Ruqi Bai

Seeking 2024 Summer ML related Intern
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EDUCATION

Purdue University, West Lafayette, Indiana — Aug. 2019 — May. 2025 (Expected)
Ph.D. in Electrical and Computer Engineering
Advisor: David I. Inouye

Nanjing University of Posts and Telecommunications, Nanjing, Jiangsu, China — Aug. 2012 — Jun. 2016
B.S. in Applied Physics

RESEARCH INTERESTS

Causality, Causal Representation Learning, Domain Generalization, Distributed Machine Learning.

PUBLICATIONS

* *denotes equal contribution.*

Benchmarking Algorithms for Federated Domain Generalization
Ruqi Bai, Saurabh Bagchi, David I. Inouye
The Twelfth International Conference on Learning Representations (ICLR). 2024, (Spotlight).

Towards Characterizing Domain Counterfactuals for Invertible Latent Causal Models
Ruqi Bai*, Sean Kulinski*, Zeyu Zhou*, Murat Kocaoglu, David I. Inouye
The Twelfth International Conference on Learning Representations (ICLR). 2024.

HAWKEYE: Adversarial Example Detection through Ensemble Detectors
Ruqi Bai, Jinkyu Koo, Heron Teegarden, Michael Roth, Kevin Chan, David I. Inouye, Saurabh Bagchi
SPIE Defense and Commercial Sensing Symposium,11746-21, 2021.

WORKING PROJECTS

Domain Generalization via distributional Equivalent Latent Causal Model
Ruqi Bai, Murat Kocaoglu, David I. Inouye

A Video Dataset on Agent Tracking and Intention Prediction
Ruqi Bai, Nicholas R. Waytowich, James Z. Hare, David I. Inouye

FedLOE: Federated Domain Generalization via Local Overfitting and Refitting
Ruqi Bai, David I. Inouye

WORKING EXPERIENCE

Purdue University — Aug. 2020 — Jan. 2023
Research Assistant

- Multi-Agent Tracking and Intention Prediction.
- Latent Causal Representation Learning.
- Domain Generalization in Federated Learning.

- Adversarial Robustness Machine Learning.

Baidu, Inc Aug. 2016 — Jun. 2019

Senior Site Reliability Engineer

- Led the exploration of the design and development of Baidu Phoenix Nest's first AI distributed tracing and failure location system. Averaging MTTR from 45min to 17min. Millions cost saving per year.
- Assisted in building Baidu Phoenix Nest's large-scale tracing infrastructure, achieving distributed log splice across thousands of servers in one minute.
- Participating Baidu Search System Assurance in the 2019 Spring Festival Gala Red Envelope, an event brought billions of page view in a minute.

TEACHING EXPERIENCE

Purdue University Jan. 2023 — Present

Teaching Assistant

- ECE 57000 Artificial Intelligence
- ECE 50024 Machine Learning
- ECE 69500 Big Data for Reliability and Security

SKILL

- **Python:** PyTorch, WanDB, NumPy, SciPy, pandas, scikit-learn
- **Tool:** Git, Linux, Bash, LaTeX