Zhanning Zhang

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Education

School of Electronic Information and Electrical Engineering, Shanghai Jiao Tong University, Shanghai, China *Sep. 2021 - June 2025*

- Bachelor in Electrical Engineering and Automation; Core GPA: **3.88/4.3** (5/112)

Publications

Zhanning Zhang, Y Gao, Q Ai, "A Low-Carbon Economic Optimization Strategy for Multi-Energy Virtual Power Plant Considering Multiple Time Scales," 2024 IEEE Renewable Energies and Smart Technologies (REST-24) (on the review)

Zhanning Zhang, Y Gao, Q Ai, "Energy Management of Multi-Energy Virtual Power Plants across Multiple Time Scales Considering Carbon Trading and V2G Interaction," IEEE Transaction on Smart Grid (prepare to submit)

Research Experience

Energy Management of Multi-Energy Virtual Power Plants across Multiple Time Scales Considering Carbon Trading and V2G Interaction | *Research Assistant* *Nov. 2023 – Feb. 2024*

Advisor: Qian Ai, IEEE senior member and Yang Gao, IEEE member *Shanghai Jiao Tong University*

- Established a multi-energy virtual power plant (MEVPP) with *4 kinds of coupling networks* and *multiple distributed devices*, especially *electric vehicles* (EVs)
- Considered *grid loss* in electricity, heat and gas networks.
- Evaluated carbon emission reduction of *carbon trading mechanism* and *Vehicle-to-Grid* (V2G).
- Utilized *multi-objective particle swarm optimization* in *multiple time scales* for the low-cost and low-carbon result

A Low-Carbon Economic Optimization Strategy for Multi-Energy Virtual Power Plant Considering Multiple Time Scales | *Research Assistant* *Aug. 2023 – Nov. 2023*

Advisor: Qian Ai, IEEE senior member and Yang Gao, IEEE member *Shanghai Jiao Tong University*

- Built a virtual power plant in *multi-energy networks* with multiple distributed devices, especially renewable energy power generation equipment
- Added carbon trading mechanism and evaluated its carbon emission reduction efficiency
- Utilized *multi-objective particle swarm optimization* in *multiple time scales* for the low-cost and low-carbon result

Skills

Programming Languages	Experienced in Python, C++, MATLAB, LATEX, STATA, Embedded Development (ARM)
Language Ability	English (fluent), Chinese (native)

Awards

Scholarship for Academic Performance	2022 UHV National Grid Scholarship (4 among 118) 2023 Ren Yuan Electric Scholarship (2 among 112) 2022 and 2023 B-Class Academic Scholarship for Undergraduates (top 10%).
Awards for Outstanding Students' leader	2 times (3 among 30)
Awards for Excellent Students	1 time (2 among 30)