

Shaorong Zhang

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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, Rob Brekelmans, Greg Ver Steeg, "Local MAP Sampling for Diffusion Models", **under review**, 2025.
2. Shaorong Zhang, Rob Brekelmans, Yunshu Wu, Greg Ver Steeg, "Measurement-Aligned Flow for Inverse Problems", **under review**, 2025.
3. Shaorong Zhang, Yuanbin Cheng, and Greg Ver Steeg, "Exploring the Design Space of Diffusion Bridge Models", **Advances in Neural Information Processing Systems (NeurIPS)**, 2025.
4. 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.
5. Shaorong Zhang, Yuanbin Cheng, and Nanpeng Yu, "Generating Synthetic Net Load Data with Physics-informed Diffusion Model", **IEEE Transactions on Smart Grid**, 2025 .
6. 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).
7. Shaorong Zhang, Koji Yamashita, and Nanpeng Yu, "Learning Power System Dynamics with Neural Ordinary Differential Equations", **IEEE PES General Meeting**, 2024.
8. 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