture, trip planning, in-travel support, memory, and long-term travel history in a two-person team.
- Co-led interaction design, system architecture, implementation, formative testing, and release-candidate QA across iOS and Android, including accessibility, privacy, data ownership, and backup/restore workflows.

BadgerSwap and UnderCurrent: Campus Marketplace App and ASCII Art Game

2025 – 2026

- Built marketplace, search, category, and posting flows with Firebase backend integration for BadgerSwap, a React Native campus marketplace app developed by a four-person team, including image uploads, pickup selection, and favorites.
- Led frontend/TUI development and visual design for UnderCurrent, a five-person ASCII game project, contributed to gameplay logic, system architecture, and application integration, and served as the team's first Scrum Master.

INDUSTRY EXPERIENCE

Intern, Robotic Perception & Manipulation, Chengdu Humanoid Robot Innovation Center

2024

Implemented camera calibration and coordinate transformation for a manipulation pipeline using RGB-D and point-cloud data. Integrated the robot arm and developed grasping components, with additional work on perception and calibration testing.

Intern, Software & Intelligent Systems, Chengdu Rui Le Da Robot Technology

2024

Developed smart-city and fire-safety dashboard prototypes, refining them through iterative stakeholder feedback and requirement analysis. Built a voice-interaction demo using Whisper, ChatGLM, PyTorch, FastAPI, and Gradio.

TEACHING, MENTORSHIP & CREATIVE PRACTICE

Visual Arts & Photography Practice

2025 – Present

Pursuing digital and darkroom photography coursework focused on composition, light, color, visual hierarchy, and spatial experience alongside computer science and mathematics, with continued studio practice in photography.

Peer Mentor, UW–Madison CS Department

2024

Supported students across introductory and intermediate computer science courses through programming help, debugging, and concept clarification during drop-in sessions, helping students work through problems independently.

HONORS & AWARDS

CS Marketplace Scholarship, UW–Madison Department of Computer Sciences, 2026

Dean's List, UW–Madison, five semesters, 2023 – 2026

TECHNICAL SKILLS

Programming: Python, Java, TypeScript/JavaScript, HTML/CSS, React Native/Expo, Next.js, FastAPI, Firebase, Git, LaTeX.

AI, Vision & Robotics: PyTorch, OpenCV, Open3D, RealSense, RGB-D Sensing, Point-Cloud Processing, ESP32/WLED.

HCI & Research: Interactive Prototyping, User Studies, Qualitative Coding, Cross-Site Analysis, Human-in-the-Loop Design.