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
cum laude

Publications

CI 2025

(to appear)

[5] **"Value-Centered Framing Supports Inclusive Idea Convergence in Participatory Civic Design."**
Jeongeon Park*, **Irene Hou***, Risa Sundu*, and Steven Dow. *In ACM Collective Intelligence, ACM CI '25, 2025.*

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.** <u>Irene Hou</u>, 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 - May 2025	**Graduate Women in Computing @UC San Diego**, Outreach Co-Chair
Feb 2025	**GradWIC Inaugural Undergraduate Research Night**, Host
May 2025 - Present	**Graduate Women in Computing @UC San Diego**, Vice President

Teaching

Teaching Assistant

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

Winter 2021	**UC San Diego**, Department of Cognitive Science
La Jolla, CA	COGS 127 Data-Driven UX/Product Design

Instructor

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