ZHIMENG WANG

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Incoming PhD Student in Electrical and Computer Engineering, Johns Hopkins University
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EDUCATION

- **Johns Hopkins University** *Aug. 2024 -*
  - PhD Student in Electrical and Computer Engineering
  - Supervisor: Prof. Enrique Mallada.

- **Tsinghua University** *Sept. 2021 - Jun. 2024*
  - M.S. in Electrical Engineering GPA: 3.84/4.00
  - Supervisors: Prof. Hongbin Sun, Prof. Xinwei Shen.
  - Course works: Distributed Control and Optimization of Power Systems (4.0), Large Network Steady-State Analysis (4.0), Learning from Data (4.0), Introduction of Smart Grid (4.0), etc.

- **University of California, Berkeley** *Aug. 2019 - Dec. 2019*
  - Exchange student
  - Course works: Introduction to Electric Power Systems, Optimization Models in Engineering, etc.

- **Beijing University of Chemical Technology** *Sept. 2017 - Jun. 2021*
  - B.S. in Automation, ranked 7/153 (top 5%) GPA: 88.73/100
  - Course works: Classical Control Theory (94), Modern Control Theory (95), Process Control Engineering (93), Optimal Control (91), General Physics (97), etc.

PUBLICATIONS

[1] **Zhimeng Wang**, Ang Xuan, Xinwei Shen, Yunfei Du, Hongbin Sun, "A robust planning model for offshore microgrid considering tidal power and desalination", *Applied Energy*, 2023, 350: 121713. [PDF][Slides]
- A two-stage robust model of an offshore microgrid considering tidal power generation and seawater desalination is proposed.
- Uncertainty set of tidal power generation is defined in terms of the tidal level.
- Scenarios with different tidal delay is simulated.
- Complementarity between tidal power generation and the other renewable energy sources is proved.

[2] Jiajia Huan, **Zhimeng Wang**, Yunfei Du, Xinwei Shen, Baihao Qiao, Chungeng He, Xiaodong Lan, Shuxin Luo, "Boundary Inference of Load Scenarios in Multi-energy Parks Based on Statistical Learning", *2023 5th International Conference on Power and Energy Technology (ICPET)*, Tianjin, China, 2023, pp. 1530-1535. [PDF][Slides]
- The paper was selected as the **"best student paper finalist"** and I delivered an **oral speech**.
- Proposed a method to determine boundary of uncertainty sets of load scenarios in robust optimization that requires no information about past data.

INDUSTRIAL PROJECTS

- **Research on Energy Efficiency Data Mining Technology for Multi-energy Complementary Park Planning** *Sept. 2021- Jun. 2023*
  - A cooperative project between China Southern Power Grid Guangdong Power Grid Co. LTD and Shenzhen International Graduate School, Tsinghua University.
  - The project focuses on giving benefit analysis of park-level integrated energy system transformation planning based on electricity substitution.
  - **My contributions**: **Conducted** the part of the project of providing boundary of uncertainty sets

of the load scenarios with no request for former data; **Submitted a patent** titled "Method, Device, Terminal Equipment, and Storage Medium for Determining the Load Boundary of Multi-energy Parks"; **Published a conference paper** titled "Boundary Inference of Load Scenarios in Multi-energy Parks Based on Statistical Learning"; **Drafted research reports**; Wrote part of the **back-end code** for the project software.

• **Research on Stochastic Programming Methods of Integrated Energy System Considering Operation** *Jun. 2021 - Sept. 2021*
◦ This is a cooperative project between Electric Power Research Institute, China Southern Power Grid and Shenzhen International Graduate School, Tsinghua University.
◦ The project focuses on providing integrated energy systems with a planning method while considering uncertainties in a stochastic programming manner.
◦ **My contributions**: **Wrote and debugged** the codes; **Drafted research reports**.

AWARDS AND SCHOLARSHIPS

• **First Class Scholarship**, Tsinghua University *Oct. 2023*
◦ Awarded to around top 2% students with best overall performance in the previous academic year.

• **Second Class Scholarship**, Tsinghua University *Oct. 2022*
◦ Awarded to around top 20% students with best overall performance in the previous academic year.

• **Beijing Outstanding Graduates**, Beijing Ministry of Education *Jun. 2021*
◦ Awarded to around top 5% of graduates.

• **Second Prize, National Physics Competition**, Beijing Physics Society *Dec. 2018*
◦ **Ranked number 1** among all the participants from my university.

EXTRACURRICULAR EXPERIENCES

• **Volunteer**, Tsinghua University *for multiple times*
◦ Alumni Association Board Logistics, Alumni Association Founding Meeting Logistics

MISCS

• **Programming Languages**
◦ MATLAB+YALMIP, Python, LaTeX

• **Professional Services**
◦ Reviewer for TPEC 2024, AEEES 2024, EI2 2023

• **Languages**
◦ Mandarin (native language), English (professional working proficiency, TOEFL 109, GRE 325+4.5)

• **Hobbies**
◦ Piano, badminton, tennis

Last updated: Jul. 6, 2024.