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, computing for non-experts

EDUCATION

University of California, San Diego   2024 – Present
Ph.D. in Cognitive Science, Human-Computer Interaction
Design Lab — Advisor: Philip Guo

University of California, San Diego   2018 – 2022
B.S. in Cognitive Science w/ Design and Interaction Spec.,
Minor in Computer Science — *cum laude*

RESEARCH

Temple HCI Lab, Temple University   2023 – 2024
Research Lead — Advisor: Stephen MacNeil   *Philadelphia, PA*

• Supervised 3 teams and 10 undergraduates to publish on topics of generative AI and computing education
• Designed and conducted studies on effects of generative AI on computing student help-seeking [1, 4]
• Designed and conducted studies on image capabilities of multi-modal LLMs with programming problems [2, 3]

ProtoLab, UC San Diego   2021 – 2022
Undergraduate Researcher   *La Jolla, CA*

• Designed for CoBoards, a digital whiteboard system that extracts design data/offers computational support
• Designed study and prototype to examine implicit/explicit pacing of team progress during virtual design workshops

Comparative Cognition Lab, UC San Diego   2021
Research Assistant   *La Jolla, CA*

• Designed interface w/ Figma/PyQT5 for ML Behavioral Encoding Expanded Viewer
• Tested behavioral encoding web-app/created bug reports that improved user flow and accessibility

PUBLICATIONS

[1] **Irene Hou**, Sophia Mettille, Owen Man, Zhuo Li, Cynthia Zastudil, and Stephen MacNeil. 2024. *The Effects of Generative AI on Computing Students' Help-Seeking Preferences.* 26th Australasian Computing Education Conference (ACE '24). Association for Computing Machinery, New York, NY, USA, 39–48. [**Google Scholar citations: 33**]

[2] **Irene Hou**, Owen Man, Sophia Mettille, Sebastian Gutierrez, Kenneth Angelikas, and Stephen MacNeil. 2024. *More Robots are Coming: Large Multimodal Models (ChatGPT) can Solve Visually Diverse Images of Parsons Problems.* 26th Australasian Computing Education Conference (ACE '24). Association for Computing Machinery, New York, NY, USA, 29–38. [**Google Scholar citations: 20**]

[3] Sebastian Gutierrez, **Irene Hou**, Jihye Lee, Kenneth Angelikas, Owen Man, Sophia Mettille, James Prather, Paul Denny, and Stephen MacNeil. 2025. *Seeing the Forest and the Trees: Solving Visual Graph and Tree Based Data Structure Problems using Large Multimodal Models*. 27th Australasian Computing Education Conference (ACE '25). *(Pre-print)*

[4] **Irene Hou**, Hannah V. Nguyen, Owen Man, and Stephen MacNeil. 2025. *The Evolving Usage of GenAI by Computing Students*. ACM Technical Symposium on Computer Science Education (SIGCSE '25). *(Poster)*

TALKS	**Raspberry Pi Foundation** — United Kingdom (remote) Seminar: Generative AI is changing undergraduate education; and undergraduate research too!	May 2024
	Australasian Computing Education '24 — Sydney, AU Conference talk: The Effects of Generative AI on Computing Students' Help-Seeking Preferences	Feb 2024
	Australasian Computing Education '24 — Sydney, AU Conference talk: More Robots are Coming: Large Multimodal Models (ChatGPT) can Solve Visually Diverse Images of Parsons Problems	Feb 2024

MENTORSHIP

Students I have supervised in research or mentored

UNDERGRADUATES
- **Alexander Yu**, UC San Diego
- **Sophia Mettille**, Temple University - [1, 2]
- **Owen Man**, De Anza Community College, CS MS @CSU San Marcos - [1, 2, 3, 4]
- **Kenneth Angelikas**, Temple University - [2, 3]
- **Sebastian Gutierrez**, Temple University - [2, 3]
- **Leili Massoum Zadeh**, Temple University
- **Hannah Vy Nguyen**, Temple University [4]
- **Brandson Trinh**, De Anza Community College, Data Science @UC San Diego
- **Ben Nguyen**, Temple University
- **Srishty Muthusekaran**, Temple University
- **Kate Hamilton**, Temple University

GRADUATES
- **Zhuo Li**, Temple University - [1]

AWARDS	**CES 2023 Innovation Honoree,** Smart Home category UX Lead · FluentPet Connect	Jan 2023
	CitrusHack '21 Best UI/UX Hack (500 hackers) Product Lead · Nudge (app)	Apr 2021
	Bronze Medalist in National eLit Illuminary Awards Author · *Snowspirit: The Virgo Key*	Jan 2015

WORK EXPERIENCE	**FluentPet** **UX Lead**	2022 – 2023 *San Jose, CA*

• Managed team of designers and oversaw end-to-end design, build, and launch of connected hardware device FluentPet Connect
• Developed and launched automated user feedback system
• Launched Connect with 72% active daily app users and 78.7% active weekly users, with 58,000 weekly interactions

FluentPet
UX Design Intern

2021 – 2022
La Jolla, CA

• Led UX design of AWS IoT device onboarding with Bluetooth and Wi-Fi integration
• Designed and published leading curriculum on teaching animal communication via buttons

SONY
Curriculum Designer

2020
San Diego, CA

• Designed for connected hardware coding robotics program and courses, used to train 25+ incoming teachers and delivered to 300+ students

Snowspirit: The Virgo Key
Author

2013 – 2018
San Diego, CA

• End-to-end release: storyboarded, wrote manuscripts, fundraised, designed web interface, coordinated press release, headed guest speaker events with 2,000 attendees, and organized signing events and distribution

Booknection Creative Writing Summer Camp
Founder

2017
San Diego, CA

• Founded creative/science-fiction writing camp by pitching to local academies, designing original curriculum, allocating initial funding, marketing, and directing classes

TEACHING

UC San Diego, Cognitive Science
Undergraduate Teaching Assistant

2021 – 2022
La Jolla, CA

• Data-Driven UX/Product Design (Winter 2022)
 - Led course, lectured, and designed lectures/discussions
 - 100% student recommendation rate

• Field Methods: Studying Cognition in the Wild (Spring 2021)
 - 100% student recommendation rate

Grace Academy, Starton EDU, All-Star Academy
Courses designed/taught (curriculum, assessments, etc.)

2017 – 2021
San Diego, CA

• Computational Thinking (2021, 2020)
• Robotics with SONY KOOV (2020)
• Programming with Python (2020, 2019)
• Robotics with Makeblock Codey Rocky (2020, 2019)
• Introduction to Physics (2020, 2019)
• Programming with mBlock (2018, 2019)
• Introduction to Robotics with mBlock (2018, 2019)
• Introduction to Scratch (2018, 2019)
• Creative Writing (2017, 2018)