RUOXI (ANNA) SHANG

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Education

UNIVERSITY OF WASHINGTON

Ph.D. Student in Human-centered Design and Engineering
Sep 2020 – Present
Research Interests: Human-centered Explainable AI, Human-AI interaction, Trust

UNIVERSITY OF CALIFORNIA, BERKELEY

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

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.

Posters & Short Papers

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. To appear.

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 and 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)

Experience

RESEARCH ASSISTANT

Human-centered Design and Engineering Department | University of Washington

Sep 2022 – Present

Led several projects including:

· Applied network analysis and regression analysis to study reciprocal behaviors in the users' interactions in an online fanfiction community.
· Used a data-driven method to explore the keyword usage trends to examine the interest convergence and divergence between academia and industry overtime in the field of HCI.
· Conducted an interview study and a survey study to understand the human-centric explainable needs for recommended content in everyday intelligent applications.
· Developed and validated a scale for cognitive and affective trust and used the scale to explore the ChatGPT's capability to build affective trust in providing emotional support.

SUMMER UX RESEARCH INTERN

TruEra

Mentors: Mantas Lilis, Joshua Noble, Justin Lawyer

Jul 2022 – Sep 2022

Performance Debugging Workflow Research

· Conducted an interview study to understand how data scientists in the field approach performance debugging of machine learning models.
· Collaborated with designers and machine learning engineers to build guided workflows for model diagnostics.

RESEARCH INTERN

Daylight Security Research Lab | Center for Long-Term Cybersecurity | UC Berkeley

Advisor: Dr. Nick Merrill

May 2019 – May 2020

Cybersecurity Imagery Project

· Applied deep learning CV models pre-trained on ImageNet to extract the feature distribution from the Cybersecurity Imagery Dataset (two years of Google Image Search results). Performed exploratory data analysis on the Cybersecurity Imagery Dataset to depict how cybersecurity is depicted in media overtime.

DATA SCIENCE ASSOCIATE

Bio-Tesseract

Jan 2018 – Apr 2020

Machine Learning Powered Biogas Production Optimization

· Trained a set of ML models on production dataset and developed a user interface to help biogas facilities visualize how different inputs affect their biogas output level and enhance their operational productivity.

RESEARCH APPRENTICE

Berkeley Institute for Data Science | UC Berkeley

Jan 2019 – Dec 2019

Advisor: Dr. Andreas Zoglauer

Rapid Gamma-Ray Burst Localization with Deep Learning

· Implemented a 3D convolutional neural network architecture with TensorFlow inspired by VoxNet to improve the data analysis pipeline for Compton telescopes (e.g. COSI, AMEGO). Proposed improvements for the 3D convolution network layout and achieved an 82% decrease in RMS Angular Deviation for prediction accuracy.

Teaching and Mentoring

- Teaching Assistant for HCDE 518 User-Centered Design Fall 2022
- Teaching Assistant and Mentor 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 Professor Po-Shen Loh Summer 2017

Skills

Programming & Data Science: Python, R, 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