Irene Hou

University of California, San Diego (UCSD)　　　　　　　　ihou@ucsd.edu
Cognitive Science Department　　　　　　　　　　https://houirene.github.io

Research Interests

Human-Computer Interaction, Human-Centered AI, participatory AI, computing pedagogy

Education

2024 - Present *La Jolla, CA*	**University of California, San Diego** Ph.D. in Cognitive Science, Human-Computer Interaction Advisor: Philip Guo
2018 - 2022 *La Jolla, CA*	**University of California, San Diego** B.S. in Cognitive Science (Design/Interaction Spec.), Computer Science minor *With cum laude*

Publications

ITiCSE 2025 *(to appear)*	[4] **"All Roads Lead to ChatGPT": How Generative AI is Eroding Social Interactions and Student Learning Communities.** **Irene Hou**, Kate Hamilton, Owen Man, Srishty Muthusekaran, Jeffin Johnykutty, Leili Zadeh, and Stephen MacNeil. *In Innovation and Technology in Computer Science Education, ACM ITiCSE '25, 2025.*
ACE 2025	[3] **Seeing the Forest and the Trees: Solving Visual Graph and Tree Based Data Structure Problems using Large Multimodal Models.** Sebastian Gutierrez, **Irene Hou**, Jihye Lee, Kenneth Angelikas, Owen Man, Sophia Mettille, James Prather, Paul Denny, and Stephen MacNeil. *In Australasian Computing Education Conference, ACM ACE '25, 2025.*
ACE 2024	[2] **The Effects of Generative AI on Introductory Students' Help Seeking Preferences.** **Irene Hou**, Sophia Mettille, Owen Man, Zhuo Li, Cynthia Zastudil, and Stephen MacNeil. *In Australasian Computing Education Conference, ACM ACE '24, 2024.*
ACE 2024	[1] **More Robots are Coming: Large Multimodal Models (ChatGPT) can Solve Visually Diverse Images of Parsons Problems.** **Irene Hou**, Owen Man, Sophia Mettille, Sebastian Gutierrez, Kenneth Angelikas, and Stephen MacNeil. *In Australasian Computing Education Conference, ACM ACE '24, 2024.*

Posters, Extended Abstracts, Workshop Papers

SIGCSE 2025	[p.1] **The Evolving Usage of Generative AI by Computing Students.** **Irene Hou**, Hannah V. Nguyen, Owen Man, and Stephen MacNeil. *In Technical Symposium on Computing Science Education, ACM SIGCSE '25, 2025. Poster.*

Research Experience

2024 – Present *La Jolla, CA*	**Design Lab, UC San Diego** · Graduate Researcher *Advisor: Philip Guo* • Investigated how wet lab scientists adopt generative AI tools in their lab-based workflows
2024 – Present *La Jolla, CA*	**ProtoLab, UC San Diego** · Graduate Researcher *Advisor: Steven Dow* • Investigated ideation processes using generative AI and multimodal techniques within a community-driven recreation area design initiative
2023 – 2025 *Philadelphia, PA*	**Temple HCI Lab, Temple University** · Research Lead *Advisor: Stephen MacNeil* • Supervised 4 teams of 5 undergraduates to publish on the impact of generative AI tools on computing pedagogy and education
2021 – 2022 *La Jolla, CA*	**ProtoLab, UC San Diego** · Undergraduate Researcher • Designed for the CoBoards project, a digital whiteboard system that enhances collaboration and provides computational support
2021 *La Jolla, CA*	**Comparative Cognition Lab, UC San Diego** · Undergraduate Research Assistant • Designed interface for intelligent video-analysis behavioral encoding tool

Work Experience

2021 – 2023 *San Jose, CA*	**FluentPet** · UX Lead • Led a team of designers and developers in the end-to-end design, build, and launch of FluentPet Connect, a connected-hardware app • Achieved 72% daily active users and 78.7% weekly active users, with over 58,000 weekly interactions in the first active month
2020 *San Diego, CA*	**SONY** · Curriculum Designer • Designed and taught curriculum for SONY's KOOV, an educational technology platform and kit that combines programming, robotics, and design
2017 *San Diego, CA*	**Booknection Creative Writing Summer Camp** · Founder • Founded a creative science-fiction writing camp for students • Designed original curriculum, pitched to local academies, secured funding, marketed, and directed classes
2013 – 2018 *San Diego, CA*	**Snowspirit: The Virgo Key** · Author • Wrote and published an award-winning science-fiction/fantasy novel • Storyboarded, fundraised, designed PR campaigns, and organized launch events with 2,000+ attendees

Awards and Honors

Apr 2025	**National Science Foundation Graduate Research Fellowship (NSF GRFP)** Awarded to 1,000 of 15,000+ applicants in 2025 (6%); typically 2,300 awarded (15%)

Jan 2023	**CES 2023 Innovation Honoree**, Smart Home category UX Lead · FluentPet Connect
Apr 2021	**CitrusHack '21 Best UI/UX Hack** (500 hackers) Product Lead · Nudge (app)
Jan 2016	**Letter of Recognition**, California Legislative Assembly Honored for student authorship and literary excellence
Jan 2015	**Bronze Medalist**, National eLit Illuminary Awards Author · *Snowspirit: The Virgo Key*
Jun 2014	**State Award of Excellence**, National PTA Reflections Recipient · *Category: Literature*

Invited Talks

April 2025	**Canyon Crest Academy**, San Diego Seminar: Introduction to HCI and Exploring HCI Careers
May 2024	**Raspberry Pi Foundation**, United Kingdom (remote) Seminar: Generative AI is changing undergraduate education; and undergraduate research too!

Service

Academic Service

Reviewer	CHI 2025, CHI 2024
Student Volunteer	SIGCSE 2025

Outreach

Jan 2025	**Graduate Women in Computing @UC San Diego**, Outreach Co-Chair
Feb 2025	**GradWIC Inaugural Undergraduate Research Night**, Host

Teaching

Teaching Assistant

Spring 2025 *La Jolla, CA*	**UC San Diego**, Department of Cognitive Science COGS 124 HCI Technical Systems Research
Winter 2025 *La Jolla, CA*	**UC San Diego**, Department of Cognitive Science COGS 127 Data-Driven UX/Product Design Guest Lecture: Designing in Industry for Start-ups
Winter 2022 *La Jolla, CA*	**UC San Diego**, Department of Cognitive Science COGS 13 Field Methods: Studying Cognition in the Wild
Winter 2021 *La Jolla, CA*	**UC San Diego**, Department of Cognitive Science COGS 127 Data-Driven UX/Product Design

Instructor

2019 – 2022 *San Diego, CA*	**Grace Academy** Courses taught: Introduction to Robotics, Introduction to Python, Introduction to Physics, Block-Based Programming, Computational Thinking
2018 – 2020 *San Diego, CA*	**Starton Tech EDU** Courses taught: Introduction to Python, Computational Thinking, Block-Based Programming, KOOV Robotics
2017 – 2019 *San Diego, CA*	**All-Star Academy** Courses taught: Creative Writing, Introduction to Programming

Mentorship

Students I have directly supervised in research and mentored

UNDERGRADUATES
Alexander Yu, UC San Diego
Sophia Mettille, Temple University [1, 2]
Kenneth Angelikas, Temple University [2, 3]
Sebastian Gutierrez, Temple University [2, 3]
Leili Massoum Zadeh, Temple University [4]
Hannah Vy Nguyen, Temple University [p.1]
Brandson Trinh, De Anza College → Data Science @ UC San Diego
Ben Nguyen, Temple University
Srishty Muthusekaran, Temple University [4]
Kate Hamilton, Temple University [4]
Alex Qin, UC San Diego

GRADUATES
Owen Man, De Anza Community College → CS MS @ CSU San Marcos [1, 2, 3, 4]
Zhuo Li, Temple University [1]