Ruqi Bai

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Education

Ph. D | Aug. 2019 - Present | Purdue University

Specialization in Adversarial Machine Learning

- **Advisor**: Prof. David I. Inouye and Prof. Saurabh Bagchi
- **Major**: Computer Engineering
- **Related Courses**: Inference and Learning in Generative Models, Pattern Recognition and Decision-Making Processes, Artificial Intelligence, Machine Learning, Random Variables and Signals, Computational Models and Methods, Linear Algebra with Applications

B. S | Aug. 2012 – May. 2016 | Nanjing University of Posts and Telecommunications

- **Major**: Applied Physics
- **Related Courses**: C Language, C++ Language, Computer Network, Microcomputer Principle and Interface Technology, Mathematical Physics, Linear Algebra, Advanced Mathematics, Measure Theory, Probability Theory

Research & Publications

Adversarial Exploration via Invertible Neural Networks (WWW)

Ruqi Bai, Saurabh Bagchi, David I. Inouye, ArXiv, abs/2012.13111.

- Established a theory that information not used for classification leads to adversarial vulnerability of neural networks.
- Designed an Adversarial training method via invertible neural networks.

Hawkeye: Adversarial Example Detector for Deep Neural Networks (WWW)

Ruqi Bai, Jinkyu Koo, Heron Teegarden, Michael Roth, David I. Inouye, Saurabh Bagchi, SPIE, 2021

- Created a novel way to detect adversarial examples.
- Introduced cascading detectors to reduce false alarm rate.

Experience

Research Assistant | Purdue University | Jan. 2020 - Present

- Researching on machine learning from an adversarial perspective.
- Exploring adversarial vulnerability of neural networks.
- Designing defense methods to strengthen neural networks.

Senior Software Engineer | Baidu, Inc | Jul. 2016 – Jun. 2019

- Developed the Abnormal Request Locating System of Sponsored Search Ad. System including system design and algorithm design.

Skill

Languages: Python, Shell

Libraries: PyTorch, NumPy, pandas, Matplotlib

Databases: MySQL, HBase, MongoDB, Redis

Others: Linux, Latex, Vim, Git