

HANNAH M. LIU

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EDUCATION

Imperial College London – London, United Kingdom

MSc in Artificial Intelligence Applications and Innovation

Expected: September 2026

University of Pennsylvania – Philadelphia, PA

B.A. in Cognitive Science with Distinction | Minor in Computer Science & East Asian Languages: Chinese

May 2025

GPA: 3.9/4.0

Awards and Honors: Phi Beta Kappa; Summa Cum Laude; Penn 2024 & 2025 Rhodes Scholarship Nominee; Recipient of CURF's Grants for Faculty Mentoring Undergraduate Research (GfFMUR); Recipient of NSF REU Grant

RESEARCH EXPERIENCE

TRACE Lab, Centre for Human-Inspired AI – Cambridge, United Kingdom

Visiting Master's Researcher under the guidance of Dr. Umang Bhatt and Noah Broestl

10/2025 – Present

- Investigated effects of fine-tuning methodologies (LoRA, OFT) on AI bias guardrails in large language models (LLMs)
- Engineered fine-tuned version of LLM for generalizable AI-bias task; components identified via extensive literature reviews

Penn HCI (Human Computer Interaction) Lab – Philadelphia, PA

Undergraduate Researcher under the guidance of Dr. Danaé Metaxa

08/2024 – 02/2026

- Authored senior honors thesis investigating the presence of biases in LLM image generation outputs; identified indications of racial and gender bias and copyright infringement in ChatGPT
- Devised qualitative and quantitative annotation systems enabling robust analysis of 1000+ images; revealed novel patterns of repeated content replication in ChatGPT
- Coded Selenium scripts to automate image generation and prompt modification; reduced study time by 100+ days

Penn Medicine, Radiology Dept. – Philadelphia, PA

Undergraduate Researcher under guidance of Dr. Hersh Sagreiya and Dr. Walter Witschey

05/2022 – 05/2025

- Developed 22 Machine Learning diagnostic algorithms trained on clinical data to objectively predict dyspnea levels in COPD (chronic obstructive pulmonary disease) patients with high accuracy
- Co-authored paper describing novel AI application implemented in clinical radiology workflow by compiling high-yield information from 100+ research articles within one month for literature review section

University of Pennsylvania, Psychology Dept. – Philadelphia, PA

Undergraduate Researcher under the guidance of Professor Igor Grossmann & Cory Clark

05/2023 – 09/2023, 06/2025 – 08/2025

- Designed calibration measures in human decision-making by conducting various statistical analyses relating to prediction accuracy and provided answer ranges
- Identified traits of high-performing predictors in forecasting tournaments by conducting correlation analysis between prediction accuracy and quantitative markers of personality traits
- Spearheaded integral data reorganization project for primary forecasting tournament research project; created datasets that ensured accurate and efficient data analysis processes

University of Pennsylvania, Psychology Dept. – Philadelphia, PA

Undergraduate Researcher in the lab of Professor Philip Tetlock

05/2023 – 09/2023

- Analyzed potential applicability of large language models (LLMs) for argumentation categorization models by utilizing OpenAI API to run tests on argument categorization dataset

Wharton School, Operations, Information and Decisions Dept. – Philadelphia, PA

Undergraduate Researcher in the lab of Dr. Maurice Schweitzer

05/2022 – 03/2023

- Built Negotiation Bot using Dialogflow CX that allows students to practice realistic negotiation processes; now widely used in Wharton and Coursera negotiation courses
- Implemented error analysis system to optimize data parsing of bot-human interactions; increased bot success rate to 80+%
- Upgraded bot with different personalities to advance user experience; collaboratively developed 10+ unique dialogue routes

PROFESSIONAL EXPERIENCE

Responsible AI Institute (RAI) – Remote

Research Engineer in AI Policy and Governance

01/2026 – Present

- Designed controls library structure and policy-to-control mappings for multi-agent policy generation platform (ACE); ensuring alignment across ISO 42001, NIST AI RMF, EU AI Act, and OWASP frameworks
- Implemented agent risk classification tool (ARC) evaluating 7 agentic AI systems; authored accompanying technical paper communicating methodology to enterprise partners

Bank of America – Boston, MA

Strategy and Management Intern

06/2024 – 08/2024

- Developed strategic plan identifying top consumer opportunities in AI by proposing 8 feasible and impactful solutions through 6 phase consulting framework; findings were presented to executive leadership and technology experts at BofA
- Created robust AI taxonomy clarifying definitions of different AI applications; taxonomy was utilized by senior management when communicating how AI solutions can be applied to business problems

TEACHING EXPERIENCE

University of Pennsylvania, Computer and Information Science Dept. – Philadelphia, PA

Artificial Intelligence (CIS 4210/5210) Teaching Assistant

08/2025 – 12/2025

- Conducted weekly office hours during off-peak days to provide students with mentoring opportunities outside of class hours
- Dedicated 6+ hours/week to monitoring asynchronous Ed platform; provided course/homework guidance in off-peak hours

University of Pennsylvania, Computer and Information Science Dept. – Philadelphia, PA

Introduction to Computer Programming (CIS 1100) Teaching Assistant & Code Review Committee Co-Director

08/2022 – 05/2025

- Directed Code Review initiative by organizing one-on-one meetings between students and TAs that allow students to connect with TA staff about general guidance and support; participating TAs on average held 5+ appointments per week
- Stimulated active learning environment by clarifying class material in weekly recitations with class size of 20 students; received top-level ratings from students during mid-semester and end-of-semester evaluations
- Supported 150+ students with minimal coding background by holding weekly in-person and remote office hours to guide them through assignments

University of Pennsylvania, Computer and Information Science Dept. – Philadelphia, PA

Introduction to Human-Computer Interaction (CIS 4120) Teaching Assistant

08/2024 – 12/2024

- Guided three project groups through the ideation, prototyping, and implementation phases; resulted in three successful web applications, including an AI web browser assistant and a music annotation application
- Supported 50+ students through product development phases by providing feedback during product pitches

LEADERSHIP AND VOLUNTEER EXPERIENCE

Imperial College Union – London, United Kingdom

10/2025 – Present

Postgraduate Taught Representative Chair, Postgraduate Academic and Welfare Officer, Course Representative

- Facilitated communication between all postgraduate taught students, Engineering faculty, and Imperial administrators
- Served as liaison between course cohort and program faculty in addressing student concerns; feedback has led to immediate fixes in student welfare and workload adjustments, and long-term plans for program restructuring

Dear Asian Youth (DAY) Non-Profit – Remote

09/2023 – 10/2025

Organization Policies Committee Co-Chair & HR Associate

- Volunteered 5+ hours/week at DAY, a non-profit dedicated to amplifying Asian youth voices through intersectional activism
- Executed development of key future DAY policies; led team of ~8 through audit, authoring, and revision procedures

UPenn Swimming and Diving – Philadelphia, PA

NCAA Division I Student-Athlete; Team Manager

08/2021 – 05/2025

- Held UPenn pool record in 100-yard breaststroke from 2021-2024
- Finalist in 100 & 200-yard breaststroke at Ivy League Championships 2022 and 2023
- Committed 20+ hours/week to training, competing, traveling to competitions, technical sessions, and manager responsibilities

Undergraduate Assembly – Philadelphia, PA

Communications Director

09/2021 – 05/2025

- Led committee of ~10 people through developing projects that directly benefit West Philadelphia area and sustainability efforts at Penn; produced five successful projects that help decrease campus waste and create robust student support channels
- Pioneered initiative pushing Penn to recognize Ivy League athletic competitions as excused absences; policy was established after presenting plan to top administrators; elected as youngest member of UA 2022-2023 Executive Board as a result

PUBLICATIONS & PRESENTATIONS

Liu, H., Friedler, S., Metaxa, D. “Investigating the Presence of Bias in LLM Image Generation Capabilities”. Poster and oral presentation, National Research Conference at Penn, Philadelphia, PA, October 2025

Liu, H., Sagreiya, H., Akhbardeh, A. “Comparing Predictive Machine Learning Models’ Capacity to Objectively Predict Dyspnea”. Poster presentation delivered at BMES 2023 Annual Meeting, Seattle, WA, October 2023

Liu, H., Clark, C., Grossmann, I., Tetlock, P. “Utilizing Correlational Analysis to Identify Traits of Successful Forecasters”. Poster presentation delivered at CURF Research Expo, University of Pennsylvania, Philadelphia, PA, September 2023

Chatterjee, N., Duda, J., Gee, J., Elahi, A., Martin, K., Doan, V., **Liu, H.**, Maclean, M., Rader, D., Borthakur, A., Kahn, C., Sagreiya, H., Witschey, W. “A Cloud-Based System for Automated AI Image Analysis and Reporting”. Publication in Journal of Imaging Informatics in Medicine

Hirsch, A., **Liu, H.**, Smith, M., Dubov, E. “Negotiation Bot Demo”. Virtual presentation delivered via Zoom, The Wharton School of the University of Pennsylvania, Philadelphia, PA, July 2022

SKILLS

- **Computer/Engineering:** Highly proficient in Java + JUnit, Python, Machine Learning; Intermediate in R, MatLab, Deep Learning; Beginner in HTML, CSS, JavaScript
- **Language:** Fluent in English and Chinese; Beginner in Spanish and Japanese