

Pengcheng You

📍 Xin'ao Engineering Building 2045, Peking University,
5 Yiheyuan Rd, Haidian District, Beijing, China, 100871

🌐 <https://pengcheng-you.github.io/desires-lab/>

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EDUCATION

Ph.D., Control Science and Engineering

Zhejiang University, Hangzhou, China

Sep. 2013 - Jun. 2018

B.S. with honors, Electrical Engineering

Zhejiang University, Hangzhou, China

Sep. 2009 - Jun. 2013

PRIMARY APPOINTMENTS

Assistant Professor, Dept. of Control Science and Systems Engineering

Peking University, Beijing, China

Jul. 2025 - Present

Assistant Professor, State Key Laboratory for Turbulence and Complex Systems

Peking University, Beijing, China

Apr. 2025 - Present

Assistant Professor, National Engineering Laboratory for Big Data Analysis and Applications

Peking University, Beijing, China

Dec. 2022 - Present

Assistant Professor, Dept. of Industrial Engineering and Management

Peking University, Beijing, China

Feb. 2022 - Jun. 2025

Lecturer, Engineering for Professionals Program

Johns Hopkins University, Baltimore, MD, US

Aug. 2021 - Dec. 2021

Postdoctoral Fellow, Depts. of Mechanical Engineering/Electrical and Computer Engineering

Johns Hopkins University, Baltimore, MD, US

Oct. 2018 - Dec. 2021

Research Intern, Data Sciences and Analytics Group

Pacific Northwest National Laboratory, Richland, WA, US

Oct. 2017 - Jan. 2018

Visiting Graduate Student, Dept. of Computing and Mathematical Sciences

California Institute of Technology, Pasadena, CA, US

Oct. 2016 - Oct. 2017

AWARDS

- Boya Young Fellow - Peking University 2025
- Excellent Teaching Team Award - Peking University (Engineering Data Analysis and Optimization Teaching Team) 2024
- Overseas Talent - China National Administrative Committee of Post-doctoral Researchers 2024
- Startrack Scholar - Microsoft Research Aisa 2023
- ACM e-Energy Student Travel Grant (10 awardees) 2018
- Sifang Scholarship - Zhejiang University 2017, 2016
- Outstanding Graduate Student - Zhejiang University 2017, 2016, 2015
- Chu Kochen Honors Bachelor Degree - Zhejiang University (~5% of graduates) 2013
- Excellent Student Scholarship - Chu Kochen Honors College, Zhejiang University 2012, 2010

Students' awards.....

- PKU Students of the Year Finalist (Final 20) - Zhuo Ouyang 2024
- National Scholarship - Zhuo Ouyang 2024

- National College Student Innovation & Entrepreneurship Development Program - Zijian Zhao 2024
- High-Quality Paper Award, Industrial Engineering Committee Annual Meeting of Chinese Society of Optimization, Overall Planning and Economic Mathematics - Zijian Zhao 2024
- Beijing Municipal NSF Qiyao Program for Undergraduates - Zhuo Ouyang 2024
- DTU PES Summer School Best Poster Award - Chengrui Qu 2024
- CDC'24 Student Travel Award and Workshop Support - Yingzhu Liu 2024
- Caltech Summer Undergraduate Research Fellowship (SURF) - Chengrui Qu 2024
- National Scholarship - Chengrui Qu 2023
- Dean's First-Class Scholarship - Kekun Gao 2023
- NSFC 1st Youth Student Basic Research Grant - Chengrui Qu 2023

TEACHING

Instructor.....

- Probability and Statistics *Peking University, Fall 2025*
- Advanced Operations Research *Peking University, Spring 2025*
- Probability and Statistics *Peking University, Fall 2024*
- Foundations of Reinforcement Learning *Peking University, Spring 2024*
- Probability and Statistics *Peking University, Fall 2023*
- Advanced Operations Research *Peking University, Spring 2023*
- Foundations of Reinforcement Learning *Peking University, Fall 2022*
- Foundations of Reinforcement Learning *Johns Hopkins University, Fall 2021*

Teaching assistant.....

- Energy System Analysis *Johns Hopkins University, Spring 2021*
- Analytical Methods for Network Congestion Control *Zhejiang University, Summer 2016*
- Power Systems Analysis *Zhejiang University, Summer 2015*
- Linear Systems Analysis *Zhejiang University, Fall 2013*

Teaching reform project.....

- Probability and Statistics - College of Engineering, Peking University 2024
– Outstanding Completed Project

PROJECTS

Grants awarded.....

1. **State Grid:** *Data-Driven Methods for Solving Power Flows: Key Techniques and Pilot Application*, 2026-2027
2. **NSFC:** *Multi-Scale Optimization with Uncertainty and Its Application in Industrial Park Energy System Optimization*, 2025-2029
3. **PKU Office of International Relations:** *Advancing Sustainable Transportation: Battery Degradation-Aware Electric Vehicle Charging for Net Zero*, 2024
4. **Overseas Talent Program:** *Enabling Integration of Distributed Energy Resources via Redesign of Power Grid Information and Management Architecture*, 2024-2026
5. **State Grid Research Project:** *Trustworthy AI for Power System Dispatch*, 2024-2025
6. **Ali Cloud & Damo Academy Research Project:** *Carbon Emission Constrained Optimization for Multi-Scale Economic Operation and Electricity Trading Strategy of Data Centers*, 2023-2024
7. **166 Research Project:** *Machine Learning Enabled Algorithms for Complex Strategic Resource Scheduling*, 2022-2024
8. **Huawei Cloud Research Project:** *Modeling, Simulation, Evaluation, and Causal Analysis of Resource*

Management Platform for Huawei Public Cloud IaaS Service, 2022-2023

9. **NSFC (72201007): Digital Twin Driven Management for Electric Vehicle Charging: Evaluation and Realization of Its Economic Values**, 2023-2025
10. **PKU Emerging Engineering Interdisciplinary Project: Incentive Analysis for Coupled Participation in Electricity and Carbon Markets**, 2022
11. **PKU College of Engineering Startup Fund: Data-Driven Modeling, Analysis and Design for Electricity Markets**, 2022-2024

Grants as main contributor

1. **NSF CPS Medium (2136324): Enabling DER Integration via Redesign of Information Flows**, 2021-2024
2. **NSFC (61973163): Countermeasures for Deception Attack on Networked Control Systems**, 2020-2023
3. **JHU Discovery Award: A Data-Driven Approach to Electricity Market Design**, 2019-2021
4. **NSF (1711188): An Optimization Decomposition Framework for Principled Multi-Timescale Market Design and Co-Optimization**, 2017-2020
5. **DOE (DE-EE0008006): Robust and resilient coordination of feeders with uncertain distributed energy resources: from real-time control to long-term planning**, 2017-2020

FULL PUBLICATIONS

(Underlined include students or postdocs advised.)

Preprints

1. P. You, M. A. Fernandez, D. F. Gayme, and E. Mallada. **The Role of Strategic Participants in Two-Stage Settlement Electricity Markets**.

Book chapters

1. P. You. **Scheduling of EV Battery Swapping in Microgrid**. Book chapter in *Distributed Control Methods and Cyber Security Issues in Microgrids* (Editors: X. Wang, W. Meng, S. Liu; ISBN: 978-0-12-816946-9), pp. 203-241, Elsevier Academic Press, 2020

Journals

1. Z. Zhao, Y. Qiu, and P. You. **From Ambiguity to Transparency: Blockchain-Enabled Origin Traceability for Premium Agricultural Product**. *Transportation Research Part E*, accepted
2. P. You, Y. Jiang, E. Yeung, D. F. Gayme, and E. Mallada. **On the Stability, Economic Efficiency and Incentive Compatibility of Electricity Market Dynamics**. *IEEE Transactions on Automatic Control*, accepted
3. T. Zheng, N. Loizou, P. You, and E. Mallada. **Dissipative Gradient Descent Ascent Method: A Control Theory Inspired Algorithm for Min-max Optimization**. *IEEE Control Systems Letters (L-CSS)*, vol. 8, pp. 2009-2014, Jun. 2024
4. L. Mo, X. Li, A. Kritikakou, and P. You. **Optimal IC Task Mapping to Maximize QoS on Heterogeneous Multicore Systems**. *IEEE Transactions on Circuits and Systems II: Express Briefs*, vol. 71, no. 4, pp. 2019-2023, Apr. 2024
5. R. Chen, Z. Liang, J. Cheng, P. You, and Z. Yang. **Multi-Agent Cooperative Motion Planning based on Alternating Direction Method of Multipliers**. *IEEE Control Systems Letters (L-CSS)*, vol. 7, pp. 3307-3312, Oct. 2023
6. R. K. Bansal, Y. Chen, P. You, and E. Mallada. **Market Power Mitigation in Two-stage Electricity Market with Supply Function and Quantity Bidding**. *IEEE Transactions on Energy Markets, Policy and Regulation*, vol. 1, no. 4, pp. 512-522, Dec. 2023
7. R. K. Bansal, P. You, D. F. Gayme, and E. Mallada. **A Market Mechanism for Truthful Bidding with Energy Storage**. *Electric Power Systems Research*, vol. 211, 108284, Oct. 2022
8. R. Pates, A. Ferragut, E. Pivo, P. You, F. Paganini, and E. Mallada. **Respect the Unstable: Delays**

and Saturation in Contact Tracing for Disease Control. *SIAM Journal on Control and Optimization*, vol. 60, no. 2, pp. S196-S220, Mar. 2022

9. J. Sun, S. Chen, P. You, Q. Yang, and Z. Yang. **Battery-Assisted Online Operation of Distributed Data Centers with Uncertain Workload and Electricity Prices.** *IEEE Transactions on Cloud Computing*, vol. 11, no. 2, pp. 1303-1314, Jun. 2023
10. M. Almassalkhi, *et al.* **Hierarchical, Grid-Aware, and Economically Optimal Coordination of Distributed Energy Resources in Realistic Distribution Systems.** *Energies*, vol. 13, no. 23, 6399, Dec. 2020
11. H. Yang, P. You, and C. Shang. **Distributed Planning of Electricity and Natural Gas Networks and Energy Hubs.** *Applied Energy*, vol. 282, Part A, 116090, Jan. 2021
12. P. You, J. Z.F. Pang, and S. H. Low. **Online Station Assignment for Electric Vehicle Battery Swapping.** *IEEE Transactions on Intelligent Transportation Systems*, vol. 23, no. 4, pp. 3256-3267, Apr. 2022
13. L. Mo, P. You, X. Cao, and Y.-Q. Song. **Event-Driven Joint Mobile Actuators Scheduling and Control in Cyber-Physical Systems.** *IEEE Transactions on Industrial Informatics*, vol. 15, no. 11, pp. 5877-5891, Nov. 2019
14. Z. Yang, T. Guo, P. You, Y. Hou, and S. J. Qin. **Distributed Approach for Temporal-Spatial Charging Coordination of Plug-in Electric Taxi Fleet.** *IEEE Transactions on Industrial Informatics*, vol. 15, no. 6, pp. 3185-3195, Jun. 2019
15. Y. Zhang, P. You, and L. Cai. **Optimal Charging Scheduling by Pricing for EV Charging Station with Dual Charging Modes.** *IEEE Transactions on Intelligent Transportation Systems*, vol. 20, no. 9, pp. 3386-3396, Sep. 2019
16. P. You, S. H. Low, L. Zhang, R. Deng, G. B. Giannakis, Y. Sun, and Z. Yang. **Scheduling of EV Battery Swapping, II: Distributed Solutions.** *IEEE Transactions on Control of Network Systems*, vol. 5, no. 4, pp. 1920-1930, Dec. 2018
17. P. You, S. H. Low, W. Tushar, G. Geng, C. Yuen, Z. Yang, and Y. Sun. **Scheduling of EV Battery Swapping, I: Centralized Solution.** *IEEE Transactions on Control of Network Systems*, vol. 5, no. 4, pp. 1887-1897, Dec. 2018
18. Y. Zhou, D. K.Y. Yau, P. You, and P. Cheng. **Optimal-Cost Scheduling of Electrical Vehicle Charging under Uncertainty.** *IEEE Transactions on Smart Grid*, vol. 9, no. 5, pp. 4547-4554, Sep. 2018
19. H. Ma, Z. Yang, P. You, and M. Fei. **Multi-objective Biogeography-based Optimization for Dynamic Economic Emission Load Dispatch Considering Plug-in Electric Vehicles Charging.** *Energy*, vol. 135, pp. 101-111, Sep. 2017
20. P. You, Z. Yang, Y. Zhang, S. H. Low, and Y. Sun. **Optimal Charging Schedule for a Battery Switching Station Serving Electric Buses.** *IEEE Transactions on Power Systems*, vol. 31, no. 5, pp. 3473-3483, Sep. 2016
21. P. You, Z. Yang, M.-Y. Chow, and Y. Sun. **Optimal Cooperative Charging Strategy for a Smart Charging Station of Electric Vehicles.** *IEEE Transactions on Power Systems*, vol. 31, no. 4, pp. 2946-2956, Jul. 2016
22. Z. Yang, R. Wu, J. Yang, K. Long, and P. You. **Economical Operation of Microgrid with Various Devices via Distributed Optimization.** *IEEE Transactions on Smart Grid*, vol. 7, no. 2, pp. 857-867, Mar. 2016
23. Z. Yang, K. Long, P. You, and M.-Y. Chow. **Joint Scheduling of Large-Scale Appliances and Batteries via Distributed Mixed Optimization.** *IEEE Transactions on Power Systems*, vol. 30, no. 4, pp. 2031-2040, Jul. 2015

Conference proceedings.....

1. Y. Liu, Y. Liu, and P. You. **Coherency Analysis in Nonlinear Heterogeneous Power Networks: A Blended Dynamics Approach.** *ACM e-Energy*, Banff, Canada, 2026

2. C. Qu, H. Jia, and P. You. **Decision-Dependent Distributionally Robust Optimization with Application to Dynamic Pricing.** *IEEE Conference on Decision and Control (CDC)*, Rio de Janeiro, Brazil, 2025
3. K. Mukhi, C. Qu, P. You, and A. Abate. **Distributionally Robust Aggregation of Electric Vehicle Flexibility.** *ACM International Conference on Hybrid Systems: Computation and Control (HSCC)*, Irvine, USA, 2025
4. R. Liu, Y. Pan, L. Xu, L. Song, P. You, Y. Chen, and J. Bian. **Efficient Discovery of Pareto Front for Multi-Objective Reinforcement Learning.** *International Conference on Learning Representations (ICLR)*, Singapore, 2025
5. C. Qu, L. Shi, K. Panaganti, P. You, and A. Wierman. **Hybrid Transfer Reinforcement Learning: Provable Sample Efficiency From Shifted-Dynamics Data.** *International Conference on Artificial Intelligence and Statistics (AISTATS)*, Phuket, Thailand, 2025 (Oral, 2%)
6. Y. Liu, E. Mallada, Z. Li, and P. You. **Accelerated Saddle Flow Dynamics for Bilinearly Coupled Minimax Problems.** *IEEE Conference on Decision and Control (CDC)*, Milan, Italy, 2024
7. H. Xu, E. Liu, and P. You. **Statistically Feasible Mixed-Integer Programming for Integrated Energy System Scheduling.** *IEEE Conference on Energy Internet and Energy System Integration*, Shenyang, China, 2024
8. Y. Qiu, P. You, and Z. Zhao. **Reserve or Not? Ordering Emergency Supplies from an Opportunistic Supplier Facing Yield and Demand Uncertainties.** *INFORMS MSOM Conference*, Twin Cities, US, 2024
9. K. Gao, Y. Yan, Y. Liu, E. Liu, and P. You. **Online Electricity Purchase for Data Center with Dynamic Virtual Battery from Flexibility Aggregation.** *Youth Academic Annual Conference of Chinese Association of Automation (YAC)*, Dalian, China, 2024
10. H. Zhao, Y. Yan, E. Liu, and P. You. **A Data-Driven Simulator for Flexible Electric Vehicle Charging: Framework, Model, and Algorithm.** *International Conference on Automation Science and Engineering (CASE)*, Auckland, New Zealand, 2023
11. T. Zheng, P. You, and E. Mallada. **Constrained Reinforcement Learning via Dissipative Saddle Flow Dynamics.** *Asilomar Conference on Signals, Systems, and Computers*, Pacific Grove, US, 2022
12. R. K. Bansal, Y. Chen, P. You, and E. Mallada. **Intercept Bidding in Two-stage Settlement Electricity Markets.** *ACM e-Energy*, Virtual Event, 2022
13. R. K. Bansal, P. You, D. F. Gayme, and E. Mallada. **A Market Mechanism for Truthful Bidding with Energy Storage.** *Power Systems Computation Conference (PSCC)*, Porto, Portugal, 2022
14. K. Lin, B. Wang, and P. You. **Mechanism Design for Efficient Nash Equilibrium in Oligopolistic Markets.** *Hawaii International Conference on System Sciences (HICSS)*, Maui Island, US, 2022
15. P. You, and E. Mallada. **Saddle Flow Dynamics: Observable Certificates and Separable Regularization.** *American Control Conference (ACC)*, New Orleans, US, 2021
16. R. K. Bansal, P. You, D. F. Gayme, and E. Mallada. **Storage Degradation Aware Economic Dispatch.** *American Control Conference (ACC)*, New Orleans, US, 2021
17. P. You, D. F. Gayme, and E. Mallada. **The Role of Strategic Load Participants in Two-Stage Settlement Electricity Markets.** *IEEE Conference on Decision and Control (CDC)*, Nice, France, 2019
18. H. Fan, P. You, Z. Guo, S. Chen, and Z. Yang. **Online Pricing Mechanism for Electric Vehicles Charging Based on Operational Condition of A Charging Station.** *Chinese Control Conference (CCC)*, Guangzhou, China, 2019
19. H. Fan, S. Chen, Z. Guo, P. You, and Z. Yang. **Coordinated Scheduling Strategy of Charging Station Considering Cost and Efficiency.** *IEEE International Conference on Control & Automation (ICCA)*, Edinburgh, Scotland, 2019
20. P. You*, J. Z.F. Pang*, and E. Yeung*. **Deep Koopman Controller Synthesis for Cyber-Resilient Market-Based Frequency Regulation (*all authors contributed equally).** *IFAC Symposium on Control of Power and Energy Systems (CPES)*, Tokyo, Japan, 2018

21. P. You, J. Z.F. Pang, and E. Yeung. **Stabilization of Power Networks via Market Dynamics**. *ACM e-Energy*, Karlsruhe, Germany, 2018
22. P. You, J. Z.F. Pang, S. H. Low, and P. Cheng. **Efficient Online Station Assignment for EV Battery Swapping** (poster abstract). *ACM e-Energy*, Karlsruhe, Germany, 2018
23. X. Liu, P. You, and Z. Yang. **Bilaterally Open Electricity Markets with High Penetration of Renewables**. *IEEE International Conference on Control & Automation (ICCA)*, Anchorage, US, 2018
24. Z. Yu, P. You, and Z. Yang. **Residential Load Reduction Scheduling with Optimal Power Flow and Segmented Incentives**. *IEEE PES General Meeting*, Portland, US, 2018
25. J. Z.F. Pang, P. You, and M. Chen. **The Role of Information in Temporally Networked Cournot Markets: Second Chance in Power Markets**. *Hawaii International Conference on System Sciences (HICSS)*, Hawaii, US, 2018
26. P. You, J. Z.F. Pang, M. Chen, S. H. Low, and Y. Sun. **Battery Swapping Assignment for Electric Vehicles: A Bipartite Matching Approach**. *IEEE Conference on Decision and Control (CDC)*, Melbourne, Australia, 2017
27. H. Ma, P. You, K. Liu, Z. Yang, and M. Fei. **Optimal Battery Charging Strategy Based on Complex System Optimization**. *International Conference on Intelligent Computing for Sustainable Energy and Environment (ICSEE)*, Nanjing, China, 2017
28. P. You, Y. Sun, J. Z.F. Pang, S. H. Low, and M. Chen. **Battery Swapping Assignment for Electric Vehicles: A Bipartite Matching Approach** (extended abstract). *Greenmetrics*, Urbana-Champaign, US, 2017
29. T. Guo, P. You, and Z. Yang. **Recommendation of Geo-Distributed Charging Stations for EVs: A Game Theoretical Approach**. *IEEE PES General Meeting*, Chicago, US, 2017
30. H. Ma, Z. Yang, P. You, and M. Fei. **Complex System Optimization for Economic Emission Load Dispatch**. *International Conference on Control*, Belfast, Northern Ireland, UK, 2016
31. E. Liu, P. You, and P. Cheng. **Optimal Privacy-Preserving Load Scheduling in Smart Grid**. *IEEE PES General Meeting*, Boston, US, 2016
32. P. You, S. H. Low, Z. Yang, Y. Zhang, and L. Fu. **Real-Time Recommendation Algorithm of Battery Swapping Stations for Electric Taxis**. *IEEE PES General Meeting*, Boston, US, 2016
33. L. Mo, P. You, X. Cao, Y.-Q. Song, and J. Chen. **Decentralized Multi-Charger Coordination for Wireless Rechargeable Sensor Networks**. *International Performance Computing and Communications Conference (IPCCC)*, Nanjing, China, 2015
34. P. You, Z. Yang, and Y. Zhang. **Efficient Battery Charging Schedule of Battery-Swapping Station for Electric Buses**. *European Control Conference (ECC)*, Linz, Austria, 2015
35. P. You, and Z. Yang. **Efficient Optimal Scheduling of Charging Station with Multiple Electric Vehicles via V2V**. *IEEE SmartGridComm*, Venice, Italy, 2014

PATENTS

Resource Configuration Methodology and System for Cloud Service Management Platform
China, granted in 2024

MENTORSHIP

Advisor.....	
Yang Hu	Peking University
<i>Master student since 2025</i>	
Yixuan Yu	Peking University
<i>Ph.D. student since 2024</i>	

Yixuan Liu <i>Ph.D. student since 2024</i>	Peking University
Hengxing Zhao <i>Ph.D. student since 2023</i>	Peking University
Shufan Yu <i>Master student since 2023</i>	Peking University
Hanjiang Lin <i>Master student since 2023</i>	Peking University
Zijian Zhao <i>Ph.D. student since 2022, co-advised with Yunzhe Qiu</i>	Peking University
Yuke Zhou <i>Ph.D. student since 2022, co-advised with Jie Song</i>	Peking University
Yingzhu Liu <i>Ph.D. student since 2022, co-advised with Zhongkui Li</i>	Peking University
Huilan Xu <i>M.Eng, Sep. 2022 - Jun. 2025</i> Thesis: Data-Driven Robust Scheduling of Integrated Energy System	Peking University <i>Next hop: China Southern Power Grid</i>
Kekun Gao <i>M.Eng, Sep. 2022 - Jun. 2025</i> Thesis: Multi Timescale Electricity Trading Decision-Making for Low-Carbon Data Centers	Peking University <i>Next hop: General Office of Shandong Provincial People's Government</i>
Co-mentor	
Rajni Kant Bansal <i>Ph.D. 2023</i> Thesis: Efficiency and Market Power in Electricity Markets with Inelastic Demand, Energy Storage, and Hybrid Energy Resources	Johns Hopkins University <i>Next hop: Postdoc @UCSD</i>
Xianglu Liu <i>M.Sc. 2019</i> Thesis: Reformed Electricity Market with Deep Penetration of Renewables	Zhejiang University <i>Next hop: State Grid</i>
Ziwen Yu <i>M.Sc. 2018</i> Thesis: Experimental Testbed and Optimal Load Scheduling for Demand Response Management in Smart Grid	Zhejiang University <i>Next hop: Hikvision</i>
Tianci Guo <i>M.Sc. 2017</i> Thesis: Joint Temporal-Spatial Coordination of Charging Decision of Plug-in Electric Taxi Fleet	Zhejiang University <i>Next hop: Huawei</i>
Host	
Jiayi Li <i>Undergraduate since Sep. 2025</i>	Peking University
Zhuo Ouyang <i>Undergraduate since Jul. 2024</i>	Peking University
Chengrui Qu <i>Undergraduate, Mar. 2023 - Jul. 2025</i> Thesis: Hybrid Transfer Reinforcement Learning: Provable Sample Efficiency From Shifted-Dynamics Data	Peking University <i>Next hop: Ph.D. student at Caltech</i>
Yixuan Wang <i>Undergraduate, Jun. 2023 - Aug. 2024</i>	Peking University <i>Next hop: Master student at Peking University</i>
Endong Liu	Heze College

Visiting scholar, Aug. 2022 - Jul. 2024

Yi Yan

Peking University

Undergraduate, Sep. 2022 - Jun. 2024

Next hop: Master student at National University of Singapore

Xiwen Huang

Peking University

Research assistant, Aug. 2022 - Jul. 2023

Next hop: Ph.D. student at Imperial College London

Hengxing Zhao

Peking University

Undergraduate, May 2022 - Jun. 2023

Next hop: Ph.D. student at Peking University

Fuyi Li

Peking University

Undergraduate, Jul. 2022 - Feb. 2023

Next hop: Ph.D. student at Peking University

Ruishuang Chen

Southern University of Science and Technology

Visiting student, Aug. 2022 - Nov. 2022

ACADEMIC ACTIVITIES

Community service.....

- Technical committee
 - 1. TC on Embodied AI, Chinese Association of Automation 2024 - Present
 - 2. TC on Energy Systems, IEEE Control Systems Society 2023 - Present
- Summer school
 - 1. 1st Graduate Summer School on Data and OR Intelligence @Peking University Jul. 2025

Editorial board.....

- Guest editor
 - 1. Frontiers in Energy Research 2022
Special Issue on AI, Data Analytics, and Mechanism Design for DER Integration Toward Net Zero

Conference organization.....

- Session chair
 - 1. Conference on Fully Actuated System Theory and Applications May 2024
Towards Next-Gen Power and Energy Systems
 - 2. POMS International Conference in China Jun. 2022
Data-Driven Operations Management
 - 3. SIAM Conference on Control and Its Applications Jul. 2021
Analysis and Control of Nonlinear Systems
 - 4. Conference on Information Sciences and Systems Mar. 2021
*Power System Control, Optimization and Economics I & II
Systems and Control*
 - 5. Conference on Information Sciences and Systems Mar. 2019
Security and Privacy
- TPC member
 - 1. PowerUp Sep. 2026
 - 2. ACM e-Energy Jun. 2026
 - 3. IEEE International Conference on Communications, Control, and Computing Technologies for Smart Grids Nov. 2023
 - 4. IEEE Global Communications Conference Dec. 2023
 - 5. IEEE Global Communications Conference Dec. 2022
 - 6. IEEE International Conference on Communications, Control, and Computing Technologies for Smart Grids Oct. 2022
 - 7. IEEE Global Communications Conference Dec. 2021

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| 8. Conference on Information Sciences and Systems | Mar. 2021 |
| 9. International Workshop on Cyberspace Security | Dec. 2020 |

Dissertation Committee.....

- | | |
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| • Xinming Wang, Peking University | May 2025 |
| <i>Transfer Learning Methods based on Gaussian Process</i> | |
| • Xinming Han, Peking University | May 2025 |
| <i>Cloud Computing Resource Scheduling based on Robust Optimization</i> | |
| • Chenbei Lu, Tsinghua University | May 2025 |
| <i>Sample-Based Decision-Making Framework for Uncertainty-Aware Power System Operations</i> | |
| • Ruiyang Jin, Peking University | Jun. 2024 |
| <i>Modeling and Optimization of Multi-Agent Systems on Demand Side in Power Systems</i> | |
| • Jiayuan Wu, Peking University | Jun. 2024 |
| <i>Structured Non-Convex Optimization Theory and Algorithms</i> | |
| • Nan Gu, Tsinghua University | May 2024 |
| <i>Effective Decision-Making for an Active Power Distribution Network: Uncertainty Management and Mechanism Design</i> | |
| • Rajni K. Bansal, Johns Hopkins University | Aug. 2023 |
| <i>Efficiency and Market Power in Electricity Markets with Inelastic Demand, Energy Storage, and Hybrid Energy Resources</i> | |
| • Yongkang Ding, Peking University | May 2023 |
| <i>Deep Reinforcement Learning-Based Optimization Control Method for Mobile Energy Storage Systems</i> | |
| • Jiasheng Zhang, Tsinghua University | May 2023 |
| <i>Empowerment Mechanism Design for Power System Flexibility in the Context of Carbon Neutrality</i> | |
| • Jingshi Cui, Tsinghua University | May 2023 |
| <i>Operation Framework Evolution Research for Electricity Balancing Market Based on Market Entity's Participating Modes</i> | |
| • Fan Zhang, Peking University | May 2022 |
| <i>Decision-Making Optimization of Data-Driven Complex Stochastic Systems</i> | |

Peer review.....

- Journal: Nature Communications, TAC, TCNS, TCST, TPS, TSG, TSE, TITS, TIE, TII, TPDS, TECS, Automatica, IEEE L-CSS, IEEE Systems Journal, IEEE Network, etc.
- Conference: ACM e-Energy, ACC, CDC, PSCC, CISS, PESGM, SmartGridComm, Globecom, etc.

Short visits.....

- California Institute of Technology, Dept. of Computing and Mathematical Sciences, Pasadena, California, US, Jun. 2023
- University of California San Diego, Dept. of Electrical and Computer Engineering, San Diego, California, US, Jun. 2023
- Microsoft Research Asia, Machine Learning Group, Beijing, China, Apr. 2023 - Jul. 2023
- Southern University of Science and Technology, Dept. of Mechanical and Energy Engineering, Shenzhen, China, Jul. 2018 - Sep. 2018
- Chinese University of Hong Kong, Dept. of Information Engineering, Hong Kong, China, May 2018
- Chinese University of Hong Kong-Shenzhen, School of Science and Engineering, Shenzhen, China, Sep. 2016
- Singapore University of Technology and Design, Engineering Product Development Pillar, Singapore, Nov. 2015 - Feb. 2016

TALKS

Conference and workshop presentations.....

- “AI for Power System Operation”, Forum on Power System Big Data Analytics, Nanjing University of Information Science & Technology, Nanjing, China, Sep. 2025
- “Hybrid Transfer Reinforcement Learning: Provable Sample Efficiency from Shifted-Dynamics Data”, INFORMS International Conference, Singapore, Jul. 2025
- “Hybrid Transfer Reinforcement Learning: Provable Sample Efficiency from Shifted-Dynamics Data”, International Workshop on Green Control, School of Science and Engineering, The Chinese University of Hong Kong - Shenzhen, Shenzhen, China, Mar. 2025
- “Mechanism Designs for Efficiency and Incentive Compatibility in Electricity Markets: Emerging Technology and Strategic Participation”, Workshop on Power and Energy Systems of the (near) Future, Institute of High Performance Computing, ASTAR, Singapore, Dec. 2023
- “Saddle Flow Dynamics: Convergence, Algorithms, and Application to Constrained Reinforcement Learning”, Young Scholar Workshop, Department of Automation, Shanghai Jiao Tong University, Shanghai, China, Mar. 2023
- “Saddle Flow Dynamics: Convergence, Algorithms, and Applications”, MSRA StarTrack Program Workshop, Microsoft Research Asia, Beijing, China, Nov. 2022
- “Saddle Flow Dynamics: Convergence, Algorithms, and Applications”, PKU Workshop on Operations Research and Machine Learning, Peking University, Beijing, China, Nov. 2022
- “Bidding Mechanisms and Incentive Analysis for Temporally-Coupled Electricity Markets”, INFORMS Annual Meeting, Anaheim, California, US, Oct. 2021
- “Saddle Flow Dynamics: Observable Certificates and Separable Regularization”, SIAM Conference on Control and Its Applications (CT), Spokane, Washington, US, July 2021
- “Saddle Flow Dynamics: Observable Certificates and Separable Regularization”, IEEE American Control Conference (ACC), New Orleans, Louisiana, US, May 2021
- “The Role of Strategic Participants in Two-stage Settlement Electricity Markets”, INFORMS Annual Meeting, Washington D.C., US, Nov. 2020
- “On Stability and Economic Efficiency of Electricity Market Dynamics”, INFORMS Annual Meeting, Washington D.C., US, Nov. 2020
- “The Role of Strategic Load Participants in Two-Stage Settlement Electricity Markets”, IEEE Conference on Decision and Control (CDC), Nice, France, Dec. 2019
- “The Role of Strategic Load Participants in Two-Stage Settlement Electricity Markets”, Trans-Atlantic Infraday Conference, Washington, D.C., US, Oct. 2019
- “Deep Koopman Controller Synthesis for Cyber-Resilient Market-Based Frequency Regulation” (E. Yeung presented), IFAC Symposium on Control of Power and Energy Systems (CPES), Tokyo, Japan, Sep. 2018
- “Stabilization of Power Networks via Market Dynamics”, ACM e-Energy, Karlsruhe, Germany, Jun. 2018
- “Online Station Assignment for EV Battery Swapping” (J. Z.F. Pang presented), IEEE Conference on Decision and Control (CDC), Melbourne, Australia, Dec. 2017
- “Online Station Assignment for EV Battery Swapping”, Greenmetrics, Urbana-Champaign, Illinois, US, Jun. 2017
- “Optimal Charging Schedule for a Battery Switching Station Serving Electric Buses”, IEEE PES General Meeting, Boston, Massachusetts, US, Jul. 2016
- “Joint Scheduling of Large-Scale Appliances and Batteries via Distributed Mixed Optimization”, IEEE PES General Meeting, Denver, Colorado, US, Jul. 2015
- “Efficient Battery Charging Schedule of Battery-Swapping Station for Electric Buses”, European Control Conference (ECC), Linz, Austria, Jul. 2015
- “Efficient Optimal Scheduling of Charging Station with Multiple Electric Vehicles via V2V”, IEEE

SmartGridComm, Venice, Italy, Nov. 2014

Seminar presentations.....

- “Mechanism Designs for Efficiency and Incentive Compatibility in Electricity Markets: Emerging Technology and Strategic Participation”, School of Science and Engineering, The Chinese University of Hong Kong - Shenzhen, Shenzhen, China, Jan. 2024
- “Saddle Flow Dynamics: Convergence, Algorithms, and Applications”, School of Data Science, The Chinese University of Hong Kong - Shenzhen, Shenzhen, China, Jan. 2024
- “Mechanism Designs for Efficiency and Incentive Compatibility in Electricity Markets: Emerging Technology and Strategic Participation”, School of System Design and Intelligent Manufacturing, Southern University of Science and Technology, Shenzhen, China, Jan. 2024
- “Mechanism Designs for Efficiency and Incentive Compatibility in Electricity Markets: Emerging Technology and Strategic Participation”, College of Electrical Engineering, Zhejiang University, Hangzhou, China, Jan. 2024
- “Saddle Flow Dynamics: Convergence, Algorithms, and Applications”, College of Control Science and Engineering, Zhejiang University, Hangzhou, China, Jan. 2024
- “Saddle Flow Dynamics: Convergence, Algorithms, and Applications”, National Engineering Laboratory for Big Data Analysis and Applications, Peking University, Beijing, China, Jan. 2024
- “Exploiting Flexibility of Electric Vehicle Charging”, Microsoft Research Asia, Beijing, China, Jul. 2023
- “Saddle Flow Dynamics: Convergence, Algorithms, and Application to Constrained Reinforcement Learning”, Department of Computing and Mathematical Sciences, California Institute of Technology, Pasadena, California, US, Jun. 2023
- “Saddle Flow Dynamics: Convergence, Algorithms, and Application to Constrained Reinforcement Learning”, Department of Automation, Tsinghua University, Beijing, China, Apr. 2023
- “Saddle Flow Dynamics: Convergence, Algorithms, and Application to Constrained Reinforcement Learning”, AI Thrust, Hong Kong University of Science and Technology (Guangzhou), Guangzhou, China, Mar. 2023
- “Saddle Flow Dynamics: Convergence, Algorithms, and Application to Constrained Reinforcement Learning”, Department of Mechanical and Energy Engineering, Southern University of Science and Technology, Shenzhen, China, Jan. 2023
- “Saddle Flow Dynamics: Convergence, Algorithms, and Application to Constrained Reinforcement Learning”, School of Computer Engineering, Jiangsu Ocean University, Lianyungang, China, Dec. 2022
- “Incentive Analysis and Coordination Design for Multi-Timescale Markets”, Energy Seminar, Department of Environmental Health and Engineering, Johns Hopkins University, Baltimore, Maryland, US, Sep. 2021
- “Incentive Analysis and Coordination Design for Multi-Timescale Markets”, Tsinghua-Berkeley Shenzhen Institute, Shenzhen, China, Jul. 2021
- “Incentive Analysis and Coordination Design for Multi-Timescale Markets”, Department of Automation, Shanghai Jiao Tong University, Shanghai, China, May 2021
- “Incentive Analysis and Coordination Design for Multi-Timescale Markets”, Department of Industrial Engineering and Management, Peking University, Beijing, China, May 2021
- “Incentive Analysis and Coordination Design for Multi-Timescale Markets”, College of Smart Energy, Shanghai Jiao Tong University, Shanghai, China, Apr. 2021
- “Incentive Analysis and Coordination Design for Multi-Timescale Markets”, Center for Future Networks, BNU-HKBU United International College, Zhuhai, China, Apr. 2021
- “On Stability and Economic Efficiency of Electricity Market Dynamics”, International Forum of Excellent Young Talents in Engineering Sciences, Peking University, Beijing, China, Feb. 2021
- “On Stability and Economic Efficiency of Electricity Market Dynamics”, Global Scientist Interdis-

- ciplinary Online Forum, Southern University of Science and Technology, Shenzhen, China, Jan. 2021
- “On Stability and Economic Efficiency of Electricity Market Dynamics”, Vision Forum for International Young Scholars, Beijing University of Aeronautics and Astronautics, Beijing, China, Jan. 2021
 - “The Role of Strategic Load Participants in Two-Stage Settlement Electricity Markets”, School of Automation, Nanjing University of Science and Technology, Nanjing, China, Sep. 2019
 - “The Role of Strategic Load Participants in Two-Stage Settlement Electricity Markets”, School of Electrical Engineering, Southeast University, Nanjing, China, Sep. 2019
 - “The Role of Strategic Load Participants in Two-Stage Settlement Electricity Markets”, Department of Electrical Engineering, Shanghai Jiao Tong University, Shanghai, China, Aug. 2019
 - “The Role of Strategic Load Participants in Two-Stage Settlement Electricity Markets”, Department of Mechanical and Energy Engineering, Southern University of Science and Technology, Shenzhen, China, Aug. 2019
 - “The Role of Strategic Load Participants in Two-Stage Settlement Electricity Markets”, Department of Control Science and Engineering, Zhejiang University, Hangzhou, China, Jul. 2019
 - “The Role of Strategic Load Participants in Two-Stage Settlement Electricity Markets”, Shanghai Astronomical Observatory, Chinese Academy of Science, Shanghai, China, Jul. 2019
 - “The Role of Strategic Load Participants in Two-Stage Settlement Electricity Markets”, Department of Computer Science, Central South University, Changsha, China, Jul. 2019
 - “Scheduling of EV Battery Swapping”, Department of Electrical Engineering, Tsinghua University, Beijing, China, Jul. 2018
 - “Stabilization of Power Networks via Market Dynamics”, Department of Information Engineering, Chinese University of Hong Kong, Hong Kong, China, May 2018
 - “Scheduling of EV Battery Swapping”, School of Science and Engineering, Chinese University of Hong Kong-Shenzhen, Shenzhen, China, Sep. 2016
 - “Scheduling of EV Battery Swapping”, SYSU-CMU Joint Institute of Engineering, Sun Yat-sen University, Guangzhou, China, Sep. 2016

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