Hang Yu

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Overview

My current research focuses on **Human-Centered AI** in **Robotics**, specifically, on learning from multi-modular teachings, including human feedback **(RLHF)**, demonstrations **(LfD)**, and generative methods**(GAN, VLM, VLA)**. Before that, I worked on Recommendation Systems for three years and competitive programming for seven years.

Keywords: Robot Learning, Reinforcement Learning from Human Feedback, Recommendation Systems

Skills

Programming Languages: Python(PyTorch, OpenCV, SB3), Java, JavaScript, MATLAB, C++, C#, SQL, Pascal
Software: ROS, ROS2, JASP, Git, CAD, Gazebo, Isaac Sim, LaTeX, Qualtrics, Hugging Face,
Hardware: Kinova Gen2/Gen3/Gen3-lite, Fetch, UR5, Misty II, Cozmo, Sphero BOLT
Knowledge: Robotics, RLHF, Imitation Learning, LLM Fine Tuning, VLM/VLA, MCP, RecSys, Statistical Analysis

Education

Tufts University — Medford, MA
Ph.D. in Computer Science, GPA: 4.0/4.0 — May 2026(expected)
Advisor: Dr. Elaine Schaertl Short

Tufts University — Medford, MA
M.S.E. in Computer Science, GPA: 3.95/4.0 — Jan. 2021
Advisor: Dr. Elaine Schaertl Short

Publications

Conference Publications

C6 **Hang Yu**, James Staley, Shijie Fang, Jindan Huang, Wenchang Gao, Reuben M. Aronson, and E. Short, *PHIRL: Progress-Heuristicized Generative Inverse Reinforcement Learning with Vision-Language-Model-in-the-Loop*, Robotics: Science and Systems (**RSS**), 2026 (ongoing).

C5 **Hang Yu**, Reuben M. Aronson, Katherine H. Allen, and E. Short, *From "Thumbs Up" to "10 out of 10": Reconsidering Scalar Feedback in Interactive Reinforcement Learning* 2023 IEEE/RSJ International Conference on Intelligent Robots and Systems (**IROS**), Detroit, USA, 2023.

C4 **Hang Yu**, Qidi Fang, Shijie Fang, Reuben M. Aronson, and E. Short, *How Much Progress Did I Make? An Unexplored Human Feedback Signal for Teaching Robots* 2024 IEEE **RO-MAN**, Pasadena, USA

C3 Matthew Ebisu*, **Hang Yu***, Reuben M. Aronson, Elaine S. Short, *See What I Mean? Expressiveness and Clarity in Robot Display Design*, IEEE **RO-MAN 2025**, Eindhoven, the Netherlands.

C2 Qidi Fang*, **Hang Yu***, Shijie Fang, Jindan Huang, Qiuyu Chen, Reuben M. Aronson, Elaine S. Short, *CHARM: Considering Human Attributes for Reinforcement Modeling*, IEEE **RO-MAN 2025**, Eindhoven, the Netherlands.

C1 Shijie Fang*, **Hang Yu***, Qidi Fang, Reuben M. Aronson, Elaine Schaertl Short, *Demonstration Sidetracks: Categorizing Systematic Non-Optimality in Human Demonstrations*, IEEE **RO-MAN 2025**, Eindhoven, the Netherlands.

(*) **means these authors contributed equally to the work.**

Journal Publications

J3 Tan, Z., **Yu, H.**, Wei, W., & Liu, J.. *Top-K interesting preference rules mining based on MaxClique.* **Expert Systems with Applications**, 143, 113043.

J2 **YU Hang**, WEI Wei, TAN Zheng, LIU Jing-lei. *Contextual Preference Collaborative Measure Framework Based on Belief System.* **Computer Science**, 2020, 47(4): 74-84.

J1 TAN, Z., LIU, J., & **YU, H.**. *Conditional preference mining based on MaxClique.* **Computer Applications**, 37(11), 3107.

Doctoral Consortium & Workshop Papers & Abstracts

DC1 **Hang Yu** *Enabling Robust Learning from Non-Experts by Leveraging Human Demonstrations and Human Feedback.* IEEE **ICRA Doctoral Consortium**, 2025, Atlanta, USA

W3 **Hang Yu**, James Staley, Shijie Fang, Wenchang Gao, Reuben M. Aronson, and Elaine S. Short *PHIRL: Progress Heuristic for Inverse Reinforcement Learning*. RSS workshop 2025: Continual Robot Learning from Humans

W2 **Hang Yu** and Elaine Schaertl Short. 2021. *Active Feedback Learning with Rich Feedback*. In Companion of the 2021 ACM/IEEE International Conference on Human-Robot Interaction (HRI '21 Companion). Association for Computing Machinery, New York, NY, USA, 430–433.

W1 **Hang Yu** and Elaine Schaertl Short. *Learning with Dynamic Feedback.* RSS workshop 2020: Closing the Academia to Real-World Gap in Service Robotics.

Projects

Single Cell Aging Prediction with Large Language Models

A set of **Fine-tuned** QWEN3 14B model with **customized vocab** for predicting the age of single cells.
Github: `https://github.com/HangYu8123/SC_Ageing_Prediction.git`
Hugging Face: `https://huggingface.co/Ha-ya/SCAP_QWEN3_14B`

Chibi Bot: Affordable Table Bot for Education

A ROS-compatible wheel-based robot for education with everything (camera, microphone, speaker, and screen). We designed and assembled a prototype from scratch and managed to keep the cost within $50.

Honors/Awards

ICRA Doctoral Consortium 2025
Selected to participate in the ICRA Doctoral Consortium.

RO-MAN Student Grant 2024
Selected as the winner of the travel grant of RO-MAN 2024.

Yantai University Outstanding Student Scholarship 2017
Awarded to students at Yantai University who had exceptional performance in academia and competitions.

Lanqiao Programming Competition National First Prize 2016
Awarded to participants who were in the top 5% in the national competition (**Top 0.5%** among all the participants).

Selected Professional Service

Mentor

Isabella Bock, Undergraduate Student, Summer Intern, now at Tufts University
Matthew Ebisu, Master's Student, Co-author of C3, now at MassRobotics
Shijie Fang, Master's Student, Co-author of C4, C1, C2, now at Dongnan University
Qidi Fang, Master's Student Co-author of C4, C1, C2, now at Haikang Micro Vision

Teaching Assistant

Ethics for AI, Robotics, and Human-Robot Interaction, Tufts University	Spring 2024, Spring 2025
Human-Robot Interaction, Tufts University	Fall 2022
Human-Computer Interaction, Tufts University	Spring 2021
C++ Programming, Yantai University	Fall 2016

Panelist & Keynote Presenter

ICRA Undergraduate Research Panelist	2025
Keynote Presenter at First Robotics Competition Conference NE	2024
DIAMOND Program Panelist	2023

Service

Tufts Computer Science Student Council	2023 to Present
Tufts Teaching Lab Workshops	2021 to Present

Program Committee Member and Reviewer

Program Committee for AAMAS	2026
Program Committee for AAAI Conference on Artificial Intelligence (AAAI)	2026
Reviewer for International Conference on Human-Robot Interaction (HRI)	2021, 2022, 2023, 2024
Reviewer for International Conference on Robotics and Automation (ICRA)	2023, 2024, 2025
Reviewer for Conference on Robot Learning (CoRL 2025)	2025