

Xinru Wang

CS PHD CANDIDATE IN PURDUE UNIVERSITY

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Research Interest

My research intersects Human-Computer Interaction (HCI) and AI, with a focus on Explainable AI (XAI). I utilize experimental and computational approaches to **understand human users' needs and expectations for XAI** in supporting AI-assisted decision-making, in the context of fast-evolving AI models and diverse interaction interfaces. My research provides key insights for the design and deployment of user-friendly XAI systems.

Education

Purdue University

West Lafayette, IN, US

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

Aug. 2019 - Present

- Thesis: "Towards Interpretable AI-Assisted Decision-Making: A Human-Centered Evaluation of AI Explanations"
- Committee: Prof. Ming Yin (advisor), Prof. Ninghui Li, Prof. Alexandros Psomas, Prof. Tianyi Zhang
- Awards: NSF Student Travel Award in 2024 | Graduate Teaching Award in 2023 | Women in Science Program Travel Grant in 2022

Peking University

Beijing, China

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

Sep. 2016 - Jun. 2019

Peking University

Beijing, China

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

Sep. 2015 - Jun. 2019

- 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

Selected Publications

First author of 8 publications and co-author of 4 publications at top-tier HCI and AI venues, including CHI, IUI, IJCAI, and WWW.

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

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

Xinru Wang, Ming Yin. *IUI* 2021

Professional Experience

Purdue University

West Lafayette, IN, US

RESEARCH ASSISTANT

Aug. 2019 - Present

- Advisor: Ming Yin, Assistant Professor
- Conducted large-scale online user studies to evaluate the impacts of AI explanations on human decision-making processes under various human-AI collaboration scenarios.
- Developed a space of three-component (i.e. inference + utility + selection) human behavior models to analyze human reliance in AI-assisted decision making.

Meta Reality Labs

RESEARCH INTERN

Redmond, WA, US

Sep. 2023 - Mar. 2024

- *Mentor: Anna Mengjie Yu*
- Developed innovative methods for delivering concise explanations from LLM-driven personal assistants on ultra-small devices.
- Led a user study to evaluate end-users' preferences for various LLM explanation formats.
- Collaborated closely with researchers, designers, and developers. Submitted a paper currently under review. Research insights contributed to the development of explainable AI features on Meta's future AR device.

Megagon Labs

RESEARCH INTERN

Mountain View, CA, US

May. 2023 - Aug. 2023

- *Mentor: Hannah Kim, Zhengjie Miao*
- Developed and evaluated a human-LLM collaborative annotation framework for natural language tasks, implementing an LLM pipeline to generate annotations and explanations.
- Conducted a crowdsourced user study to assess the impact of LLM assistance on the human annotation process.
- Collaborated with cross-functional teams and published a paper at CHI 2024. The findings directly contributed to the development of MEGAnno+, the company's newly released data annotation tool.

University of Michigan

SUMMER RESEARCH INTERN

Ann Arbor, MI, US

Jul. 2018 - Sep. 2018

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

Kendall Square Capital

MACHINE LEARNING INTERN

Beijing, China

Jan. 2019 - Apr. 2019

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

DiDi

MACHINE LEARNING INTERN

Beijing, China

Sep. 2018 - Jan. 2019

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

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

- CHI 2025, CHI HCXAI workshop 2024 & 2023 & 2022, FAccT 2023

Reviewer

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

Student Volunteer

- IUI 2024, SIGIR 2018

Skills

Programming	Python, R, HTML/CSS/JavaScript, SQL, MATLAB, C/C++, Java
Tools & Frameworks	Python Flask, Meteor, Pytorch, Sklearn
User Study	Online (AMTurk, Prolific) and in-lab
Data Analysis	Quantitative and qualitative
Languages	English (GRE 162+170+3.5, TOEFL 111), Mandarin (Native)