Shaorong Zhang

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– **Personal homepage**: https://szhan311.github.io/   – **Github**: https://github.com/szhan311

Education

- **University of California, Riverside**
  PhD, Electrical and Computer Engineering   Sep 2022 - Present

- **University of California, Riverside**
  Master, Electrical and Computer Engineering, GPA: 3.9/4   Sep 2022 - Jun 2024

- **Xi'an Jiaotong University**
  Master, Control Science and Engineering, GPA: 3.57/4   Sep 2019 - Jun 2022

- **Xi'an Jiaotong University**
  Bachelor, Automation, GPA: 3.5/4   Sep 2015 - Jun 2019

Research Interests

- **Fundamental diffusion (bridge) models, guidance, fine tuning, alignment, solving inverse problems with diffusion priors.**
- **Medical imaging, data-driven control, optimization and decision making, physics-informed machine learning.**

Publications

1. Shaorong Zhang, Longxuan Yu, Rob Brekelmans, Luhan Tang, Salman Asif, Greg Ver Steeg, "Generation Order and Parallel Decoding in Masked Diffusion Models: An Information-Theoretic Perspective", **under review**, 2026.

2. Longxuan Yu, Yu Fu, Shaorong Zhang, Hui Liu, Mukund Varma T, Greg Ver Steeg, Yue Dong, "Thinking Out of Order: When Output Order Stops Reflecting Reasoning Order in Diffusion Language Models", **under review**, 2026.

3. Shaorong Zhang, Rob Brekelmans, Greg Ver Steeg, "Local MAP Sampling for Diffusion Models", **under review**, 2025.

4. Shaorong Zhang, Rob Brekelmans, Yunshu Wu, Greg Ver Steeg, "Measurement-Aligned Flow for Inverse Problems", **under review**, 2025.

5. Shaorong Zhang, Yuanbin Cheng, and Greg Ver Steeg, "Exploring the Design Space of Diffusion Bridge Models", **Advances in Neural Information Processing Systems (NeurIPS)**, 2025.

6. Shaorong Zhang, Tamoghna Chattopadhyay, Sophia I. Thomopoulos, Jose-Luis Ambite, Paul M. Thompson, Greg Ver Steeg, "Diffusion Bridge Models for 3D Medical Image Translation", **47th Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)**, 2025.

7. Shaorong Zhang, Yuanbin Cheng, and Nanpeng Yu, "Generating Synthetic Net Load Data with Physics-informed Diffusion Model", **IEEE Transactions on Smart Grid**, 2025 .

8. Nanpeng Yu, Shaorong Zhang, Jingtao Qin, Patricia Hidalgo-Gonzalez, Roel Dobbe, Yang Liu, Anamika Dubey, Yubo Wang, John Dirkman, Haiwang Zhong, et al., "Data-Driven Control, Optimization, and Decision-Making in Active Power Distribution Networks", **Applied Energy**, Vol. 397, 126253, 2025 (Elsevier).

9. Shaorong Zhang, Koji Yamashita, and Nanpeng Yu, "Learning Power System Dynamics with Neural Ordinary Differential Equations," **IEEE PES General Meeting**, 2024.

10. Shaorong Zhang and Nanpeng Yu, " Learning Power System Dynamics with Nearly-Hamiltonian Neural Networks," **IEEE PES General Meeting**, 2023.

Honors and Awards

- Outstanding Graduate Student (awarded to top 10%)   06-2022
- Special Scholarship for M.S. Candidate(awarded to top 30%)   10-2021
- Outstanding Graduates(awarded to 20%)   10-2021
- The Gold Awards of the 6th China International College Students' " Internet+" Innovation and Entrepreneurship Competition   11-2020
- The Gold Awards of the 6th China International College Students' " Internet+" Innovation and Entrepreneurship Competition(Trails in shaanxi province)   10-2020