Henny Admoni

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Research Overview

I develop intelligent and adaptive robots that detect, interpret, and respond to human needs, particularly those expressed through nonverbal behaviors. My robots provide social and physical assistance in complex activities like learning new information or preparing a meal. My research draws from robotics, cognitive psychology, artificial intelligence, machine learning, and computer vision.

Key words: Assistive robotics, human-robot interaction, learning from people, collaborative manipulation, intent recognition, nonverbal behavior, cognitive modeling

Education

Ph.D. Computer Science 2016	Yale University Thesis: *Nonverbal Communication in Socially Assistive Human-Robot Interaction* Advisor: Brian Scassellati
M.S. Computer Science 2012	Yale University Advisor: Brian Scassellati
M.A. Computer Science 2009	Wesleyan University Thesis: *Demonstrations of Dynamical Intention for Hybrid Agents* Advisor: Eric Aaron
B.A. Computational Cognitive Science (self-designed) 2008	Wesleyan University Thesis: *Decision Making and Learning in Hybrid Dynamical Agents* Advisors: Eric Aaron, Andrea Patalano, John Kirn Areas of study: Computer Science, Cognitive Psychology, Neuroscience

Employment

Carnegie Mellon Univ 2023–present	Associate Professor, Robotics Institute
Carnegie Mellon Univ 2020–2023	A. Nico Habermann Assistant Professor, Robotics Institute
Carnegie Mellon Univ 2017–2020	Assistant Professor, Robotics Institute
Carnegie Mellon Univ 2015–2017	Postdoctoral Fellow, Robotics Institute
Yale University 2009–2015	Research Assistant, Department of Computer Science

Awards and Honors

First U.S.-Africa Frontiers of Science, Engineering, and Medicine Symposium, Selected Participant	2022
RSS Early Career Spotlight	2022
A. Nico Habermann Career Development Professorship	2020–2023
RoboHub 50 Women in Robotics You Need to Know About	2021
Okawa Research Grant	2020
NSF CAREER Award	2020
CMU Distinguished Lecture: Teruko Yata Memorial Lecture in Robotics	2019
Rising Stars in EECS	2015
Google Anita Borg Memorial Scholarship	2014

Publications

Peer-Reviewed Journal Articles

J16 Zhao, M., Simmons, R., and **Admoni, H.** (2022). The role of adaptation in collective human-AI teaming. *Topics in Cognitive Science*.

J15 Norton, A., **Admoni, H.**, Crandall, J., Fitzgerald, T., Gautam, A., Goodrich, M., Saretsky, A., Scheutz, M., Simmons, R., Steinfeld, A., and Yanco, H. (2022). Metrics for robot proficiency self-assessment and communication of proficiency in human-robot teams. *ACM Transactions on Human-Robot Interaction*, 11.

J14 Zhao, M., Eadeh, F., Nguyen, T. N., Gupta, P., **Admoni, H.**, Gonzalez, C., and Woolley, A. (2022). Teaching agents to understand teamwork: Evaluating and predicting collective intelligence as a latent variable via hidden markov models. In *Computers in Human Behavior*.

J13 Newman, B. A., Aronson, R. M., Kitani, K., and **Admoni, H.** (2021). Helping people through space and time: Assistance as a perspective on human-robot interaction. *Frontiers of Robotics and AI*.
CiteScore: 4.4

J12 Biswas, A., Silvera, G., Steinfeld, A., and **Admoni, H.** (2021). SocNavBench: A grounded simulation testing framework for evaluating social navigation. *ACM Transactions on Human-Robot Interaction*.

J11 Kress-Gazit, H., Eder, K., Hoffman, G., **Admoni, H.**, Argall, B., Ehlers, R., Heckman, C., Jansen, N., Knepper, R., Křetínský, J., Levy-Tzedek, S., Li, J., Murphey, T., Riek, L., and Sadigh, D. (2021). Formalizing and guaranteeing human-robot interaction. *Communications of the ACM*.
Impact factor: 4.55

J10 Lee, M. S., **Admoni, H.**, and Simmons, R. (2021). Machine teaching for human inverse reinforcement learning. *Frontiers in Robotics and AI*, 8:188.
CiteScore: 4.4

J9 Newman, B. A., Aronson, R. M., Srinivasa, S. S., Kitani, K., and **Admoni, H.** (2021). HARMONIC: A multimodal data set of assistive human-robot collaboration. *The International Journal of Robotics Research*.
Impact factor: 5.3

J8 Vasconez, J. P., **Admoni, H.**, and Cheein, F. A. (2021). A methodology for semantic action recognition based on pose and human-object interaction in avocado harvesting processes. *Computers and Electronics in Agriculture*, 184:106057.
Impact factor: 5.6

J7 Han, Z., Giger, D., Allspaw, J., Lee, M. S., **Admoni, H.**, and Yanco, H. A. (2020). Building the foundation of robot explanation generation using behavior trees. *ACM Transactions on Human-Robot Interaction*.

J6 Javdani, S., **Admoni, H.**, Pellegrinelli, S., Srinivasa, S. S., and Bagnell, J. A. (2018). Shared autonomy via hindsight optimization for teleoperation and collaboration. *The International Journal of Robotics Research*, 37:717–742.
Impact factor: 5.3

J5 Scalise, R., Li, S., **Admoni, H.**, Rosenthal, S., and Srinivasa, S. S. (2018). Natural language instructions for human-robot collaborative manipulation. *The International Journal of Robotics Research*, 37:558–565.
Impact factor: 5.3

J4 **Admoni, H.** and Scassellati, B. (2017). Social eye gaze in human-robot interaction: A review. *Journal of Human-Robot Interaction*, 6(1):25–63.

J3 Castro-González, A., **Admoni, H.**, and Scassellati, B. (2016). Effects of form and motion on judgments of social robots' animacy, likability, trustworthiness and unpleasantness. *International Journal of Social Robotics*, 90:27–38.
Impact factor: 1.41

J2 Scassellati, B., **Admoni, H.**, and Matarić, M. (2012). Robots for use in autism research. *Annual Review of Biomedical Engineering*, 14:275–294.
Impact factor: 10.95 Cited >900 times

J1 Aaron, E. and **Admoni, H.** (2010). Action selection and task sequence learning for hybrid dynamical cognitive agents. *Robotics and Autonomous Systems*, 58(9):1049–1056.
Impact factor: 1.16

Peer-Reviewed Conference Papers

C35 Biswas, A. and **Admoni, H.** (2023). Characterizing drivers' peripheral vision via the functional field of view for intelligent driving assistance. In *IEEE Intelligent Vehicles Symposium*.

C34 Fitzgerald, T., Koppol, P., Callaghan, P., Wong, R. Q. J. H., Simmons, R., Kroemer, O., and **Admoni, H.** (2022). INQUIRE: INteractive Querying for User-aware Informative REasoning. In *Conference on Robot Learning (CoRL)*.

C33 Zhao, M., Simmons, R., and **Admoni, H.** (2022). Coordination with humans via strategy matching. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*.
Acceptance rate: 48%

C32 Lee, M., **Admoni, H.**, and Simmons, R. (2022). Reasoning about counterfactuals to improve human inverse reinforcement learning. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*.
Acceptance rate: 48%

C31 Taylor, A., Kaufman, R., Huang, M., and **Admoni, H.** (2022). Activity recognition in restaurants to address underlying needs: A case study. In *IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN)*.

C30 Taylor, A., Manantov, E., and **Admoni, H.** (2022). Observer-aware legibility for social navigation. In *IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN)*.

C29 Aronson, R. and **Admoni, H.** (2022). Gaze complements control input for goal prediction during assisted teleoperation. In *Robotics: Science and Systems (RSS)*.
Acceptance rate: 32%

C28 Valencia, S., Steidl, M., Rivera, M. L., Bennett, C. L., Bigham, J. P., and **Admoni, H.** (2021). Aided nonverbal communication through physical expressive objects. In *International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS)*.
Acceptance rate: 26% Best Paper Award

C27 Cui, Y., Koppol, P., **Admoni, H.**, Niekum, S., Simmons, R., Steinfeld, A., and Fitzgerald, T. (2021). Understanding the relationship between interactions and outcomes in human-in-the-loop machine learning. In *International Joint Conferences on Artificial Intelligence (IJCAI)*.
Acceptance rate: 14%

C26 Koppol, P., **Admoni, H.**, and Simmons, R. (2021). Interaction considerations in learning from humans. In *International Joint Conferences on Artificial Intelligence (IJCAI)*.
Acceptance rate: 14%

C25 Valencia, S., Luria, M., Pavel, A., Bigham, J. P., and **Admoni, H.** (2021). Co-designing socially assistive sidekicks for motion-based aac. In *ACM/IEEE International Conference on Human-Robot Interaction (HRI)*.
Acceptance rate: 24%

C24 Aronson, R. M., AlMutlak, N., and **Admoni, H.** (2021). Inferring goals with gaze during teleoperated manipulation. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*.

C23 Hu, Y., Feng, L., Mutlu, B., and **Admoni, H.** (2021). Exploring the role of social robot behaviors in a creative activity. In *ACM Designing Interactive Systems Conference (DIS)*.

C22 Newman, B. A., Biswas, A., Ahuja, S., Girdhar, S., Kitani, K. K., and **Admoni, H.** (2020). Examining the effects of anticipatory robot assistance on human decision making. In *International Conference on Social Robotics*.
Acceptance rate: 55%

C21 Ahuja, S., **Admoni, H.**, and Steinfeld, A. (2020). Learning vision-based physics intuition models for non-disruptive object extraction. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*.
Acceptance rate: 47% Best Student Paper Nominee

C20 Taylor, A. V., Matsumoto, A., Carter, E. J., Plopski, A., and **Admoni, H.** (2020). Diminished reality for close quarters robotic telemanipulation. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*.
Acceptance rate: 47%

C19 Valencia, S., Pavel, A., Maria, J. S., Yu, S. G., Bigham, J. P., and **Admoni, H.** (2020). Conversational agency in augmentative and alternative communication. In *Proceedings of the ACM Annual Conference on Human Factors in Computing Systems (CHI)*.
Acceptance rate: 24% Best Paper Honorable Mention

C18 Aronson, R. M. and **Admoni, H.** (2019). Semantic gaze labeling for human-robot shared manipulation. In *Proceedings of the ACM Symposium on Eye Tracking Research and Applications (ETRA)*.
Acceptance rate: 41%

C17 Aronson, R. M., Santini, T., Kubler, T. C., Kasneci, E., Srinivasa, S. S., and **Admoni, H.** (2018). Eye-hand behavior in human-robot shared manipulation. In *ACM/IEEE International Conference on Human-Robot Interaction (HRI)*.
Acceptance rate: 23%

C16 Li, S., Scalise, R., **Admoni, H.**, Srinivasa, S. S., and Rosenthal, S. (2017). Evaluating critical points in trajectories. In *IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN)*, pages 1357–1364.

C15 Pellegrinelli, S., **Admoni, H.**, Javdani, S., and Srinivasa, S. S. (2016). Human-robot shared workspace collaboration via hindsight optimization. In *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, pages 831–838
Acceptance rate: 48%

C14 Li, S., Scalise, R., **Admoni, H.**, Srinivasa, S. S., and Rosenthal, S. (2016). Spatial references and perspective in natural language instructions for collaborative manipulation. In *IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN)*, pages 44–51
Acceptance rate: 47%

C13 Suman, A., Marvin, R., Grigore, E. C., **Admoni, H.**, and Scassellati, B. (2016). Robots can induce mimicry in humans depending on previous behavior. In *IEEE International Symposium on Robot and Human Interactive Communication (RO-MAN)*
Acceptance rate: 47%

C12 **Admoni, H.**, Weng, T., and Scassellati, B. (2016). Modeling communicative behaviors for object references in human-robot interaction. In *IEEE International Conference on Robotics and Automation (ICRA)*, pages 3352–3359
Acceptance rate: 35%

C11 **Admoni, H.**, Weng, T., Hayes, B., and Scassellati, B. (2016). Robot nonverbal behavior improves task performance in difficult collaborations. In *ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, pages 51–58
Acceptance rate: 25%

C10 **Admoni, H.** and Scassellati, B. (2014). Data-driven model of nonverbal behavior for socially assistive human-robot interactions. In *ACM International Conference on Multimodal Interaction (ICMI)*, pages 196–199
Acceptance rate: 39%

C9 **Admoni, H.**, Datsikas, C., and Scassellati, B. (2014). Speech and gaze conflicts in collaborative human-robot interactions. In *Annual Conference of the Cognitive Science Society (CogSci)*, pages 104–109
Acceptance rate: 41%

C8 Nawroj, A., Toneva, M., **Admoni, H.**, and Scassellati, B. (2014). An exploration of social grouping in robots: Effects of behavioral mimicry, appearance, and eye gaze. In *Annual Conference of the Cognitive Science Society (CogSci)*, pages 1060–1065
Acceptance rate: 41%

C7 **Admoni, H.**, Dragan, A., Srinivasa, S. S., and Scassellati, B. (2014). Deliberate delays during robot-to-human handovers improve compliance with gaze communication. In *ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, pages 49–56
Acceptance rate: 24%

C6 **Admoni, H.**, Hayes, B., Feil-Seifer, D., Ullman, D., and Scassellati, B. (2013). Are you looking at me? Perception of robot attention is mediated by gaze type and group size. In *ACM/IEEE International Conference on Human-Robot Interaction (HRI)*, pages 389–396
Acceptance rate: 25%

C5 **Admoni, H.**, Hayes, B., Feil-Seifer, D., Ullman, D., and Scassellati, B. (2013). Dancing with myself: The effect of majority group size on perceptions of majority and minority robot group members. In Knauff, M., Pauen, M., Sebanz, N., and Wachsmuth, I., editors, *Annual Conference of the Cognitive Science Society (CogSci)*, pages 1708–1713

C4 **Admoni, H.** and Scassellati, B. (2012). A multi-category theory of intention. In Miyake, N., Peebles, D., and Cooper, R. P., editors, *Annual Conference of the Cognitive Science Society (CogSci)*, pages 1266–1271

C3 **Admoni, H.**, Bank, C., Tan, J., and Toneva, M. (2011). Robot gaze does not reflexively cue human attention. In Carlson, L., Hölscher, C., and Shipley, T., editors, *Annual Conference of the Cognitive Science Society (CogSci)*, pages 1983–1988

C2 Aaron, E., Mendoza, J.-P., and **Admoni, H.** (2011). Integrated dynamical intelligence for interactive embodied agents. In *Proceedings of the International Conference on Agents and Artificial Intelligence (ICAART)*
Acceptance rate: 27%

C1 Aaron, E. and **Admoni, H.** (2009). A framework for dynamical intention in hybrid navigating agents. In *Proceedings of the International Conference on Hybrid Artificial Intelligence Systems (HAIS)*, volume LNCS 5572, pages 218–225
Acceptance rate: 41%

Peer-Reviewed Workshop and Short Papers

W19 Biswas, A., Pardhi, B. A., Chuck, C., Holtz, J., Niekum, S., **Admoni, H.**, and Allievi, A. (2022). Mitigating causal confusion in driving agents via gaze supervision. In *Workshop on Aligning Robot Representations with Humans at Conference on Robot Learning (CoRL)*.
Best Paper Award

W18 Silvera, G., Biswas, A., and **Admoni, H.** (2022). DReyeVR: Democratizing driving simulation in virtual reality for behavioural and interaction research. In *Short Contributions to ACM/IEEE International Conference on Human-Robot Interaction (HRI)*.

W17 Lee, M. S., **Admoni, H.**, and Simmons, R. (2022). Counterfactual examples for human inverse reinforcement learning. In *Workshop on Explainable Agency in AI at AAAI Conference on Artificial Intelligence*.

W16 Taylor, A., Mamantov, E., and **Admoni, H.** (2021). Wait wait, nonverbally tell me: Legibility for use in restaurant navigation. In *Workshop on Social Robot Navigation at Robotics: Science and Systems (RSS)*.

W15 Lee, M. S., **Admoni, H.**, and Simmons, R. (2021). Robot teaching for human inverse reinforcement learning. In *Workshop on Robots for Learning at ACM/IEEE International Conference on Human-Robot Interaction (HRI)*.

W14 Koppol, P., **Admoni, H.**, and Simmons, R. (2020). Iterative interactive reward learning. In *Participatory Approaches to Machine Learning Workshop at ICML*.

W13 Taylor, A. and **Admoni, H.** (2020). Now you see it: The effect of multiple audience perspectives on path legibility. In *Workshop on AIxFood at International Joint Conferences on Artificial Intelligence (IJCAI)*

W12 Baikovitz, A., Duffy, J., Sussman, Z., Newman, B. A., and **Admoni, H.** (2019). In-sight: Tension-based haptic feedback to improve navigation for people who are blind. In *Workshop on Hacking Blind Navigation at CHI*

W11 Aronson, R. M. and **Admoni, H.** (2018). Gaze for error detection during human-robot shared manipulation. In *Towards a Framework for Joint Action Workshop at Robotics: Science and Systems (RSS)*

W10 Biswas, A., **Admoni, H.**, and Steinfeld, A. (2018). Human torso pose forecasting in the real world. In *Multimodal Perception and Control Workshop at Robotics: Science and Systems (RSS)*

W9 Chen, L., **Admoni, H.**, and Dubrawski, A. (2018). Toward a companion robot fostering perseverance in math-a pilot study. In *HRI for Learning Workshop at HRI*

W8 **Admoni, H.** and Srinivasa, S. S. (2016). Predicting user intent through eye gaze for shared autonomy. In *Proceedings of the AAAI Fall Symposium: Shared Autonomy in Research and Practice*, pages 298–303. AAAI Press

W7 Holladay, R., Herlant, L., **Admoni, H.**, and Srinivasa, S. S. (2016). Visibility optimization in manipulation tasks for a wheelchair-mounted robot arm. In *RO-MAN Workshop on Human-Oriented Approaches for Assistive and Rehabilitation Robotics (HUMORARR)*

W6 **Admoni, H.** and Scassellati, B. (2015). Eye gaze in collaborative human-robot interaction. In *Proceedings of the Human Robot Teaming Workshop at HRI*

W5 **Admoni, H.** and Scassellati, B. (2014). Nonverbal behavior modeling for socially assistive robots. In *Proceedings of the AAAI Fall Symposium: Artificial Intelligence and Human-Robot Interaction (AI-HRI)*. AAAI Press

W4 **Admoni, H.** and Scassellati, B. (2014). The role of robots in socially assistive applications. In *Proceedings of the Rehabilitation and Assistive Robotics Workshop at IROS*

W3 **Admoni, H.** and Scassellati, B. (2014). Demo: Toward a data-driven generative behavior model for human-robot interaction. In *Proceedings of the Workshop on Mobile Augmented Reality and Robotic Technology-Based Systems (MARS) at MobiSys*, pages 19–20

W2 **Admoni, H.** and Scassellati, B. (2012). Robot gaze is different from human gaze: Evidence that robot gaze does not cue reflexive attention. In *Proceedings of the "Gaze in Human-Robot Interaction" Workshop at HRI*

W1 Aaron, E. and **Admoni, H.** (2009). Approaches to learning for hybrid dynamical cognitive agents. In *Proceedings of the International Workshop on Hybrid Control of Autonomous Systems (HYCAS)*, pages 83–90

Theses

T3 Admoni H. 2016. Nonverbal Communication in Socially Assistive Human-Robot Interaction. PhD thesis, Yale University.

T2 Admoni H. 2009. Demonstrations of Dynamical Intention for Hybrid Agents. Master's thesis, Wesleyan University.

T1 Admoni H. 2008. Decision Making and Learning in Hybrid Dynamical Agents. Undergraduate Honors thesis, Wesleyan University.

Teaching

16-867: Human-Robot Interaction (graduate) Carnegie Mellon University	2017–2023
16-467: Human-Robot Interaction (undergraduate) Carnegie Mellon University	2018, 2020–2023
16-843: Manipulation Algorithms (graduate) Carnegie Mellon University *co-taught with Dr. Katharina Muelling*	2016

Invited Talks

Select talks from the last 5 years. Bolded talks indicate high visibility.

Cognitive Modeling in Robot Learning for Adaptive HRI Workshop, ICRA 2023	June 2023
Communicating Robot Learning Across Human-Robot Interaction Workshop, ICRA 2023	June 2023
Human Interactive Robot Learning Workshop, HRI 2023	March 2023
Open Source Benchmarking for Robotics Workshop, HRI 2023	March 2023
All Things Attention Workshop, NeurIPS 2022	Dec 2022
Early Career Spotlight Lecture, RSS 2022, New York, NY	June 2022
Panel on Healthcare and AI, Cascadia Connect RAAI Conference, Pittsburgh PA	May 2022
Robotics Institute Seminar, University of Toronto (virtual)	April 2022
DREAM/CPAR Seminar, University of California - Berkeley (virtual)	March 2022
PittCyber Forbes Corridor Colloquium, Pittsburgh, PA (virtual)	Oct 2021
University of Washington Robotics Colloquium, Seattle, WA (virtual)	June 2021
Learning for Caregiving Workshop, ICRA 2021 (virtual)	June 2021
Digital Futures Fly-high Fika Seminar, KTH (virtual)	Jan 2021
IROS Workshop "Robotic Food Manipulation Challenge" (virtual)	Oct 2020
RSS Workshop "Good Citizens of Robotics Research" (virtual)	July 2020
CMU Alumni Association, Pittsburgh, PA	Feb 2020
HCII Seminar, CMU	Jan 2020
World Economic Forum Annual Meeting, Davos, Switzerland	Jan 2020
ARCS Foundation Winter Lecture, CMU	Jan 2020
Brigham Young University Computer Science Colloquium, Provo, UT	Jan 2020
University of Washington Robotics Colloquium, Seattle, WA	Dec 2019
National Robotics Roadmapping Workshop, UMass Lowell, Lowell, MA	Nov 2019
Facebook–CMU Robotics Benchmarking Workshop, Pittsburgh, PA	Aug 2019
Sony Research & Development, Tokyo, Japan	Aug 2019
EmTech Next Conference, Cambridge, MA	June 2019
Stony Brook Medical Center Geriatrics Grand Rounds, Stony Brook, NY	April 2019
CMU Distinguished Lecture: Teruko Yata Memorial Lecture in Robotics, Pittsburgh, PA	April 2019
City of Asylum Panel on AI and Ethics, Pittsburgh, PA	April 2019
Seminar, Nara Institute of Science and Technology, Nara, Japan	Mar 2019
Dagstuhl Seminar #19081 on HRI and Verification, Dagstuhl, Germany	Feb 2019
Seminar, Xi'an Jiaotong-Liverpool University, Suzhou, China	Dec 2018
Seminar, Central China Normal University, Wuhan, China	Dec 2018
Culinary Institute of America's reThink Food Conference, Napa Valley, CA	Nov 2018
Intersect@CMU Conference, CMU, Pittsburgh, PA	Sept 2018
University of Washington & Microsoft Research Summer Institute on Social Robotics, Seattle, WA	July 2018
CMU Board of Trustees Meeting, San Francisco, CA	Feb 2018
Girls of Steel FIRST Robotics Club, CMU, Pittsburgh, PA	Dec 2017
CS Colloquium, University of Southern California, Los Angeles, CA	Oct 2017
Robotics Institute Seminar, CMU, Pittsburgh, PA	Sept 2017
Robotics: Science and Systems Women in Robotics Workshop	July 2017

Mentoring

Current PhD Students

Abhijat Biswas (RI) 2019–
Eye Gaze for Intelligent Driving Assistance
Link Foundation Fellowship

Maggie Collier (RI) 2019–
Human-Centered Assistive Robots
NDSEG Fellowship

Zulekha Karachiwalla (RI) 2022–
Physically Assistive Wound Care Robots (co-advised with Zackory Erickson)
CMU Center for Machine Learning and Health Fellowship in Digital Health Innovation

Pallavi Koppol (CSD) 2018–
Interactive Learning Using Human Feedback (co-advised with Reid Simmons)

Michael Lee (RI) 2018–
Assessing and Communicating Robot Self-Competency (co-advised with Reid Simmons)

Benjamin Newman (RI) 2017–
Multimodal Intent Recognition for Assistive HRI (co-advised with Kris Kitani)
NSF Graduate Research Fellowship, Facebook Research AI Fellowship

Ada Taylor (RI) 2018–
Intent Prediction from Social Signaling
NSF Graduate Research Fellowship

Stephanie Valencia-Valencia (HCII) 2017–
Conversational Agency with AACs (co-advised with Jeffrey Bigham)

Michelle Zhao (RI) 2020–
Adaptable AI Coaching (co-advised with Reid Simmons)
NDSEG Fellowship, Robotics Institute Uber Research Fellowship

Current Masters Students

Patrick Callaghan (RI) 2021–
Learning Manipulation Skills from Humans (co-advised with Oliver Kroemer)

Pranay Gupta (RI) 2022–
Driver-Aware Autonomous Driving Models (co-advised with David Held)

Past PhD Students

Reuben Aronson (RI) 2017–2022
Assistive Manipulation Through Intent Recognition

Past Masters Students

Sarthak Ahuja (RI) 2018–2020
Assessing Robot Self-Competence (co-advised with Aaron Steinfeld)

Yaxin Hu (Computational Design) 2019–2020
Social Robots for Artistic Creativity

Abhijat Biswas, MSR *Markerless 3D Human Pose Forecasting*, (co-advised with Aaron Steinfeld)	2017–2019
Zhiqian (Calvin) Qiao, MS ECE *Intelligent Control for Assistive Manipulators*	2018–2019
I-Chen Jwo, Ting-Che Lin, Jiahong Ouyang, Karsh Tharyani, Yang Yang (MRSD student team) *Assistive Intent Recognition and Manipulation*	2017–2018

Undergraduate Students

Shenai Chan, CMU	2023–
Ellen Lee, CMU	2023–
Nyomi Morris, Rose-Hulman Institute of Technology	2023–
Narit Trikasemsak, Colby College	2023–
Ivy He, CMU	2021–2023
Gustavo Silvera, CMU	2020–2023
George Yu, CMU, CMU SURF award	2021–2022
Yitong Chen, CMU	2022–2022
Timothy Hyun, CMU	2021–2022
Karen Zhang, CMU	2020–2022
Michael Huang, CMU, SRC URO award	2019–2021
Jared Santa Maria, CMU	2019–2021
Carolyn Youstra, CMU	2020–2021
Meghna Behari, Allegheny North High School	2020
Ellen Mamantov, Carlton College	2020
Kathleen Medill, US Air Force Academy	2020
Vignesh Rajmohan, CMU	2020
Minji Kim, CMU	2019–2020
Alexander Baikovitz, CMU SURG-SURG/CW award	2018–2020
Zachary Sussman, CMU SURG-SURG/CW award	2018–2019
Nadia AlMutlak, Columbia University	2019
Siddharth Girdhar, CMU	2019
John Duffy, CMU SURG-SURG/CW award	2019
Roman Kaufman, CMU	2019
Maggie Collier, University of Alabama–Birmingham	2018
Yu Xiang (Billy) Zhu, CMU	2017

PhD Thesis Committee

Roshni Kaushik, CMU	2023
Devleena Das, Georgia Tech	2023
Spencer Frazier, Georgia Tech	2023
Maria Ryabova, University of Pittsburgh	2022
Xuning Yang, CMU	2022
Anahita Mohseni Kabir, CMU	2020
Kim Baraka, CMU	2019

PhD Qualifier Committee

Rebecca Martin, CMU	2023
Akhil Padmanabha, CMU	2023

Rui Chen, CMU	2022
Ravi Pandya, CMU	2022
Kate Shih, CMU	2022
Roshni Kaushik, CMU	2021
Xuning Yang, CMU	2019

Masters Thesis Committee

Daphne Chen, CMU	2023
Sarvesh Patil, CMU	2023
Yves Daoud, CMU	2022
Michael Tasota, CMU	2021
Samantha Speer, CMU	2020
Travers Rhodes, CMU	2019

Service

Conference Organizing

International Conference on Human-Robot Interaction (HRI)	
Finance Co-Chair	2019–2021
Student Volunteers Co-Chair	2017–2018
International Conference on Robotics and Automation (ICRA)	
Workshops Editor	2020–2022
Career Fair Co-Chair	2017–2018
Robotics: Science and Systems (RSS)	
RSS Pioneers Co-Founder and Co-Chair	2017–2018
Inclusion Co-Chair	2022
International Conference on Robotics and Automation (ICRA) 2018	2017–2018
Career Fair Co-Chair	
International Conference on Human-Robot Interaction (HRI) 2018	2017–2018
Student Volunteers Co-Chair	
International Journal of Robotics Research (IJRR), Special Issue on HRI	2016
Co-Editor	

Journals

Transactions on Human-Robot Interaction	2021–
Associate Editor	
IEEE Transactions on Cognitive and Developmental Systems	2022–
Steering Committee Member	

Program Committee

Conference on Robot Learning (CoRL)	2022
ACM/IEEE International Conference on Human-Robot Interaction (HRI)	2017–2023
Pioneers Workshop at HRI	2017–2022

International Conference on Autonomous Agents and Multiagent Systems (AAMAS)	2018–2019
International Joint Congress on Artificial Intelligence (IJCAI)	2016–2017
IEEE Symposium on Robot and Human Interactive Communication (RO-MAN)	2016
IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)	2016
AAAI Conference on Artificial Intelligence (AAAI)	2016

Refereeing: Grant Agencies

National Science Foundation (NSF)	2016, 18–23
European Research Council (ERC)	2022
UW-Milwaukee's Research Growth Initiative	2019
Paralyzed Veterans of America Research Foundation	2018

Refereeing: Conferences and Journals

Refereed since 2017.

Autonomous Agents and Multiagent Systems
ACM Transactions on Human-Robot Interaction (THRI)
International Journal of Social Robotics (IJSR)
International Journal of Robotics Research (IJRR)
IEEE Transactions on Robotics (T-RO)
Autonomous Robots Journal (AuRo)
IEEE Transactions on Affective Computing (TAFFC)
Robotics: Science and Systems (RSS)
ACM Conference on Human Factors in Computing Systems (CHI)
IEEE RAS/EMBS Int Conf on Biomedical Robotics and Biomechatronics (BioRob)
IEEE Transactions on Human-Machine Systems (THMS)
Late Breaking Reports at HRI
IEEE Robotics and Automation Letters (RA-L)
IEEE Pervasive Computing
IEEE/RAS International Conference on Humanoid Robots (Humanoids)
IEEE Symposium on Robot and Human Interactive Communication (RO-MAN)
IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)

University & Department Service

Robotics Institute Climate Committee (co-chair)	2021–
Robotics Institute Education Committee	2017–
Robotics Institute Orientation Committee	2023
Robotics Institute PhD Admissions Committee	2020–2023
School of Computer Science Red Team Grant Review	2022
K&L Gates Ethics and Computational Technologies Endowment Advisory Committee	2019–2022
CMU AI4ALL Program Co-Instructor	2020–2021
Robotics Institute Director Search Interview Committee	2019–2020
Robotics Institute Hiring Committee	2018–2019
Robotics Institute Additional Major Selection Committee	2019
Robotics Institute Summer Scholars Selection Committee	2018

Other Service

IEEE-RAS Women in Engineering Committee	2022–
Steering Committee, Black In Robotics Allies	2020–
Mentor, Girls of Steel FIRST Robotics Club, CMU	2017–2019

Selected Outreach

I participate in outreach events multiple times per semester. This list highlights a selection of representative events.

Grad School Application How-To Webinar, CMU — 2022
Led the development and execution of a three-session webinar about "the what, why, and how of applying to graduate school," aimed at increasing diversity of CS and robotics applicant pools.

AI4All Summer Program, CMU — 2018–22
Multiple-time guest speaker for a program that brings approx 30 underrepresented high school students to CMU for a three week intensive AI course.

Boys and Girls Club of Western PA — 2021
Spoke about my career path and took questions from approximately fifty high school students located around the Pittsburgh area.

OurCS Workshop, CMU — 2019
Led a three-day workshop for undergraduate women interested in pursuing graduate-level research.

Girls of Steel, CMU — 2017–2019
Mentor for all-girls FIRST Tech Challenge team at CMU, supervising weekly build sessions with about 18 middle school girls.

VisitPittsburgh booth at PCMA Convening Leaders Conference — 2019
Conducted on-site interactive demonstration of assistive robot at a professional conference attended by 4,000 business event planners and managers.

Media Coverage

Selected media coverage from the last 5 years.

Wired Tech Support Video Series (Robot Support) — 2022
Robohub 50 Women in Robotics You Need To Know About — 2021
World Economic Form Episode on Social Robotics — 2021
Kinova Robotics Innovator Spotlight — 2020
Silicon Republic 'People are sometimes unpredictable, that's what makes this research fun!' — 2018
NPR Science Friday A Bot You Can Trust — 2018
Voice of America Can a Robot Know When It's Wrong? — 2018
90.5 WESA CMU Researchers Working To Build Robots That Know When They've Done A Good Job — 2018
CBS Pittsburgh Technology Has Come A Long Way, But What Does The Future Hold? — 2017
Financial Times AI's rapid advance sparks call for a code for robots — 2017
NBC News MACH Let Robots Teach Our Kids? Here's Why That Isn't Such a Bad Idea — 2017