

# Yuanchen (Sophie) Bai

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I design, build, and evaluate Agentic AI for real-world workflows, supporting both technical and non-technical stakeholders in effectively engaging with them. My current research extends this work from unembodied to embodied contexts, primarily situated in healthcare settings. I study healthcare as a high-stakes, highly constrained domain to examine sociotechnical insights with implications for broader Agentic AI research and practice.

## EDUCATION

### Cornell University

PhD Student in Information Science

Advisor: Angelique Taylor

Committee: Wendy Ju, Tapomayukh Bhattacharjee

New York, NY

08/2024–Present

### Carnegie Mellon University (CMU)

Master of Information Systems Management

Advisors: Sherry Tongshuang Wu, Motahhare Eslami, Haiyi Zhu

Pittsburgh, PA

2022–2023

### Shanghai Jiao Tong University

Bachelor of Science in Electrical and Computer Engineering

Advisors: Guangtao Zhai, Pradeep Kumar Ray

Shanghai, China

2018–2022

## PUBLICATIONS

(\* denotes equal contribution)

- [1] **Yuanchen Bai**, Ruixiang Han, Niti Parikh, Wendy Ju, Angelique Taylor. Towards Considerate Embodied AI: Co-Designing Situated Multi-Site Healthcare Robots from Abstract Concepts to High-Fidelity Prototypes. *Under Review*
- [2] **Yuanchen Bai**, Zijian Ding, Shaoyue Wen, Xiang Chang, Angelique Taylor. From MAS to MARS: Coordination Failures and Reasoning Trade-offs in Hierarchical Multi-Agent Robotic Systems within a Healthcare Scenario. *Under Review*
- [3] Ann-Kareen Gedeus, Nadine Wagener, Yingxuan Li, **Yuanchen Bai**, Joshua Felver, JoAnn Difede, So-Yeon Yoon, Angelique Taylor. Talk to Me Kindly: Designing AI Companions to Foster Positive Self-Talk in Young Adults. *Under Review*
- [4] Hanfang Lyu, **Yuanchen Bai**, Xin LIANG, Ujaan Das, Chuhan Shi, Leiliang Gong, Yingchi LI, Mingfei Sun, Ming Ge, Xiaojuan Ma. FARPLS: A Feature-Augmented Robot Trajectory Preference Labeling System to Assist Human Labelers' Preference Elicitation. *ACM Conference on Intelligent User Interfaces (IUI 2024)*
- [5] Seyun Kim, **Yuanchen Bai**, Motahhare Eslami, Haiyi Zhu. A Systematic Literature Review on Equity and Technology in HCI and Fairness: Navigating the Complexities and Nuances of Equity Research. *28th ACM SIGCHI Conference on Computer-Supported Cooperative Work & Social Computing (CSCW 2025)*
- [6] Xiaoyu Ren\*, **Yuanchen Bai**\*, Huiyu Duan\*, Lei Fan, Erkang Fei, Geer Wu, Pradeep Ray, Menghan Hu, Guangtao Zhai. ChatASD: LLM-based AI Therapist for Autism Spectrum Disorder (ASD). *International Forum of Digital Multimedia Communication (IFTC 2023)*
- [7] **Yuanchen Bai**\*, Raoyi Huang\*, Vijay Viswanathan, Tzu-Sheng Kuo, Tongshuang Wu. Measuring Adversarial Datasets. *IJCNLP-AACL 2023 The ART of Safety Workshop*

## RESEARCH EXPERIENCE

### YAI

Research Intern

New York, NY

05/2025 – Present

- Built an analytical platform integrating behavioral data, context, and expert reasoning to support Behavioral Intervention Specialists in evaluating plans for individuals with Intellectual and Developmental Disabilities.

### CMU Human-Computer Interaction Institute

Research Assistant

Pittsburgh, PA

12/2022 – 04/2024

- Examined equity in HCI and fairness communities [5]; analyzed and characterized adversarial datasets for model evaluation [7].

## SYSTEMS & DESIGN EXPERIENCE

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### Bayer Healthcare LLC

Software Engineering

Pittsburgh, PA

08/2023 – 12/2023

- Developed a cross-platform mobile app (myRadiology360) using Flutter, integrating patient-focused educational resources, professional learning features, and personalized CMS solutions informed by market research.

## SELECTED HONORS AND AWARDS

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Frederic and Susan Rubinstein PiTech Innovation Fund	2025
Siegel PiTech PhD Impact Fellowship	2025
Cornell Fellowship	2024–2025
Outstanding Graduate of Shanghai Jiao Tong University	2022

## TALKS AND EVENTS

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Weill Cornell Medicine Simulation Center BASE Camp: Robot and augmented reality field deployments, New York, NY	11/2025
IEEE ICRA 2025: Arts in Robotics, Atlanta, GA	05/2025
2025 Queens Borough President Office Career & Tech Expo: Robot and augmented reality in healthcare, New York, NY	01/2025
Cornell Tech - “Innovation Meets Impact: Building Things That Matter in the AI Era”: CRAFT@large exhibition, New York, NY	12/2024
Weill Cornell Medicine Simulation Center BASE Camp: Robot and augmented reality field deployments, New York, NY	11/2024

## ACADEMIC SERVICE

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**Reviewer:** CHI 2026, AAAI 2026, HRI 2026, CHI 2025, ICRA 2025, ROMAN 2025

**Teaching:** Practical Applications in Machine Learning (Spring 2026, Cornell), Human Robot Interaction (Fall 2025, Cornell), Object Oriented Programming in JAVA (Fall 2023, CMU), Economic Analysis (Fall 2023, CMU)