

# Hang Yu

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## Overview

My current research focuses on **Human-Centered AI in Robotics**, **Learning from Human Feedback**, and **Learning from Demonstrations**. I worked on Data Mining and Recommendation Systems for three years. I have seven years of programming competition experience. I love games, books, and, of course, my cats.

**Keywords:** Human-Robot Interaction, Reinforcement Learning from Human Feedback, Recommendation Systems

## Skills

**Programming Languages:** Python(PyTorch, OpenCV, SB3), Java, JavaScript, MATLAB, C++, C#, SQL, Pascal

**Software:** ROS, JASP, MCP, Git, L<sup>A</sup>T<sub>E</sub>X, Qualtrics, Hugging Face,

**Hardware:** Kinova Gen2/Gen3/Gen3-lite, Fetch, UR5, Misty II, Cozmo, Sphero BOLT

**Knowledge:** Robotics, Imitation Learning, LLM Fine Tuning, Human-Subject Studies, Statistical Analysis, RLHF

## Education

### Tufts University

Ph.D. in Computer Science, GPA: 4.0/4.0

Advisor: Dr. Elaine Schaertl Short

Medford, MA

March 2026(expected)

### Tufts University

M.S.E. in Computer Science, GPA: 3.95/4.0

Advisor: Dr. Elaine Schaertl Short

Medford, MA

Jan. 2021

## Publications

### Conference Publications

C6 **Hang Yu**, James Staley, Shijie Fang, Jindan Huang, Wenchang Gao, Reuben M. Aronson, and E. Short, *PHIRL: Progress-Heuristicized Inverse Reinforcement Learning*, 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*. **Journal of 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

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### 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](https://github.com/HangYu8123/SC_Ageing_Prediction.git)

Hugging Face: [https://huggingface.co/Ha-ya/SCAP\\_QWEN3\\_14B](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

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### 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

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### Mentor

Isabella Bock, Undergraduate Student, Summer Intern, Tufts University

Matthew Ebisu, Master's Student, Co-author of C3, Tufts University

Shijie Fang, Master's Student, Co-author of C4, C1, C2, Tufts University

Qidi Fang, Master's Student Co-author of C4, C1, C2, Tufts University

### 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