Ravi Pandya

✉ ravipandya@cmu.edu
ravipandya.com

Education

2020 - 2025 **PhD Candidate**, *Carnegie Mellon University, Robotics Institute*.
Graduation: Spring 2025 (Expected)
Advisors: Changliu Liu, Andrea Bajcsy
Focus: Safety and influence under uncertainty in human-robot collaboration via data-driven methods (reinforcement learning, trajectory forecasting, etc.)
GPA: 4.17/4.0

2015 - 2019 **BS, Electrical Engineering and Computer Science**, *University of California, Berkeley*.
Cumulative GPA: 3.86/4.0, Graduated with Honors

Publications

[10] **R. Pandya**, C. Liu, A. Bajcsy, "Robots that Learn to Safely Influence via Prediction-Informed Reach-Avoid Dynamic Games," *(submitted) International Conference on Robotics and Automation (ICRA)*, 2025.

[9] T. Wei, L. Ma, **R. Pandya**, C. Liu, "Robust Safe Control with Multimodal Uncertainty," *(submitted) Systems & Control Letters*, 2024.

[8] **R. Pandya**, T. Wei, C. Liu, "Multimodal Safe Control for Human-Robot Interaction," *American Control Conference (ACC)*, 2024.

[7] **R. Pandya***, M. Zhao*, C. Liu, R. Simmons, H. Admoni, "Multi-Agent Strategy Explanations for Human-Robot Collaboration," *International Conference on Robotics and Automation (ICRA)*, 2024.

[6] **R. Pandya***, Z. Wang*, Y. Nakahira, C. Liu, "Towards Proactive Safe Human-Robot Collaboration via Data-Efficient Conditional Behavior Prediction," *International Conference on Robotics and Automation (ICRA)*, 2024.

[5] **R. Pandya**, C. Liu, "Safe and Efficient Exploration of Human Models during Human-Robot Interaction," *International Conference on Intelligent Robots and Systems (IROS)*, 2022.

[4] **R. Pandya***, S.H. Huang*, I. Huang*, A.D. Dragan, "Nonverbal Robot Feedback for Human Teachers," *Conference on Robot Learning (CoRL)*, 2019 **(oral, acceptance 5.3%)**.

[3] **R. Pandya**, S.H. Huang, D. Hadfield-Menell, A.D. Dragan, "Human-AI Learning Performance in Multi-Armed Bandits," *Conference on Artificial Intelligence, Ethics, and Society (AIES)*, 2019.

[2] A. Nagabandi, G. Yang, T.H. Asmar, **R. Pandya**, G. Kahn, S. Levine, R. Fearing, "Learning Image-Conditioned Dynamics Models for Control of Under-Actuated Legged Millirobots," *International Conference on Intelligent Robots and Systems (IROS)*, 2018 ***(best paper award finalist)***.

[1] A. Bestick, **R. Pandya**, R. Bajcsy, A.D. Dragan, "Learning Human Ergonomic Preferences for Handovers," *International Conference on Robotics and Automation (ICRA)*, 2018.

Awards and Honors

2020 **National Science Foundation Graduate Research Fellowship**, (15% acceptance).

2019 **Oral Presentation at CoRL 2019**, (5.3% acceptance).

*equal contribution

2018 **Best Paper Award Finalist at IROS 2018**, (of 1000 accepted papers).
2016-2019 **Eta Kappa Nu (HKN)**, National EECS Honor Society.
2015-2018 **UC Berkeley College of Engineering Dean's List**, top 10% of all engineering students.

Mentorship and Teaching

Spr 2023 **Human-Robot Interaction - Foundations**, *Teaching Assistant*.
Spr 2022 **Human-Robot Interaction - Foundations**, *Teaching Assistant*.
2021 - 2022 **CMU Graduate Application Support Program**, *Mentor*.
2021 - 2024 **CMU Undergraduate AI Mentoring**, *Mentor*.
Fall 2018 **Intro to Robotics**, *Undergraduate Student Instructor*.
Sum 2018 **Interact Lab Summer Internship**, *Mentor*.
Spr 2019 **Feedback Control Systems**, *Reader/Tutor*.
Spr 2018 **Designing, Visualizing and Understanding Deep Neural Networks**, *Reader/Tutor*.

Research / Professional Experience

2020 - Present **CMU Robotics Institute**, *Advisors: Dr. Changliu Liu, Dr. Andrea Bajcsy*, Pittsburgh, PA.
Working influence-aware safe control under uncertainty around humans

2019 - 2020 **Ericsson (Global AI Accelerator)**, *Data Scientist*, Santa Clara, CA.
Used multi-agent deep reinforcement learning algorithms to tune parameters in a radio network

2018 - 2019 **Interact Lab**, *PI: Dr. Anca Dragan*, Berkeley, CA.
Worked on modeling how physical actions can communicate and gather information

2018 **Biomimetic Millisystems Lab**, *PI: Dr. Ronald Fearing*, Berkeley, CA.
Worked on learning dynamics models for underactuated robots

2016 - 2017 **Human-Assistive Robotic Technologies Lab**, *PI: Dr. Ruzena Bajcsy*, Berkeley, CA.
Worked on learning human ergonomic preferences in human-robot object handovers

Professional Activities

Paper Reviewing

Conference on Robot Learning (CoRL)
International Conference on Learning Representations (ICLR)
IEEE Robotics and Automation Letters (RA-L)

Languages/Technical Skills

Human English, Gujarati, 日本語
Robot Python, MATLAB, Julia, C, Java, Linux / command line
Libraries Numpy / Scipy / Pandas, PyTorch, robosuite / robomimic, ROS, RLlib, PsiTurk
Hardware Kinova Gen3, Baxter/Sawyer, Turtlebot, FANUC LR Mate 200iD