# Jindan Huang

jindan.huang@tufts.edu jindanh.github.io linkedin.com/in/jindan-huang/ Somerville, MA

## Research Overview

My research focuses on understanding human behavior to inform the design and development of adaptive and responsive AI systems. I model real human variation for improving the robustness and user-friendliness of human-in-the-loop learning algorithms and systems.

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

## Education

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

**Johns Hopkins University** Baltimore, MD
M.S.E. in Computer Science, GPA: 3.8/4.0 May 2020
Advisors: Dr. Chien-Ming Huang, Dr. Russell H. Taylor

**China Pharmaceutical University** Nanjing, China
B.S. in Management Information Systems, GPA: 3.9/4.0 June 2018

## Publications

### Conference Publications

C5 **Jindan Huang**, Isaac Sheidlower, Reuben M. Aronson, Elaine Schaertl Short. "On the Effect of Robot Errors on Human Teaching Dynamics." *In Proceedings of the 12th International Conference on Human-Agent Interaction (HAI'24)* **(acceptance rate: 36%)**

C4 **Jindan Huang**, Reuben M. Aronson, Elaine Schaertl Short. "Modeling Variation in Human Feedback with User Inputs: An Exploratory Methodology." *In Proceedings of the 2024 ACM/IEEE International Conference on Human-Robot Interaction (HRI'24)* **(acceptance rate: 24.9%)**

C3 Julia Oppenheim*, **Jindan Huang***, Isabel Won, Chien-Ming Huang. "Mental Synchronization in Human Task Demonstration: Implications for Robot Teaching and Learning."*In Companion of the 2021 ACM/IEEE International Conference on Human-Robot Interaction (HRI'21)* **(*equal contribution)**

C2 Xingtong Liu, Maia Stiber, **Jindan Huang**, Masaru Ishii, Gregory D. Hager, Russell H. Taylor, Mathias Unberath. "Reconstructing Sinus Anatomy from Endoscopic Video – Towards a Radiation-free Approach for Quantitative Longitudinal Assessment." *In Proceedings of the 23rd International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI'20)* **(acceptance rate: 30%)**

C1 Jieyu Zhang, **Jindan Huang**. "An image segmentation algorithm research based on optimized PCNN." *In Proceedings of the 11th International Conference on Intelligent Computation Technology and Automation (ICICTA'18)*

### Workshop Papers & Abstracts

W3 **Jindan Huang**, Elaine Schaertl Short. "Towards Robust Robot Learning From Diverse Users." *In the 2023 Northeast Robotics Colloquium at Yale University (NERC'23)*

W2 **Jindan Huang**, Elaine Schaertl Short. "Modeling Human Feedback Behavior for Interactive Reinforcement Learning." *In HRI Workshop on Modeling Human Behavior in Human-Robot Interactions (HRI'22 Workshop)*

W1 **Jindan Huang**, Elaine Schaertl Short. "Building a Better Oracle: Using Personas to Create More Human-Like Oracles." *In HRI Workshop on Research Through Design Approaches in Human-Robot Interaction (HRI'21 Workshop)*

## Honors/Awards

**Stern Family Graduate Research Fellowship**, Tufts University 2020-2022
**Member of Upsilon Pi Epsilon Honor Society**, Johns Hopkins Chapter Since 2019
**Outstanding Graduate**, China Pharmaceutical University 2018
**Outstanding Student of Jiangsu Province**, Department of Education of Jiangsu Province 2017
**National Scholarship**, Ministry of Education of the P.R. China 2016-2017
**First Class Scholarship(Top 3%)**, China Pharmaceutical University 2015-2017

## Research/Work Experience

**Research Assistant**, Assistive Agent Behavior and Learning Lab, Tufts University 2020-present
- conduct research on human-in-the-loop robot learning and human behavior modeling

**Research Assistant**, Intuitive Computing Laboratory, Johns Hopkins University 2019-2020
- conducted research on back-channelling behavior in human teaching and learning

**Grad Researcher**, Laboratory for Computational Sensing + Robotics, Johns Hopkins University Spring 2019
- conducted research on gaze-assisted endoscopy system for sinus surgery

**System Analyst Intern**, AMK Consulting Winter 2017, Summer 2018
- formulated software solutions to digitize hospital information management
- designed a front-end interface prototype for monitoring air quality using JavaScript and HTML

**Undergrad Researcher**, Information Systems Department, China Pharmaceutical University 2017-2018
- developed an image segmentation algorithm to automate hyperparameter tuning of PCNN

**Undergrad Research Fellow**, School of Engineering, China Pharmaceutical University Spring 2017
- explored machine learning based virtual screening methods to identify novel drug-like compounds

**Software Engineer Intern**, iSoftStone China Summer 2016
- implemented RESTful web services using Java to improve online shopping experience

## Teaching/Outreach

**Mentor**
ACM/IEEE Human-Robot Interaction Pioneers Workshop Mar. 2024
JHU Women in Science and Engineering(WISE) Program with Garrison Forest School Fall 2019

**Guest Lecturer**
Tufts CS 150-03 HCI for Disability Spring 2023

**Teaching Assistant**
Tufts CS 131 Artificial Intelligence Summer 2024
Tufts CS 171 Human-Computer Interaction Spring 2024
Tufts CS 152-01 Human Factors in Security and Privacy Fall 2023
Tufts COMP 133 Human-Robot Interaction Fall 2021
JHU EN 601.490/690 Intro to Human-Computer Interaction Fall 2019

## Professional Service

**Reviewer**
ACM/IEEE International Conference on Human-Robot Interaction (HRI) 2021, 2023, 2024
International Conference on Autonomous Agents and Multiagent Systems (AAMAS) 2023

**Student Volunteer**
ACM/IEEE International Conference on Human-Robot Interaction (HRI) 2021

## Skills

**Programming Languages:** Python(PyTorch, OpenCV), Java, Javascript, MATLAB, C++, C#, SQL
**Software:** ROS, JASP, Git, LaTeX, Qualtrics, Sketch, 3D Slicer
**Hardware:** Kinova Gen2/Gen3/Gen3-lite, UR5, Misty II, Sphero BOLT
**Knowledge:** machine learning, generative AI (LLMs, prompt engineering, RAG), empirical human-subject studies, mixed methods data analysis (behavioral coding, hypothesis testing, inferential statistics)