

Xinru Wang

CS PHD STUDENT IN PURDUE UNIVERSITY

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Research Interest

My research lies at the intersection of human-computer interaction (**HCI**) and explainable AI (**XAI**). I utilize both experimental and computational approaches to explore **user-centered evaluation of AI explanations in AI-assisted decision making**, and finally seek to better design XAI systems that human users can interact with effectively.

Education

Purdue University

PH.D. IN COMPUTER SCIENCE, GPA: 3.93/4.00

- Advisor: Ming Yin
- Awards: Graduate Teaching Award in 2023

West Lafayette, IN, US

Aug. 2019 - Present

Peking University

B.S. IN PSYCHOLOGY (DUAL DEGREE), GPA: 3.51/4.00

Peking University

B.S. IN INTELLIGENCE SCIENCE AND TECHNOLOGY, GPA: 3.65/4.00

- Thesis: "Analysis of MOOC Forum Data towards AI Support"
- Thesis Advisor: Xiaoming Li
- Awards: Academic Excellence Award (top 10%) in 2018 | Academic Excellence Award (top 15%) in 2016

Beijing, China

Sep. 2016 - Jun. 2019

Beijing, China

Sep. 2015 - Jun. 2019

Professional Experience

Meta Reality Labs

RESEARCH INTERN

- *Mentor: Anna Mengjie Yu*
- Working on human interaction with explainable LLM assistance on AR devices.

Redmond, WA, US

Sep. 2023 - Mar. 2024

Megagon Labs

RESEARCH INTERN

- *Mentor: Hannah Kim, Zhengjie Miao*
- Explored a Human-LLM collaborative annotation framework for natural language tasks. Implemented the LLM pipeline to generate annotations and explanations. Lead a crowdsourced user study on the impact of presenting LLM assistance during human annotation process.
- Collaborated across teams and submitted a paper to CHI 2024.

Mountain View, CA, US

May. 2023 - Aug. 2023

Purdue University

RESEARCH ASSISTANT

- *Advisor: Ming Yin, Assistant Professor*
- Conducted large-scale online human-subject experiments to evaluate how AI explanation impacts human decision-making processes.
- Proposed a space of three-component (i.e. inference + utility + selection) human behavior models in AI-assisted decision making.

West Lafayette, IN, US

Aug. 2019 - Present

University of Michigan

SUMMER RESEARCH INTERN

- *Advisor: Lionel Robert, Professor*
- Investigated bi-directional trust in semi-autonomous vehicles through user testing, data extraction, and trust modeling.

Ann Arbor, MI, US

Jul. 2018 - Sep. 2018

Kendall Square Capital

MACHINE LEARNING INTERN

- Extracted time-series features from the limit order book data for prediction of mid-price movement in high frequency trading.

Beijing, China

Jan. 2019 - Apr. 2019

DiDi

MACHINE LEARNING INTERN

- Implemented machine learning models to predict drivers' order-taken behavior and waiting-time on a million-scale database.

Beijing, China

Sep. 2018 - Jan. 2019

Publications

Human-Centered Evaluation of Explanations in AI-Assisted Decision-Making

Xinru Wang. *IUI 2024 Doctoral Consortium*

Human-LLM Collaborative Annotation Through Effective Verification of LLM Labels

Xinru Wang, Hannah Kim, Sajjadur Rahman, Kushan Mitra, Zhengjie Miao. *CHI 2024*

“Are You Really Sure?” Understanding the Effects of Human Self-Confidence Calibration in AI-Assisted Decision Making

Shuai Ma, Xinru Wang, Ying Lei, Chuhan Shi, Ming Yin, Xiaojuan Ma. *CHI 2024*

The Effects of AI Biases and Explanations on Human Decision Fairness: A Case Study of Bidding in Rental Housing Markets

Xinru Wang, Chen Liang, Ming Yin. *IJCAI 2023*

Who Should I Trust: AI or Myself? Leveraging Human and AI Correctness Likelihood to Promote Appropriate Trust in AI-Assisted Decision-Making

Shuai Ma, Ying Lei, Xinru Wang, Chengbo Zheng, Chuhan Shi, Ming Yin, Xiaojuan Ma. *CHI 2023*

Watch Out For Updates: Understanding the Effects of Model Explanation Updates in AI-Assisted Decision Making

Xinru Wang, Ming Yin. *CHI 2023*

Will You Accept the AI Recommendation? Predicting Human Behavior in AI-Assisted Decision Making

Xinru Wang, Zhuoran Lu, Ming Yin. *WWW 2022*

Effects of Explanations in AI-Assisted Decision Making: Principles and Comparisons

Xinru Wang, Ming Yin. *ACM Transactions on Interactive Intelligent Systems (TiiS), 2022*

Are Explanations Helpful? A Comparative Study of the Effects of Explanations in AI-Assisted Decision-Making

Xinru Wang, Ming Yin. *IUI 2021*

Talk

Understanding Human Behavior in AI-Assisted Decision Making: Experiments and Models

Apr. 2022

MIDAS Future Leaders Summit 2022, University of Michigan

Teaching

CS471 Introduction to Artificial Intelligence, Purdue University

Head Teaching Assistant

Fall 2022, Spring 2023

Teaching Assistant

Fall 2019

CS242 Introduction to Data Science, Purdue University

Teaching Assistant

Spring 2020

CS38001 Python Programming, Purdue University

Teaching Assistant

Fall 2019, Spring 2020

Professional Service

Program Committee

- FAcCT 2023, CHI HCXAI workshop 2022 & 2023 & 2024

Reviewer

- DIS 2024, CHI 2024 Late-Breaking Work, CHI 2024, HRI 2024 alt.HRI, CHI 2023, CHI 2023 Late-Breaking Work, TiiS

Student Volunteer

- SIGIR 2018

Skills

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|------------------------|--|
| Programming | Python, R, HTML/CSS/JavaScript, SQL, MATLAB, C/C++, Java |
| Web Prototyping | Meteor, Python Flask |
| User study | AMTurk, Prolific |
| Languages | English (GRE 162+170+3.5, TOEFL 111), Mandarin (Native) |