

# Irene Hou

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Cognitive Science Department

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<https://houirene.github.io>

## Research Interests

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

## Education

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

## Publications

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ITiCSE 2026 <i>in submission</i>	[8] Kate Hamilton, <b>Irene Hou</b> , Dev Patel, Sheena Nnam, Jess Hutchinson, Katerina Orlovskiy and Stephen MacNeil. “Stuck in a Spiral”: Understanding Shame and Guilt in Computing Students’ AI Use. <i>In Innovation and Technology in Computer Science Education, ACM ITiCSE ’26, 2026.</i>
CHI 2026	[7] <b>Irene Hou</b> , Alex Qin, Lauren Cheng, and Philip Guo. Beyond the Desk: Barriers and Future Opportunities for AI to Assist Scientists in Embodied Physical Tasks. <i>In ACM CHI Conference on Human Factors in Computing Systems, ACM CHI ’26, 2026.</i>
CHI 2026	[6] <b>Irene Hou</b> , Zeyu Xiong, Philip Guo, and April Wang. “Bespoke Bots”: Diverse Instructor Needs for Customizing Generative AI Classroom Chatbots. <i>In ACM CHI Conference on Human Factors in Computing Systems, ACM CHI ’26, 2026.</i>
CI 2025	[5] <b>Irene Hou</b> ,* Jeongeon Park,* Risa Sundu,* and Steven Dow. Value-Centered Framing Supports Inclusive Idea Convergence in Participatory Civic Design. <i>In ACM Collective Intelligence, ACM CI ’25, 2025. (*denotes co-first author)</i>
ITiCSE 2025	[4] <b>Irene Hou</b> , 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. <i>In Innovation and Technology in Computer Science Education, ACM ITiCSE ’25, 2025.</i>
ACE 2025	[3] Sebastian Gutierrez, <b>Irene Hou</b> , Jihye Lee, Kenneth Angelikas, Owen Man, Sophia Mettelle, 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. <i>In Australasian Computing Education Conference, ACM ACE ’25, 2025.</i>

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

## Posters, Extended Abstracts, Workshop Papers

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

## Research Experience

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- Summer 2025  
*Zurich, CH* **PEACH Lab, ETH Zürich** · Visiting Researcher  
*Advisor: April Wang*  
  - Investigated how university instructors adapt generative AI classroom chatbots to their own pedagogical contexts
- 2024 – Present  
*La Jolla, CA* **Design Lab, UC San Diego** · Graduate Researcher  
*Advisor: Philip Guo*  
  - Investigated how wet lab scientists adopt AI tools in their embodied 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 5 teams of 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

## Research Mentorship

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

**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 Community College → Data Science @ UC San Diego  
**Ben Nguyen**, Temple University  
**Srishty Muthusekaran**, Temple University [4]  
**Kate Hamilton**, Temple University [4, 8]  
**Jeffin Johnykutty**, 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

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2021 – 2023 <i>San Jose, CA</i>	<b>FluentPet · UX Lead</b> <ul style="list-style-type: none"> <li>• 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</li> <li>• Achieved 72% daily active users and 78.7% weekly active users, with over 58,000 weekly interactions in the first active month</li> </ul>
2020 <i>San Diego, CA</i>	<b>SONY · Curriculum Designer</b> <ul style="list-style-type: none"> <li>• Designed and taught curriculum for SONY's KOOV, an educational technology platform and kit that combines programming, robotics, and design</li> </ul>
2017 <i>San Diego, CA</i>	<b>Booknection Creative Writing Summer Camp · Founder</b> <ul style="list-style-type: none"> <li>• Founded a creative science-fiction writing camp for teen writers</li> <li>• Designed original curriculum, pitched to local academies, secured funding, marketed, and directed classes</li> </ul>
2013 – 2018 <i>San Diego, CA</i>	<b>Snowspirit: The Virgo Key · Author</b> <ul style="list-style-type: none"> <li>• Wrote and published an award-winning science-fiction/fantasy novel</li> <li>• Fundraised, designed PR campaigns, organized launch events with 2,000+ attendees</li> </ul>

## Awards and Honors

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Apr 2025	<b>National Science Foundation Graduate Research Fellowship (NSF GRFP)</b> Awarded to 1,000 of 15,000+ applicants in 2025 (6%); typically 2,300 awarded (15%)
Jan 2023	<b>CES 2023 Innovation Honoree</b> , Smart Home category UX Lead · FluentPet Connect
Apr 2021	<b>CitrusHack '21 Best UI/UX Hack</b> (500 hackers) Product Lead · Nudge (app)
Jan 2016	<b>Letter of Recognition</b> , California Legislative Assembly Honored for student authorship and literary excellence
Jan 2015	<b>Bronze Medalist</b> , National eLit Illuminary Awards Author · <i>Snowspirit: The Virgo Key</i>

Jun 2014                      **State Award of Excellence**, National PTA Reflections  
Recipient · *Category: Literature*

## Invited Talks

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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

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### 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

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### 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

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  
*San Diego, CA*

**All-Star Academy**

Courses taught: Creative Writing, Introduction to Programming