# Hang Yu

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## Research 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 four years. Before joining graduate school, I had 11 years of programming competition experience.

**Keywords:** Human-Centered AI, Human-Robot Interaction, Reinforcement Learning

## Skills

**Programming Languages:** Python(PyTorch, OpenCV), Java, JavaScript, MATLAB, C++, C#, SQL, Pascal
**Software:** ROS, JASP, Git, LaTeX, Qualtrics, Photoshop
**Hardware:** Kinova Gen2/Gen3/Gen3-lite, UR5, Misty II, Sphero BOLT
**Knowledge:** interactive machine learning, generative algorithms, large language models, empirical human-subject studies, data analysis (behavioral coding, hypothesis testing, inferential statistics)

## Education

**Tufts University** Medford, MA
Ph.D. in Computer Science, GPA: 4.0/4.0 Nov. 2025(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

C2 **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.

C1 **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

### Journal Publications

J3 Tan, Z., **Yu, H.**, Wei, W., & Liu, J. (2020). *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.** (2017). *Conditional preference mining based on MaxClique.* Journal of computer Applications, 37(11), 3107.

### Workshop Papers & Abstracts

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. 2020. *Learning with Dynamic Feedback.* RSS workshop 2020: Closing the Academia to Real-World Gap in Service Robotics.

### Under-Review Papers

* means these authors contributed equally to the work.

U2 Qidi Fang*, **Hang Yu***, Shijie Fang, Jindan Huang, Qiuyu Chen, Reuben M. Aronson, Elaine S. Short, *CHARM: Considering Human Attributes for Reinforcement Modeling*, 2025 IEEE International Conference on Robotics and

Automation (ICRA)

U1 Shijie Fang*, **Hang Yu***, Qidi Fang, Reuben M. Aronson, Elaine Schaertl Short, *Demonstration Sidetracks: Categorizing Systematic Non-Optimality in Human Demonstrations*, 2025 IEEE International Conference on Robotics and Automation (ICRA)

## Projects

### Auto Legal File Proofreading

Using LLM to match legal files and their original documents, and extract numerical information
Using regular expressions to validate numerical information specifically to compensate LLM.

### Phoenix Gaming Studio, Founded by Yantai University

Leader and Founder of the gaming developing Team
Game developing and game GUI designing using C# and Unity, writing game scripts

## Honors/Awards

**RO-MAN Travel Grant**, Los Angeles, United States 2024
**Department Prize for Outstanding Students**, Yantai University 2017
**National First Prize (Top 0.5%)**, Lanqiao Programming Competition, Beijing, China 2016
**Speech Competition Third Prize**, Yantai University 2016

## Teaching/Mentoring/Outreach

**Mentor**

Matthew Ebisu, Master's Student, Tufts University 2021–2024
Shijie Fang, Master's Student, Co-author of C1, U1, U2, Tufts University 2023–2024
Qidi Fang, Master's Student Co-author of C1, U1, U2, Tufts University 2023–2024
Wei Wei, Undergraduate Student Co-author of J2, J3, Yantai University 2017–2019

**Outreach**

DIAMOND Program Panel 2023
Keynote Presenter at First Robotics Competition Conference NE 2024

**Teaching Assistant**

Data Structures, Tufts University Summer 2024
Ethics for AI, Robotics, and Human-Robot Interaction, Tufts University Spring 2024
Human-Robot Interaction, Tufts University Fall 2022
Human-Computer Interaction, Tufts University Spring 2021
C++ Programming, Yantai University Spring 2017

## Professional Service

**Reviewer**

Reviewer for International Conference on Human-Robot Interaction (HRI) 2021, 2022, 2023, 2024
Reviewer for International Conference on Robotics and Automation (ICRA) 2023, 2024
Reviewer for International Symposium on System Integrations (SII 2025) 2024
International Conference on Autonomous Agents and Multiagent Systems (AAMAS) 2023

**Organizer/Co-organizer**

Tufts AABL Lab Hackathon 2021–present
Tufts Human-Robot Interaction Reading Group 2020–present

**Student Volunteer**

IEEE International Conference on Robot and Human Interactive Communication 2024
Tufts Computer Science Student Council 2023, 2024
ACM/IEEE International Conference on Human-Robot Interaction (HRI) 2021