

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

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

ITiCSE 2026
in submission

[8] Kate Hamilton, **Irene Hou**, Dev Patel, Sheena Nnam, Jess Hutchinson, Katerina Orlovskiy and Stephen MacNeil. “Stuck in a Spiral”: Understanding Shame and Guilt in Computing Students’ AI Use. *In Innovation and Technology in Computer Science Education, ACM ITiCSE ’26, 2026.*

CHI 2026

[7] **Irene Hou**, Alex Qin, Lauren Cheng, and Philip Guo. Beyond the Desk: Barriers and Future Opportunities for AI to Assist Scientists in Embodied Physical Tasks. *In ACM CHI Conference on Human Factors in Computing Systems, ACM CHI ’26, 2026.*

CHI 2026

[6] **Irene Hou**, Zeyu Xiong, Philip Guo, and April Wang. “Bespoke Bots”: Diverse Instructor Needs for Customizing Generative AI Classroom Chatbots. *In ACM CHI Conference on Human Factors in Computing Systems, ACM CHI ’26, 2026.*

CI 2025

[5] **Irene Hou**,* Jeongeon Park,* Risa Sundu,* and Steven Dow. Value-Centered Framing Supports Inclusive Idea Convergence in Participatory Civic Design. *In ACM Collective Intelligence, ACM CI ’25, 2025. (*denotes co-first author)*

ITiCSE 2025

[4] **Irene Hou**, Kate Hamilton, Owen Man, Srishty Muthusekaran, Jeffin Johnykutty, Leili Zadeh, and Stephen MacNeil. “All Roads Lead to ChatGPT”: How Generative AI is Eroding Social Interactions and Student Learning Communities. *In Innovation and Technology in Computer Science Education, ACM ITiCSE ’25, 2025.*

ACE 2025

[3] Sebastian Gutierrez, **Irene Hou**, Jihye Lee, Kenneth Angelikas, Owen Man, Sophia Mettille, James Prather, Paul Denny, and Stephen MacNeil. Seeing the Forest and the Trees: Solving Visual Graph and Tree Based Data Structure Problems using Large Multimodal Models. *In Australasian Computing Education Conference, ACM ACE ’25, 2025.*

ACE 2024	[2] Irene Hou , Sophia Mettille, Owen Man, Zhuo Li, Cynthia Zastudil, and Stephen MacNeil. The Effects of Generative AI on Introductory Students' Help Seeking Preferences. <i>In Australasian Computing Education Conference, ACM ACE '24, 2024.</i>
ACE 2024	[1] Irene Hou , Owen Man, Sophia Mettille, Sebastian Gutierrez, Kenneth Angelikas, and Stephen MacNeil. More Robots are Coming: Large Multimodal Models (ChatGPT) can Solve Visually Diverse Images of Parsons Problems. <i>In Australasian Computing Education Conference, ACM ACE '24, 2024.</i>

Posters, Extended Abstracts, Workshop Papers

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

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

Research Mentorship

Students (undergraduates) I have directly supervised in research and/or mentored

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 Community College → Data Science @ UC San Diego
Ben Nguyen, Temple University
Srishty Muthusekaran, Temple University [4]
Kate Hamilton, Temple University [4, 8]
Jeffin Johnykytty, Temple University [4]
Alex Qin, UC San Diego [7]
Lauren Cheng, UC San Diego [7]
Olivia Lam, Palomar Community College
Owen Man, De Anza Community College → CS MS @ CSU San Marcos [1, 2, 3, 4, p.1]
Ayah Ibrahim, UC San Diego
Zoe Kathari, UC San Diego
Zhuo Li, Temple University [1]

Additional Work Experience

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

June 2025	Responsible Tech Institute Student Network , University of Oxford Talk: How GenAI is Eroding Social Interactions and Student Learning Communities
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 '26, CHI '25, CHI '24, SIGCSE '26
Student Volunteer SIGCSE '25

Outreach

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

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
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 <i>La Jolla, CA</i>	UC San Diego , Department of Cognitive Science COGS 127 Data-Driven UX/Product Design

Instructor

2019 – 2022 <i>San Diego, CA</i>	Grace Academy Courses taught: Introduction to Robotics, Introduction to Python, Introduction to Physics, Block-Based Programming, Computational Thinking
2018 – 2020 <i>San Diego, CA</i>	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