Yanzhi Wang

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EDUCATION

College of Engineering, Peking University

Beijing, China

Ph.D. in Industrial and Systems Engineering

2022 - 2027 (expected)

- Advisor: Prof. Jie Song, Prof. Jianxiao Wang
- Research area: Data-centric AI, Energy System, Data-driven Optimazation

College of E	ngineering,	Peking	University
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Beijing, China

B.E. in Theoretical and Applied Mechanics

2018 - 2022

National School of Development, Peking University

Beijing, China 2019 - 2022

B.E. in Economics (Dual Degree)

2019 - 202

Research Statement

My research centers on advancing the interpretability of data science within complex systems. I am particularly interested in leveraging data-driven methodologies to implement end-to-end optimization, with a recent focus on enhancing the reliability and efficiency of energy systems under uncertainty through data-centric decision-making.

PUBLICATIONS

- 1. Yanzhi Wang, Jianxiao Wang, Feng Gao, Jie Song. Unveiling value patterns via deep reinforcement learning in heterogeneous data analytics. *Patterns*, 5(5), 2024. (Cover Article) DOI: 10.1016/j.patter.2024.100965
- 2. Yanzhi Wang, Jie Song. Dissecting Renewable Uncertainty via Deconstructive Analysis-Based Data Valuation. *IEEE Transactions on Industry Application*, 61(1), pp. 1626-1635, 2024. DOI: 10.1109/TIA.2024.3384130
- 3. Yanzhi Wang, Jianxiao Wang, Haoran Zhang, Jie Song. Bridging Prediction and Decision: Advances and Challenges in Data-Driven Optimization. *Nexus*, 2025. DOI: 10.1016/j.ynexs.2025.100057
- Yanzhi Wang, Jianxiao Wang, Jie Song. Strategic Data Purification for Improved Power Dispatch Against Uncertainty. *IEEE Transactions on Industrial Informatics*, 2025. DOI: 10.1109/TII.2025.3545092
- 5. Yanzhi Wang, Jianxiao Wang, Jie Song. Data-centric Optimization: An End-to-End Strategy for Power Systems. *Engineering*, 2025. (Under Review)
- 6. Yihang Jin, Yanzhi Wang, Jianxiao Wang, et al. Condensed Data Acquisition for Non-Intrusive Load Monitoring via Household Selection. *IEEE Transactions on Industrial Informatics*, 2025. (Under Review)
- 7. Yanzhi Wang, Jianxiao Wang, Jie Song. Feature Valuation Toward Improved State Estimation for Automotive Lithium-ion Battery. 2024 IEEE Industry Applications Society Annual Meeting (IAS), 2024. (Accepted)
- 8. Yanzhi Wang, Yue Zhao, Jie Song, Hongju Liu. What drives patients to choose a physician online? A study based on tree models and SHAP values. 2022 IEEE 18th International Conference on Automation Science and Engineering (CASE), 2022. DOI: 10.1109/CASE49997.2022.9926467

Awards & Honors

• Wei-Ming PhD Scholars, Peking University One of 13 recipients selected university-wide.

2024.06

• Academic Rising Star, College of Engineering, Peking University One of 5 recipients selected college-wide.

2024.05

Skills

Programming: Python, MATLAB, R.

Academic Training: Advanced Theory of Probability, Advanced Operations Research, Optimization Methods in Machine Learning, Reinforcement Learning, Distributed Optimization, Design and Analysis of Algorithms, Carbon Neutrality and Energy Internet, etc.