

Irene Hou

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Cognitive Science Department

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<https://houirene.github.io>

Research Interests

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

Education

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

Publications

CI 2025 <i>(to appear)</i>	[5] Value-Centered Framing Supports Inclusive Idea Convergence in Participatory Civic Design. Jeongeon Park*, Irene Hou* , Risa Sundu*, and Steven Dow. <i>In ACM Collective Intelligence, ACM CI '25, 2025.</i>
ITiCSE 2025 <i>(to appear)</i>	[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. <i>In Innovation and Technology in Computer Science Education, ACM ITiCSE '25, 2025.</i>
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 Mettillle, James Prather, Paul Denny, and Stephen MacNeil. <i>In Australasian Computing Education Conference, ACM ACE '25, 2025.</i>
ACE 2024	[2] The Effects of Generative AI on Introductory Students’ Help Seeking Preferences. Irene Hou , Sophia Mettillle, Owen Man, Zhuo Li, Cynthia Zastudil, and Stephen MacNeil. <i>In Australasian Computing Education Conference, ACM ACE '24, 2024.</i>
ACE 2024	[1] More Robots are Coming: Large Multimodal Models (ChatGPT) can Solve Visually Diverse Images of Parsons Problems. Irene Hou , Owen Man, Sophia Mettillle, Sebastian Gutierrez, Kenneth Angelikas, and Stephen MacNeil. <i>In Australasian Computing Education Conference, ACM ACE '24, 2024.</i>

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 · <i>Snowspirit: The Virgo Key</i>
Jun 2014	State Award of Excellence , National PTA Reflections Recipient · <i>Category: Literature</i>

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 <i>La Jolla, CA</i>	UC San Diego , Department of Cognitive Science COGS 124 HCI Technical Systems Research
Winter 2025 <i>La Jolla, CA</i>	UC San Diego , Department of Cognitive Science COGS 127 Data-Driven UX/Product Design Guest Lecture: Designing in Industry for Start-ups
Winter 2022 <i>La Jolla, CA</i>	UC San Diego , Department of Cognitive Science 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 Mettelle, 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]