Ziwei Nina Chen https://www.ninachen.space/

Research Interests

My research interests focus on **human–computer interaction, applied machine learning, and LLM audits**. In my current research, I design human–AI collaboration systems that support design hand-off between designers and engineers, and I study the risks of using LLMs to generate UI code.

Education

- **University of California San Diego** — La Jolla, CA
  Phd Student in Computer Science & Engineering — *Sept. 2025 – Jun. 2030 (Anticipated)*
- **University of Michigan** — Ann Arbor, MI
  MS in Human-Computer Interaction — *Sept. 2021 – Dec. 2023*

Publications

- ***Deception at Scale: Deceptive Design in 11K LLM-generated Ecommerce Components***
  CHI 2026 - **Ziwei Chen**, Jiawen Shen, Luna, Hanyu Zhang, Kristen Vaccaro
- ***Where's the Water? Supporting Clean Water Access for the Homeless Community***
  CHI EA 2024 | 2024 CHI Student Design Competition Winner - Alexandra Balmaceda* and **Ziwei Chen***

Research Experience

- **Deception at Scale: Deceptive Design in 11K LLM-generated Ecommerce Components** — La Jolla, CA
  Advised by Prof. Kristen Vaccaro — *Dec. 2024 - Nov. 2025*
  - **Overview**: Conducted a large-scale audit of UI components generated by LLMs to measure the prevalence and types of deceptive design patterns, and to explore prompt strategies for reducing deception.
  - **Study Design and Pipeline Building**: Curated 15 e-commerce UI component types based on industry white papers, and used four LLMs to generate corresponding components with HTML and CSS.
  - **Platform Building**: Built a manual annotation platform connected with Cloudflare and manually labeled generated components using established dark pattern taxonomies.
- **ScienceJury: Multi-agent Reviewer Panel for Paper Feedback** — La Jolla, CA
  Advised by Prof. Steven Dow — *Sept. 2025 - Dec. 2025*
  - **Overview**: Evaluated users' perceived helpfulness of an interactive multi-agent paper feedback system, and compared its performance with a single non-agent LLM baseline.
  - **Prototype Design**: Designed high-fidelity prototypes to define user interactions with the system, including the inputs and outputs of multiple LLM agents from agent setup to review generation.
- **Community Learning Bias in U.S. Undergraduate Computer Science Privacy Education** — La Jolla, CA
  Advised by Prof. Kristen Vaccaro — *Mar. 2024 - Nov. 2024*
  - **Overview**: Analyzed topic bias in how privacy is defined and taught in undergraduate computer science curricula by examining privacy-focused course syllabi from 133 U.S. universities.
  - **LLM Performance Optimization**: Used GPT to extract assigned readings from course syllabi and classify them using an established privacy protection taxonomy. Improved extraction accuracy from 61% to 94% and classification accuracy from 65% to 80% by applying chain-of-thought prompting, self-consistency, and LLM-based verification.
- **Supporting Clean Water Access for the Homeless Community** — Ann Arbor, MI
  Advised by Prof. Florian Schaub — *Sept. 2023 - Dec. 2023*
  - **Overview**: Identified water access challenges faced by the unhoused community in Ann Arbor, MI, and designed tools to help bridge gaps in access.
  - **User Interview**: Conducted interviews with homeless community members, informed by consultations with five experts (including CDC staff and university faculty) to ensure ethical and respectful engagement.
  - **Prototype Design and Evaluation**: Designed an interactive water access map showing locations, access types, and conditions, and iterated on the design through usability testing with community members.

Work Experience

- **Dusty Robotics** Mountain View, CA
  UX Designer II *Jan. 2024 - Aug. 2025*
  - **User Research and Design**: Conducted user interviews and designed high-fidelity prototypes for an iPad-based robot controller and a web portal to support robot connection, stationing and floor elevation measurement.
  - **Evaluation**: Evaluated design solutions through contextual inquiry on the construction sites with robot operators and usability testing with portal users.
  - **Award**: Received a company-wide **Best Proposal Award** for the project in 2024.
- **University of Michigan** Ann Arbor, MI
  Teaching Assistant *Sept. 2022 - June. 2023*
  - **SI422 - Needs Assessment and Usability Evaluation**: Supported the course on qualitative research methods for design by leading discussion sections, mentoring student project groups, grading assignments, and assisting with in-class activities.
  - **SI588 - Fundamentals of Human Behavior**: Supported a course introducing perception and psychology concepts for user experience design, with responsibilities including grading, office hours, and in-class assistance.

Skills

- **Programming Languages**: Python, C++, JavaScript, HTML/CSS
- **Learning Framework**: PyTorch