Xinru Wang

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Research Interests

Human-AI interaction, human-centered AI, explainable machine learning, computational social science.

Education

Purdue University — West Lafayette, IN, USA
Ph.D. in Computer Science, GPA: 3.93/4.00 — Aug 2019 – present

Peking University — Beijing, China
B.S. in Psychology, 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"

Publications

1. **Xinru Wang**, Ming Yin. Are Explanations Helpful? A Comparative Study of the Effects of Explanations in AI-Assisted Decision-Making. *The 26th ACM International Conference on Intelligent User Interfaces (IUI), College Station, TX, April 2021.*
2. **Xinru Wang**, Ming Yin. Effects of Explanations in AI-Assisted Decision Making: Principles and Comparisons. *ACM Transactions on Interactive Intelligent Systems (TiiS), 2022*
3. **Xinru Wang**, Zhuoran Lu, Ming Yin. Will You Accept the AI Recommendation? Predicting Human Behavior in AI-Assisted Decision Making. *The Web Conference (WWW), Lyon, France, April 2022.*
4. **Xinru Wang**, Ming Yin. Watch Out For Updates: Understanding the Effects of Model Explanation Updates in AI-Assisted Decision Making. *Under review.*
5. Shuai Ma, Ying Lei, **Xinru Wang**, Chengbo Zheng, Chuhan Shi, Ming Yin, Xiaojuan Ma. Who Should I Trust: AI or Myself? Leveraging Human and AI Correctness Likelihood to Promote Appropriate Trust in AI-Assisted Decision-Making. *Under review.*

Research Experience

Purdue University | Department of Computer Science — West Lafayette, IN, USA
Research Assistant — Jun 2020 – present

- Advisor: Ming Yin, Assistant Professor
- Conducted a randomized human-subject experiment to evaluate whether four types of model-agnostic explainable AI methods satisfy three desirable properties of ideal AI explanations on two types of decision-making tasks where people perceive themselves as having different levels of prior knowledge in.
- Proposed a space of three-component models (i.e. inference + utility + selection) that resemble human behavior in the setting of AI-assisted decision making.
- Conducted a human-subject experiment to study how changes in the AI explanations impact people's perceptions and usage of the model. Analyzed underlying mechanisms using structural equation modeling.

University of Michigan | School of Information Ann Arbor, MI, USA
Summer Research Intern Jul 2018 – Sep 2018

- Title: Modeling Bi-directional Trust in Semi-autonomous Vehicles for Improved System Performance
- Advisor: Lionel Robert, Associate Professor
- Extracted reaction time and eye-gaze monitoring data from a raw dataset.
- Analyzed data to investigate the correlation between trust behavior, trust, and secondary task performance of subjects. Implemented classic classification and regression methods on the dataset for trust modeling.

Work Experience

Kendall Square Capital | Technology Department Beijing, China
Machine Learning Intern Jan 2019 – Apr 2019

DiDi | Department of Smart Transportation Beijing, China
Machine Learning Intern Sep 2018 – Jan 2019

Teaching

- **Teaching Assistant** at Purdue University Fall 2019, Spring 2020, Fall 2022
  Python Programming (CS38001)
  Artificial Intelligence (CS471)
  Introduction to Data Science (CS242)

Scholarships and Awards

- Academic Excellence Award, Peking University (top 15%) 2015 – 2016
- May 4th Scholarship, Peking University 2015 – 2016
- Academic Excellence Award, Peking University (top 10%) 2017 – 2018
- Fei-Xun Scholarship, Peking University 2017 – 2018

Leadership and Service

- **Program Committee**
  CHI workshop on human-centered XAI: 2022
- **Conference Reviewer**
  ACM Conference on Human Factors in Computing Systems (CHI): 2023
- **Journal Reviewer**
  ACM Transactions on Interactive Intelligent Systems (TiiS)
- **Invited Attendee**
  MIDAS Future Leaders Summit, University of Michigan, 2022
- **Student Volunteer**
  ACM SIGIR Conference: 2018

Skills

- **Programming Languages:** Python, R, HTML/CSS/JavaScript, SQL, MATLAB, C/C++, Java
- **Toolkits:** Pandas, Numpy, sklearn, Meteor

Languages

- **English:** GRE 162+170+3.5, TOEFL 111
- **Chinese:** Native speaker
- **French:** Fresh learner