RUOXI (ANNA) SHANG

rxshang@uw.edu | ruoxishang.com

Education

UNIVERSITY OF WASHINGTON
Ph.D. Student in Human-centered Design and Engineering
Sep 2020 – Present

UNIVERSITY OF CALIFORNIA, BERKELEY
B.A. in Applied Mathematics, Statistics (Concentration: Data Science)
Aug 2016 – May 2020

Research Interests

Human-AI Interaction, Human-centered Explainability, Trust, Generative AI, Data science and Programming Support, Data Visualization, Feedback & Research Assistance

Research & Work Experience

UNIVERSITY OF WASHINGTON
Research Assistant
Sep 2020 – Present
Advisors: Gary Hsieh, Chirag Shah
· Led research projects including network analysis of online fanfiction communities, data-driven HCI research trend assessment between academia and industry, mix method studies on human-centered explainable recommender systems, and the development and validation of affective and cognitive trust scale towards AI.

MIRCOSOFT RESEARCH
Research Intern in the VIDA team
Advisors: Steven Drucker, Bongshin Lee, Dave Brown
Jun 2023 – Present
· Led a key research project explored the use Large Language Models (LLMs). to enable data science novices to operationalize their data-driven decision-making intent.
· Conducted a user study to assess data analysts' understanding and verification of analyses output generated by state-of-the-art LLMs.

TRUERA
Data Science and UX Research Intern
Mentors: Mantas Lilis, Joshua Noble, Justin Lawyer
Jul 2022 – Sep 2022
· Designed and conducted an interview study to understand how professional data scientists in the field approach performance debugging of Machine Learning (ML) classification and regression models.
· Collaborated with designers and ML engineers to build guided workflows that streamline the diagnostic process for ML models.

CENTER FOR LONG-TERM CYBERSECURITY | UC BERKELEY
Research Assistant
Advisor: Nick Merrill
May 2019 – May 2020
· Leveraged pre-trained Computer Vision models on ImageNet to mine feature distributions from the Cybersecurity Imagery Dataset, comprising two years of Google Image Search results.
· Conducted a temporal exploratory data analysis on the dataset to uncover how media representations of cybersecurity have changed over time.

BERKELEY INSTITUTE FOR DATA SCIENCE | UC BERKELEY
Research Assistant
Advisor: Andreas Zoglauer
Jan 2019 – Dec 2019
· Engineered an advanced data analysis pipeline for Compton telescopes such as COSI and AMEGO by implementing a 3D convolutional neural network using TensorFlow, inspired by VoxNet architecture.
· Innovated network layout optimizations, resulting in an 82% reduction in RMS Angular Deviation, significantly enhancing prediction accuracy.

Publications

In Submission

Ken Gu, **Ruoxi Shang**, Tim Althoff, Chenglong Wang, Steven M. Drucker. "How Do Analysts Understand and Verify AI-Assisted Data Analyses?" Submitted to CHI 2024. [Arxiv](#) Under Review

Peer-reviewed publications

Donghoon Shin, Soomin Kim, **Ruoxi Shang**, Joonhwan Lee, and Gary Hsieh. IntroBot: Exploring the Use of Chatbot-assisted Familiarization in Online Collaborative Groups. In Proceedings of the 2023 CHI Conference on Human Factors in Computing Systems (CHI '23)

Ruoxi Shang, Kevin Feng, Chirag Shah. Understanding Lay Users' Needs of Counterfactual Explanations for Everyday Recommendations. 2022. ACM Conference on Fairness, Accountability, and Transparency (ACM FAccT 2022).

De Clercq, Djavan, **Ruoxi Shang** et al. Machine learning powered software for accurate prediction of biogas production: A case study on industrial-scale Chinese production data. Journal of Cleaner Production, 218 (2019): 390-399.

De Clercq, Djavan, Zongguo Wen, Fan Fei, Luis Caicedo, Kai Yuan, and **Ruoxi Shang**. Interpretable machine learning for predicting biomethane production in industrial-scale anaerobic co-digestion. Science of The Total Environment (2019): 134574.

Heng Zhou, Zhijun Fang, Yongbin Gao, Bo Huang, Cengsi Zhong, **Ruoxi Shang**. Feature fusion network based on attention mechanism for 3D semantic segmentation of point clouds. Pattern Recognition Letters 133 (2020): 327-333.

Short Papers & Posters

Tianying Chen, **Ruoxi Shang**, Steven Moore, Laura Dabbish. Leveraging Generative AI and Human Collaboration in Peer-Feedback. 2023. Generative AI and HCI workshop in the ACM Conference on Human Factors in Computing Systems (CHI 2023).

Ather Sharif, Ploypilin Pruekcharoen, Thrisha Ramesh, **Ruoxi Shang**, Spencer Williams, Gary Hsieh. "What's going on in Accessibility Research?" Frequencies and Trends of Disability Categories and Research Domains in Publications at ASSETS. 2022. In The 24th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS '22). Association for Computing Machinery, New York, NY, USA.

Ruoxi Shang, Zile Xiao, Jenna Frens, and Cecilia Aragon. Giving and Receiving: Reciprocal Review Exchange in Online Fanfiction Communities. 2021. *Companion Publication of the 2021 Conference on Computer Supported Cooperative Work and Social Computing* (pp. 171-174).

Niamh Froelich, Arthur Liu, **Ruoxi Shang**, Zile Xiao, Travis Neils, Jenna Frens, and Cecilia Aragon. Reciprocity in Reviewing on Fanfiction.net. 2021. *International Conference on Human-Computer Interaction*. Springer, Cham, 2021.

Ruoxi Shang, A. Zoglauer, Rapid gamma-ray burst localization aboard the e-Astrogam satellite using a 3D convolutional neural network. Poster presented at Bay Area Machine Learning Symposium 2019, Oct 16, San Francisco, CA.

Awards & Honors

ACM Travel Grant for FAccT 2022 (2022)
HCDE Doctoral Student Research Grant, University of Washington (2022)
Edward Frank Kraft Scholarship, University of California, Berkeley (2017)

Teaching Experience

Teaching Assistant for HCDE 410 Human-Data Interaction Spring 2023
Teaching Assistant for HCDE 518 User-Centered Design Fall 2022
Teaching Assistant for HCDE Undergraduate Capstone Project teams Winter & Spring 2022
Teaching Assistant for HCDE 411 Data Visualization Fall 2021
Teaching Assistant for HCDE MS Capstone Project Class Spring 2021
Course Grader for UC Berkeley Math 113 (Abstract Algebra), Math 55 (Discrete Mathematics)
Teaching Assistant for Mathematical Thinking Summer Program with Po-Shen Loh Summer 2017

Skills

Programming & Data Science: Python, R, JavaScript, TypeScript, JupyterLab Extensions, React, HTML, CSS,
Java, SQL, Data Visualization, Machine Learning, Deep Learning, NLP
Quantitative Methods: Experimental Design, Survey Design, Statistical Analysis
Qualitative Methods: Interview, Survey, Thematic Analysis, Grounded Theory, Usability Testing
Design: Figma, Wireframing, Prototyping, User Journey Mapping