Ruqi Bai

Tel: (765) 714-5086 | Email:bai116@purdue.edu | Website: http://ruqibai.netlify.app

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.*

Towards Characterizing Domain Counterfactuals for Invertible Latent Causal Models
Ruqi Bai*, Sean Kulinski*, Zeyu Zhou*, Murat Kocaoglu, David I. Inouye
Causal Representation Learning Workshop, Neurips 2023.

Benchmarking Algorithms for Federated Domain Generalization
Ruqi Bai, Saurabh Bagchi, David I. Inouye
Under Review https://arxiv.org/pdf/2307.04942.pdf, 2023

FedLOE: Federated Domain Generalization via Local Overfitting and Refitting
Ruqi Bai, David I. Inouye
Under Review, 2023

Exploring Adversarial Examples via Invertible Neural Networks
Ruqi Bai, Saurabh Bagchi, David I. Inouye
Preprint: https://arxiv.org/abs/2012.13111, 2021

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 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 design and development of Baidu Phoenix Nest's first automatic distributed tracing system.
- Assisted in building Baidu Phoenix Nest's large-scale tracing infrastructure.

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