Houston Claure

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U.S. Citizen

Education/Academic Experience

Yale University, New Haven, CT
Postdoc, Department of Computer Science
2023 - Present

Cornell University, Ithaca, NY
Ph.D., Mechanical Engineering, PhD Minor: Computer Science
Sloan Fellow
2016 - 2022

University of Southern California, Los Angeles, CA
Visiting Researcher, Department of Computer Science
2019

Cornell University, Ithaca, NY
M.S., Mechanical Engineering, Minor: Computer Science
2016 - 2020

The Pennsylvania State University- University Park, State College, PA
B.S., Mechanical Engineering
Bunton-Waller Fellow
2011 – 2015

Employment

2023–2024 *Modlee AI – Machine Learning Researcher Intern*
Worked as part of the ML research team for the startup, contributing to R&D of the product and supporting pitch deck development. The startup received pre-seed funding and participated in TechStars Boston.

2021–2021 *Toyota Research Institute (TRI) – Research Intern*
Worked in the UX Robotics team (RUX-ID), developed an independent research project on human-robot co-existence in homes. Used quantitative and qualitative methods (interviews). Presented findings internally to the Robotics ML team.

2016–2023 *Clubes de Ciencias (Santa Cruz, Bolivia) – Instructor*
Designed and taught a week-long Spanish course on AI, robotics, and HRI for high-achieving students in Bolivia. Helped push a focus on STEM across the country. The president of Bolivia at that time visited the program.

2017 *Louis Stokes Alliance for Minority Participation (LSAMP) – Graduate Coordinator*
Mentored undergraduates through a rigorous summer research program. I developed and organized workshops on research writing, and guided poster/presentation development.

2015 *Penn State University – McNair Undergraduate Research Assistant*

Applied Differential Evolution to material design. Built autonomous setup to test soap film robustness, conducted chemical experiments until convergence was observed. Advised by Dr. Tak-Sing Wong.

2014 *Cornell University – Organic Robotics Lab*
Developed a silicone pneumatic actuators with variable stiffness. Presented at the Cornell Summer Diversity Undergraduate Symposium. Advised by Dr. Robert Shepherd.

2013 *Cornell University – TANMS Program*
Researched nanoscale motors using multiferroic systems. Simulated operational scenarios and learned pulsed laser deposition (PLD) techniques. Advised by Dr. Ephrahim Garcia.

2013 *Johnson & Johnson Co-op: Ethicon, Inc. – Facilities Engineer*
Drafted and renovated facility spaces, identified machine issues, and developed solutions for smooth operation.

Publications

Conference & Journal

1. **Claure, H.**, Shin,I., Trafton, G., Vázquez M. 2025. Did the Robot Really Intend to Harm Me? The Effect of Perceived Agency and Intention on Fairness Judgments. *ACM/IEEE International Conference on Human-Robot Interaction (HRI).*

2. **Claure, H.**, Moosa, A., Vázquez, M. 2025. Inferring Human Fairness Judgments with Large Language Models in Human-Robot Interaction Scenarios. *IEEE International Conference on Robot and Human Interactive Communication (RO-MAN).*

3. **Claure, H.***, Narcomey, A.*, Vázquez M. 2025. Fairness Theory: Modeling Reduced Welfare in Human-Robot Interactions. *ACM/IEEE International Conference on Human-Robot Interaction (HRI). Submitted.*

4. Shin,I., **Claure, H.**, Trafton, G., Vázquez M. 2025. Effects of Time-Varying Perceived Agency on Fairness Judgments Towards Robot. *IEEE Robotics and Automation Letters (RA-L). Submitted*

5. Narcomey, A., **Claure, H.**, Vázquez M. 2025. Robot Delivery of Actionable Counterfactual Neural Network Explanations: Results in Group Perception. *IEEE International Conference on Robot and Human Interactive Communication (RO-MAN).*

6. Candon, K., Zhang, Q., Lew, A., **Claure, H.**, Sarkar, C., Vázquez M. 2025. *ACM/IEEE International Conference on Human-Robot Interaction (HRI). Submitted.*

7. **Claure, H.**, Candon, K., Vázquez, M. 2024. Dynamic Fairness Perceptions in Human-Robot Interaction. *ACM Transactions on Human Robot Interactions (THRI).* Under Review.

8. **Claure, H.**, Kim, S., Kizilcec, R., & Jung, M. 2023. The Social Consequences of Machine Allocation Behavior: Fairness, Interpersonal Perceptions and Performance. *Computers in Human Behavior.*

9. Lee,W., Sakashita, M., Ricci, A., **Claure, H.**, Jung,M., Guimbretiere, F. 2021. Interactive Vignettes: Enabling Large-Scale Interactive HRI Research. *30th IEEE International Conference on Robot & Human Interactive Communication (RO-MAN).*

10. **Claure, H**., Chen,Y., Modi, J.,Jung, M., Nikolaidis,S. 2020. Multi-Armed Bandits with Fairness Constraints for Distributing Resources to Human Teammates. *2020 ACM/IEEE International Conference on Human-Robot Interaction.*

11. Jung,M., DiFranzo, D., Shen, S., Stoll, B., **Claure, H**., Lawrence, A. 2020. Robot-assisted tower construction—a method to study the impact of a robot's allocation behavior on interpersonal dynamics and collaboration in groups. *ACM Transactions on Human Robot Interactions (THRI).*

12. **Claure, H.***, Barrieros, J.*, Peele, B.*, Shepherd, R. 2018. Fluidic Elastomer Actuators for Haptic Interactions in Virtual Reality. *IEEE Robotics and Automation Letters (RA-L).* (*Authors Contributed Equally).

13. Stogin,B., Gockowski, L., Feldstein, H., **Claure, H.**, Wang, J., Wong, T. 2018. Free-standing liquid membranes as unusual particle separators. *Science Advances.*

14. Shen, S., Tennent,H., **Claure, H.**, Jung, M. 2018. My Telepresence, My Culture? An Intercultural Investigation of Telepresence Robot Operators' Interpersonal Distance Behaviors. *Conference on Human Factors in Computing Systems(CHI).*

Workshop

1. **Claure, H.**, 2024. Designing for Fairness in Human-Robot Interactions. *Robotics: Science and Systems (RSS) – Pioneers Workshop.*

2. **Claure, H.**, Candon,K., Clark, O., Vázquez,M. 2024. Multiplayer Space Invaders: A Platform for Studying Evolving Fairness Perceptions in Human-Robot Interaction". *Companion of the ACM/IEEE International Conference on Human-Robot Interaction (HRI).*

3. **Claure, H,** Chang, M.L., Kim, S..Omeiza, D., Bandao, M., Lee, M., Jung,M. 2022. Fairness and Transparency in Human-Robot Interaction. *Companion of the ACM/IEEE International Conference on Human-Robot Interaction.*

4. **Claure, H.**, Jung, M. 2021. Fairness Considerations for Enhanced Team Collaboration. *Companion of the 2021ACM/IEEE International Conference on Human-Robot Interaction* (HRI Pioneers 2021).

5. **Claure, H.**, Khojasteh,N., Tennet,H., Jung, M. 2020. Using Expectancy Violations Theory to Understand Robot Touch Interpretation. *Companion of the 2020 ACM/IEEE International Conference on Human - Robot Interaction.*

6. **Claure, H.**, Jung, M. 2018. Understanding Social Dynamics in Robot-Human Handovers Through the Lens of Expectancy Violations Theory. *Companion of the ACM/IEEE 2018 Conference on Human-Robot Interaction (HRI).*

Teaching

2019	*Ubiquitous Computing (Teaching Assistant)* Designed and developed Machine Learning, Machine Perception, Signal Processing, Human Computer Interaction, as well as psychology and sociology laboratories and had students implement them in Jupyter Notebooks. Helped students with independent project developing new persuasive technologies.
2018	*Mechatronics (Teaching Assistant)*

Helped teach an upper level engineering course at Cornell. I helped organize and develop lab experiments where students learned about analog electronics(filter design, circuits, transistors, etc.) as well as microprocessors and programming with C. I also helped students design, build, and program a microprocessor-controlled robot for a block placing competition using the C programming language.

2018-2019 *Instructor of Social Robots Course*
Developed course to teach high school students about the field of Human Robot Interaction. Presented course at Bolivian Embassy in Washington D.C. and Santa Cruz, Bolivia as part of Clubes de Ciencias Program.

Talks

1. Claure, Houston B. (2025). Invited Speaker. "Designing Robots to be Fair and Effective Teammates". Department of Pathology Monthly Staff Meeting.
2. Claure, Houston B. (2025). Invited Speaker and Panelist. "Designing Robots to be Fair and Effective Teammates". Envisioning AI at Yale: An Interdisciplinary Symposium.
3. Claure, Houston B. (2025). Full Paper presentation. "Inferring Human Fairness Judgments with Large Language Models in Human-Robot Interaction Scenarios". IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN).
4. Claure, Houston B. (2025). Full Paper presentation. "Did the Robot Really Intend to Harm Me? The Effect of Perceived Agency and Intention on Fairness Judgments.". ACM/IEEE International Conference on Human-Robot Interaction (HRI).
5. Claure, Houston B. (2024). Air Force Office of Scientific Research (AFOSR) Program Review. "Towards Robots that reason About Fairness". Air Force Office of Scientific Research (AFOSR).
6. Claure, Houston B. (2024). Workshop talk."Designing for Fairness in Human Robot Interactions". RSS Pioneers Workshop.
7. Claure, Houston B. (2023). Invited Podcast Guest."Designing Fair Robots". Tech Policy Press. 2023.
8. Claure, Houston B. (2023). Invited Podcast Guest. "Designing Fair Robots". Quantum Photonics. 2023.
9. Claure, Houston B. (2023). Invited Lecturer. "The Design of Everyday Things". CPSC-484/584 Intro. to Human-Computer Interaction. 2023.
10. Claure, Houston B. (2023). Invited Presentation. "Designing Fair Robots". Yale Young Global Scholars. 2023.
11. Claure, Houston B. (2022). Invited Research Presentation. "Designing Fair Robots". Robotics Presentation. Yale University. 2022.
12. Claure, Houston B. (2022). Invited Research Presentation. "Designing Fair Robots". MIT Teaching Systems Lab (TSL). Massachusetts Institute of Technology (MIT). 2022.
13. Claure, Houston B. (2021). Seminar Presentation. "Fairness Considerations for Enhanced Team Collaboration" .Rochester Institute of Technology (RIT). September 2021.
14. Claure, Houston B. (2021). Brown Bag Lunch Presentation. "Fairness Considerations for Enhanced Team Collaboration" .Toyota Research Institute (TRI). June 2021.

15. Claure, Houston B. (2021). HRI Pioneers Presentation. "Fairness Considerations for Enhanced Team Collaboration". 2021 ACM/IEEE International Conference on Human-Robot Interaction (Virtual Conference). March 2021.
16. Claure, Houston B. (2019). Workshop Presentation. "Reinforcement Learning with Fairness Constraints for Resource Distribution in Human-Robot Teams". Sibley Graduate Student Symposium. Ithaca, New York. September 2019.
17. Claure, Houston B. (2018). Workshop Presentation. "Understanding Social Dynamics in Robot-Human Handovers Through the Lens of Expectancy Violations Theory". Human Robot Interaction(HRI) Conference '18 .Workshop on Longitudinal Human-Robot Teaming. Chicago, Illinois. March 2018.
18. Conference Attendee (By Invitation). Institute on Teaching and Mentoring. Tampa, Florida. October 27 - 30,2016.
19. Claure, Houston B. (2014). Technical Presentation. "Evolution Inspired Optimization of Soap Film Robustness". McNair Summer Research Symposium. Penn State University. July 27, 2015.
20. Claure, Houston B. (2014). Technical Presentation. "Evolution Inspired Optimization of Soap Film Robustness". National McNair Conference. University of Maryland - Baltimore County. September 12, 2015.
21. Claure, Houston B. (2014). Poster Presentaion."Variable Stiffness". Society of Hispanic of Professional Engineers(SHPE)- National Conference. Detroit, Michigan. November 7,2014.
22. Claure, Houston B. (2014). Poster Presentation and Technical Presentation. "Variable Stiffness Actuators". Undergraduate Summer Research Symposium. Cornell University. August 7, 2014.
23. Claure, Houston B. (2014). Poster Presentation and Technical Presentation. "Variable Stiffness Actuators". Undergraduate Summer Research Symposium. Cornell University. August 7, 2014.
24. Claure, Houston B. (2013). Poster Presentation. "Nanoscale Motor Using a Multiferroic System". Pennsylvania TRIO Conference. The Pennsylvania State University, University Park. October 17, 2013.

Honors and Awards

2024	Sloan Scholars Network – Travel Grant
2024	Robotics: Science and Systems (RSS) – Pioneers Workshop
2024	NextProf Nexus – University of Michigan
2016-2023	Sloan Graduate Fellowship (2 years of funded research)
2021	Future Faculty Program – Rochester Institute of Technology (RIT)
2021	Edward Bouchet Graduate Honor Society February 2021
2021	Human-Robot Interaction – Pioneers Workshop
2021	Cornell Engineering Commercialization Fellowship
2020	Cornell Digital Agriculture Hackathon – Winner (Novelty Prize)
2018	National Science Foundation Graduate Fellowship (NSGRF) - Honorable Mention

2011-2015	Bunton-Waller Fellowship (full undergraduate tuition scholarship)
2015	McNair Research Scholar
2015	Engineering Capstone Design Showcase – 2nd Place
2014	Society of Hispanic Professional Engineers(SHPE) – National Conference Poster Finalist

Leadership Experience

2016	Graduate and Professional Student Assembly (GPSA)-Field Representative One of the two representatives for the department of Mechanical Engineering. GPSA gathers representatives from among the 7,000 students to address non-academic issues and collaborate with university administration to help bring positive change to the university.

Entrepreneurship

2020-2021	*Vida - The Artificial Intelligent Companion (Founder)* National Science Foundation I-Corp Grant Recipient. Co-authored a grant and received a $50,000 to explore commercialization opportunities for my research and to start a company. I led the company (6 members) to complete 100+ customer discovery interviews within the educational technology (edtech) space and worked with industry mentors and CEOs to develop a business model canvas for the company

Volunteer Work

2019	Los Angeles Mission – Helped distribute food to members of Skid Row in Los Angeles, California.
2016-2023	Loaves & Fishes of Tompkins County – Helped distribute food to members of Tompkins County.
2015	Catholic Faith Center – Front Desk Volunteer