

Pengcheng You

📍 Xin'ao Engineering Building 2045, Peking University,
5 Yiheyuan Rd, Haidian District, Beijing, China, 100871
🌐 <https://pengcheng-you.github.io/desires-lab/>
✉️ pcyou@pku.edu.cn ☎ +86 (10) 6276 8229

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.....

- CDC'25 Student Travel Award - Chengrui Qu 2025
- PKU Outstanding Graduate - Chengrui Qu 2025

- 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 Qiyan 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. K. Gao*, Y. Yan*, Y. Zhou*, E. Liu, Z. Wang, and P. You. **Optimal Renewable Power Purchase Agreements for Data Centers**. *IEEE Transactions on Smart Grid*, accepted (*equal contributions)
2. Z. Zhao, Y. Qiu, and P. You. **From Ambiguity to Transparency: Blockchain-Enabled Origin Traceability for Premium Agricultural Product**. *Transportation Research Part E*, accepted
3. 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
4. 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
5. 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
6. 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
7. 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

8. 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
9. 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
10. 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
11. 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
12. 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
13. 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
14. 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
15. 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
16. 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
17. 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
18. 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
19. 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
20. 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
21. 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
22. 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
23. 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
24. 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

Master student since 2025

Peking University

Yixuan Yu

Ph.D. student since 2024

Peking University

Yixuan Liu

Ph.D. student since 2024

Peking University

Hengxing Zhao

Ph.D. student since 2023

Peking University

Shufan Yu

Master student since 2023

Peking University

Hanjiang Lin

Master student since 2023

Peking University

Zijian Zhao

Ph.D. student since 2022, co-advised with Yunzhe Qiu

Peking University

Yuke Zhou

Ph.D. student since 2022, co-advised with Jie Song

Peking University

Yingzhu Liu

Ph.D. student since 2022, co-advised with Zhongkui Li

Peking University

Huilan Xu

M.Eng, Sep. 2022 - Jun. 2025

Peking University

Thesis: Data-Driven Robust Scheduling of Integrated Energy System

Next hop: China Southern Power Grid

Kekun Gao

M.Eng, Sep. 2022 - Jun. 2025

Next hop: General Office of Shandong Provincial People's Government

Thesis: Multi Timescale Electricity Trading Decision-Making for Low-Carbon Data Centers

Co-mentor.....

Rajni Kant Bansal

Ph.D. 2023

Johns Hopkins University

Next hop: Postdoc @UCSD

Thesis: Efficiency and Market Power in Electricity Markets with Inelastic Demand, Energy Storage, and Hybrid Energy Resources

Xianglu Liu

M.Sc. 2019

Zhejiang University

Next hop: State Grid

Thesis: Reformed Electricity Market with Deep Penetration of Renewables

Ziwen Yu

M.Sc. 2018

Zhejiang University

Next hop: Hikvision

Thesis: Experimental Testbed and Optimal Load Scheduling for Demand Response Management in Smart Grid

Tianci Guo

M.Sc. 2017

Zhejiang University

Next hop: Huawei

Thesis: Joint Temporal-Spatial Coordination of Charging Decision of Plug-in Electric Taxi Fleet

Host.....

Jiayi Li

Undergraduate since Sep. 2025

Peking University

Zhuo Ouyang

Undergraduate since Jul. 2024

Peking University

Chengrui Qu	Peking University
<i>Undergraduate, Mar. 2023 - Jul. 2025</i>	<i>Next hop: Ph.D. student at Caltech</i>
Thesis: Hybrid Transfer Reinforcement Learning: Provable Sample Efficiency From Shifted-Dynamics Data	
Yixuan Wang	Peking University
<i>Undergraduate, Jun. 2023 - Aug. 2024</i>	<i>Next hop: Master student at Peking University</i>
Endong Liu	Heze College
<i>Visiting scholar, Aug. 2022 - Jul. 2024</i>	
Yi Yan	Peking University
<i>Undergraduate, Sep. 2022 - Jun. 2024</i>	<i>Next hop: Master student at National University of Singapore</i>
Xiwen Huang	Peking University
<i>Research assistant, Aug. 2022 - Jul. 2023</i>	<i>Next hop: Ph.D. student at Imperial College London</i>
Hengxing Zhao	Peking University
<i>Undergraduate, May 2022 - Jun. 2023</i>	<i>Next hop: Ph.D. student at Peking University</i>
Fuyi Li	Peking University
<i>Undergraduate, Jul. 2022 - Feb. 2023</i>	<i>Next hop: Ph.D. student at Peking University</i>
Ruishuang Chen	Southern University of Science and Technology
<i>Visiting student, Aug. 2022 - Nov. 2022</i>	

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

Dissertation Committee.....

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

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 Interdisciplinary 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

Last updated: Nov. 2025