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   Nov. 2025(expected)
Advisor: Dr. Elaine Schaertl Short

Tufts University   Medford, MA
M.S.E. in Computer Science, GPA: 3.97/4.0   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