Yuanchen (Sophie) Bai

yb299@cornell.edu | byc-sophie.github.io | LinkedIn | Google Scholar

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

EDUCATION

Cornell University — New York, NY
PhD Student in Information Science — 08/2024–Present
Advisor: Angelique Taylor
Committee: Wendy Ju, Tapomayukh Bhattacharjee

Carnegie Mellon University (CMU) — Pittsburgh, PA
Master of Information Systems Management — 2022–2023
Supervised by: Sherry Tongshuang Wu, Motahhare Eslami, Haiyi Zhu

Shanghai Jiao Tong University — Shanghai, China
Bachelor of Science in Electrical and Computer Engineering — 2018–2022
Supervised by: Guangtao Zhai, Pradeep Kumar Ray

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. *ACM CHI Conference on Human Factors in Computing Systems (CHI 2026)*

[2] **Yuanchen Bai**, Zijian Ding, Ruixiang Han, Niti Parikh, Wendy Ju, Angelique Taylor. Towards Considerate Human-Robot Coexistence: A Dual-Space Framework of Robot Design and Human Perception in Healthcare. *Preprint*

[3] **Yuanchen Bai**, Zijian Ding, Shaoyue Wen, Xiang Chang, Angelique Taylor. Before Humans Join the Team: Diagnosing Coordination Failures in Healthcare Robot Team Simulation. *Preprint*

[4] Giuliano Pioldi, Yashika Batra, **Yuanchen Bai**, Purnjay Maruur, Arman Ibrayeva, Promise Ekpo, Angelique Taylor. REPAIR-Bench: A Benchmark for Robot Error Perception and Interaction Recovery. *Under Review*

[5] 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*

[6] 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)*

[7] 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)*

[8] 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)*

[9] **Yuanchen Bai***, Raoyi Huang*, Vijay Viswanathan, Tzu-Sheng Kuo, Tongshuang Wu. Measuring Adversarial Datasets. *IJCNLP-AACL 2023 The ART of Safety Workshop*

[10] Tianyu Chen, **Yuanchen Bai**, Pradeep Ray, Gang Zheng. Practicum-Oriented Entrepreneurship Education: A Systematic Literature Review. *Technology Entrepreneurship and Sustainable Development, Springer, 2022*

RESEARCH EXPERIENCE

Research Intern, NYC Health + Hospitals, New York, NY — 04/2026 – Present

- Developing a benchmark and clinical information extraction pipeline for identifying case definitions (disability, ADLs, durable medical equipment) from unstructured EHR clinical notes.

Research Intern, YAI, 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.

Research Assistant, Human-Computer Interaction Institute, CMU 12/2022 – 04/2024

- Examined equity in HCI communities [5]; characterized adversarial datasets for model evaluation [6].

Research Assistant, Dept. of Computer Science and Engineering, HKUST 08/2023 – 11/2023

- Built a feature-augmented trajectory preference labeling system to improve labeling consistency, preference-criteria elicitation, and annotator engagement [7].

OTHER PROFESSIONAL EXPERIENCE

Software Engineering, Bayer Healthcare LLC, 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

Siegel PiTech PhD Impact Fellowship	2026
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

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

Session Chair: CHI 2026

Reviewer: ROMAN 2026, 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)