

# Wenyuan Zhao

## Curriculum Vitae

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## Research Interest

**Bayesian Deep Learning:** Design systematic approaches and algorithms for constructing Bayesian deep learning that are amenable to efficient training and uncertainty quantification.

**Information Theory:** Provide security and privacy guarantees in modern information systems, in addition to the regular data retrieval functionality.

## Education

2023 – Now **Ph.D., Texas A&M University**, College Station, United States  
Information Science and Learning Systems  
Advisor: *Dr. Chao Tian*  
GPA: 4.0/4.0

2021 – 2023 **M.S., University of California San Diego**, La Jolla, United States  
Communication Theory and Systems  
Research: AI-driven Dynamic mmWave Mesh Backhaul  
Advisor: *Dr. Xinyu Zhang*

2017 – 2021 **B.E., Southeast University**, Nanjing, China  
Information Engineering  
Thesis: Machine Learning-based Matrix Optimization in Massive MIMO  
Advisor: *Dr. Cheng Zhang*

## Selected Publications

AISTATS 2025 “From Deep Additive Kernel Learning to Last-layer Bayesian Neural Networks via Induced Prior Approximation”  
**Wenyuan Zhao**, Haoyuan Chen, Tie Liu, Rui Tuo, Chao Tian  
*International Conference on Artificial Intelligence and Statistics (AISTATS)*, 2025.

ISIT 2025 “Optimizing Leaky Private Information Retrieval Codes to Achieve  $O(\log K)$  Leakage Ratio Exponent”  
**Wenyuan Zhao**, Yu-Shin Huang, Chao Tian, Alex Sprintson  
*IEEE International Symposium on Information Theory (ISIT)*, 2025.

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## Other Publications

- ISIT 2024 “Weakly Private Information Retrieval from Heterogeneously Trusted Servers”  
Yu-Shin Huang, **Wenyuan Zhao**, Ruida Zhou, Chao Tian  
*IEEE International Symposium on Information Theory (ISIT)*, 2024.
- arXiv “Weakly Private Information Retrieval from Heterogeneously Trusted Servers”  
**Wenyuan Zhao**, Yu-Shin Huang, Ruida Zhou, Chao Tian  
*arXiv preprint*, submitted to *IEEE Transactions on Information Theory*.  
(Extended version of ISIT24 paper. Under review.)
- BE Thesis “Machine Learning-based Matrix Optimization Algorithm in Massive MIMO”  
**Wenyuan Zhao**  
*Undergraduate Thesis at Southeast University*, 2021
- ICCDs 2021 “A Survey on Fog Computing Applications in Internet of Vehicles”  
**Wenyuan Zhao**  
*International Conference on Computing and Data Science (ICCDs)*, Stanford, 2021
- JOP 2020 “Classification of Customer Reviews on E-commerce Platforms Based on Naive Bayesian Algorithm and Support Vector Machine”  
**Wenyuan Zhao**  
*Journal of Physics: Conference Series (JOP)*, IOP Publishing, 2020

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## Graduate Research

- 2023 – **Bayesian Deep Learning and Uncertainty Quantification**
- Sparse expansions for deep Gaussian processes (DGPs)
  - Deep additive kernel learning as last-layer Bayesian neural networks
  - Uncertainty quantification in large language models (LLM)
- 2023 – 2025 **Private Information Retrieval**
- Weakly private information retrieval with heterogeneity in server trustfulness
  - Leaky private information retrieval with  $O(\log K)$  privacy leakage
  - Multi-message leaky private information retrieval
- 2022 – 2023 **Dynamic mmWave Mesh Network.**
- Highly-dynamic mmWave mesh network control by reinforcement learning
  - Bridging the Simulation-to-Reality gap by self-supervised learning

2020 – 2021 **Machine learning-based Matrix Optimization in Massive MIMO.**

- Complex matrix inversion in massive MIMO downlink precoding
- Complex-valued Gradient Neural Network (CVGNN)

2019 – 2020 **Large-scale mmWave Beamforming.**

- Beam alignment and tracking (BA/T) as a stochastic bandit learning problem
- Greedy and upper confidence bound strategy for optimal beam searching

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## Awards

2025 Departmental Poster Event Winner at TAMU

2020 Sun Qingyun Scholarship for Academic Achievement

2019 **First Prize (Top 0.7%)** of Mathematical Contest in Modeling (CUMCM)

2019 Mitsubishi Electric Corporation Scholarship

2018 University Scholarship for Excellent Academic at SEU

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## Skills

Programming Python, Matlab, C/C++, Shell scripting

ML Tools PyTorch, TensorFlow, GPytorch, PEFT

IDEs  $\LaTeX$ , VSCode, Verilog

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## Services

Reviewer ISIT 2024, IEEE TIT 2024

IIE Transactions, ISIT 2025