# **Pengcheng You**

♥ Room 1003, Wangkezhen Building, Peking University,

5 Yiheyuan Rd, Haidian District, Beijing, China, 100871

https://pengcheng-you.github.io/desires-lab/

## **EDUCATION**

009 - Jun. 2013
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Assistant Professor, National Engineering Laboratory for Big Data Analysi	is and Applications
Peking University, Beijing, China	Dec. 2022 - Present
Assistant Professor, Dept. of Industrial Engineering and Management	
Peking University, Beijing, China	Feb. 2022 - Present
Lecturer, Engineering for Professionals Program	
Johns Hopkins University, Baltimore, MD, US	Aug. 2021 - Dec. 2021
Postdoctoral Fellow, Depts. of Mechanical Engineering/Electrical and Con	nputer 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 Science	es
California Institute of Technology, Pasadena, CA, US	Oct. 2016 - Oct. 2017

## AWARDS

Startrack Scholar, Microsoft Research Aisa	2023
<ul> <li>ACM e-Energy Student Travel Grant (10 awardees)</li> </ul>	2018
Sifang Scholarship, Zhejiang University	2017, 2016
<ul> <li>Outstanding Graduate Student, Zhejiang University</li> </ul>	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	
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 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
- Analytical Methods for Network Congestion Control
- Power Systems Analysis
- Linear Systems Analysis

## PROJECTS

#### Grants awarded

- 1. **Overseas Talent Program**: Enabling Integration of Distributed Energy Resources via Redesign of Power Grid Information and Management Architecture, 2024-2026
- 2. State Grid Research Project: Trustworthy AI for Power System Dispatch, 2024-2025
- 3. Ali Cloud & Damo Academy Research Project: Carbon Emission Constrained Optimization for Multi-Scale Economic Operation and Electricity Trading Strategy of Data Centers, 2023-2024
- 4. **166 Research Project**: *Machine Learning Enabled Algorithms for Complex Strategic Resource Scheduling*, 2022-2024
- 5. **Huawei Cloud Research Project**: *Modeling, Simulation, Evaluation, and Causal Analysis of Resource Management Platform for Huawei Public Cloud IaaS Service, 2022-2023*
- 6. **NSFC** (72201007): Digital Twin Driven Management for Electric Vehicle Charging: Evaluation and Realizaton of Its Economic Values, 2023-2025
- 7. **PKU Emerging Engineering Interdisciplinary Project**: *Incentive Analysis for Coupled Participation in Electricity and Carbon Markets*, 2022
- 8. **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. <u>P. You</u>, M. A. Fernandez, D. F. Gayme, and E. Mallda. **The Role of Strategic Participants in Two-Stage Settlement Electricity Markets**.
- 2. <u>P. You</u>, Y. Jiang, E. Yeung, D. F. Gayme, and E. Mallada. **On the Stability, Economic Efficiency and Incentive Compatibility of Electricity Market Dynamics**.

Book chapters

 <u>P. You</u>. 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

Johns Hopkins University, Spring 2021 Zhejiang University, Summer 2016 Zhejiang University, Summer 2015 Zhejiang University, Fall 2013 Journals.....

- 1. L. Mo, X. Li, A. Kritikakou, and <u>P. You</u>. **Optimal IC Task Mapping to Maximize QoS on Hetero**geneous Multicore Systems. *IEEE Transactions on Circuits and Systems II: Express Briefs*, accepted
- 2. R. Chen, Z. Liang, J. Cheng, <u>P. You</u>, and Z. Yang. Multi-Agent Cooperative Motion Planning based on Alternating Direction Method of Multipliers. *IEEE Control Systems Letters*, accepted
- <u>R. K. Bansal</u>, Y. Chen, <u>P. You</u>, 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, accepted
- 4. <u>R. K. Bansal, P. You</u>, D. F. Gayme, and E. Mallada. **A Market Mechanism for Truthful Bidding** with Energy Storage. *Electric Power Systems Research*, vol. 211, 108284, Oct. 2022
- R. Pates, A. Ferragut, E. Pivo, <u>P. You</u>, 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
- J. Sun, S. Chen, <u>P. You</u>, Q. Yang, and Z. Yang. Battery-Assisted Online Operation of Distributed Data Centers with Uncertain Workload and Electricity Prices. *IEEE Transactions on Cloud Computing*, accepted
- 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
- 8. H. Yang, <u>P. You</u>, and C. Shang. **Distributed Planning of Electricity and Natural Gas Networks and Energy Hubs**. *Applied Energy*, vol. 282, Part A, 116090, Jan. 2021
- 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
- L. Mo, <u>P. You</u>, 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
- Z. Yang, T. Guo, <u>P. You</u>, 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
- Y. Zhang, <u>P. You</u>, 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
- 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
- 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
- Y. Zhou, D. K.Y. Yau, <u>P. You</u>, 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
- H. Ma, Z. Yang, <u>P. You</u>, 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
- 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
- 18. 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

- Z. Yang, R. Wu, J. Yang, K. Long, and <u>P. You</u>. Economical Operation of Microgrid with Various Devices via Distributed Optimization. *IEEE Transactions on Smart Grid*, vol. 7, no. 2, pp. 857-867, Mar. 2016
- Z. Yang, K. Long, <u>P. You</u>, 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

- <u>H. Zhao</u>, <u>Y. Yan</u>, <u>E. Liu</u>, and <u>P. You</u>. 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
- 2. T. Zheng, <u>P. You</u>, and E. Mallada. **Constrained Reinforcement Learning via Dissipative Saddle Flow Dynamics**. *Asilomar Conference on Signals, Systems, and Computers,* Pacific Grove, US, 2022
- 3. <u>R. K. Bansal</u>, Y. Chen, <u>P. You</u>, and E. Mallada. Intercept Bidding in Two-stage Settlement Electricity Markets. *ACM e-Energy*, Virtual Event, 2022
- 4. <u>R. K. Bansal</u>, <u>P. You</u>, D. F. Gayme, and E. Mallada. **A Market Mechanism for Truthful Bidding** with Energy Storage. *Power Systems Computation Conference (PSCC)*, Porto, Portugal, 2022
- 5. <u>K. Lin</u>, B. Wang, and <u>P. You</u>. **Mechanism Design for Efficient Nash Equilibrium in Oligopolistic Markets**. *Hawaii International Conference on System Sciences (HICSS)*, Maui Island, US, 2022
- 6. <u>P. You</u>, and E. Mallada. Saddle Flow Dynamics: Observable Certificates and Separable Regularization. *American Control Conference (ACC)*, New Orleans, US, 2021
- 7. <u>R. K. Bansal, P. You</u>, D. F. Gayme, and E. Mallada. **Storage Degradation Aware Economic Dispatch**. *American Control Conference (ACC)*, New Orleans, US, 2021
- 8. <u>P. You</u>, 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
- H. Fan, <u>P. You</u>, 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
- H. Fan, S. Chen, Z. Guo, <u>P. You</u>, and Z. Yang. Coordinated Scheduling Strategy of Charging Station Considering Cost and Efficiency. *IEEE International Conference on Control & Automation* (*ICCA*), Edinburgh, Scotland, 2019
- <u>P. You</u>\*, 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
- 12. <u>P. You</u>, J. Z.F. Pang, and E. Yeung. **Stabilization of Power Networks via Market Dynamics**. *ACM e-Energy*, Karlsruhe, Germany, 2018
- 13. <u>P. You</u>, 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
- 14. X. Liu, <u>P. You</u>, and Z. Yang. Bilaterally Open Electricity Markets with High Penetration of Renewables. *IEEE International Conference on Control & Automation (ICCA)*, Anchorage, US, 2018
- 15. Z. Yu, <u>P. You</u>, and Z. Yang. Residential Load Reduction Scheduling with Optimal Power Flow and Segmented Incentives. *IEEE PES General Meeting*, Portland, US, 2018
- J. Z.F. Pang, <u>P. You</u>, 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
- 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

- H. Ma, <u>P. You</u>, 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
- <u>P. You</u>, 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
- 20. T. Guo, <u>P. You</u>, and Z. Yang. Recommendation of Geo-Distributed Charging Stations for EVs: A Game Theoretical Approach. *IEEE PES General Meeting*, Chicago, US, 2017
- 21. H. Ma, Z. Yang, <u>P. You</u>, and M. Fei. **Complex System Optimization for Economic Emission Load Dispatch**. *International Conference on Control*, Belfast, Northern Ireland, UK, 2016
- 22. E. Liu, <u>P. You</u>, and P. Cheng. **Optimal Privacy-Preserving Load Scheduling in Smart Grid**. *IEEE PES General Meeting*, Boston, US, 2016
- 23. <u>P. You</u>, 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
- L. Mo, <u>P. You</u>, 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
- 25. <u>P. You</u>, Z. Yang, and Y. Zhang. Efficient Battery Charging Schedule of Battery-Swapping Station for Electric Buses. *European Control Conference (ECC)*, Linz, Austria, 2015
- 26. <u>P. You</u>, and Z. Yang. Efficient Optimal Scheduling of Charging Station with Multiple Electric Vehicles via V2V. *IEEE SmartGridComm*, Venice, Italy, 2014

## MENTORSHIP

Advisor	
Hengxing ZhaoPek	ting University
Ph.D. student since 2023	
Shufan Yu Pek	king University
Master student since 2023	
Hanjiang Lin Pek	ing University
Master student since 2023	
Zijian Zhao Pek	ing University
Ph.D. student since 2022, co-advised with Yunzhe Qiu	
Yuke Zhou Pek	ing University
Ph.D. student since 2022, co-advised with Jie Song	с ,
Yingzhu Liu Pek	ing University
Ph.D. student since 2022, co-advised with Zhongkui Li	
Huilan Xu Pek	ing University
Master student since 2022	с ,
Kekun Gao Pek	ing University
Master student since 2022	с ,
Co-mentor	
Rajni Kant Bansal Johns Hopk	cins University
Ph.D. student since 2018	-
Research interest: Electricity Market Design for Storage	

Xianglu Liu M.Sc. 2019 Zhejiang University Next hop: State Grid Thesis: Reformed Electricity Market with Deep Penetration of Renewables Ziwen Yu **Zhejiang University** M.Sc. 2018 Next hop: Hikvision Thesis: Experimental Testbed and Optimal Load Scheduling for Demand Response Management in Smart Grid Tianci Guo **Zhejiang University** M.Sc. 2017 Next hop: Huawei Thesis: Joint Temporal-Spatial Coordination of Charging Decision of Plug-in Electric Taxi Fleet Host **Endong Liu** Heze College Visiting scholar since Aug. 2022 **Yixuan Wang Peking University** Undergraduate since Jun. 2023 Chengrui Qu **Peking University** Undergraduate since Mar. 2023 Yi Yan **Peking University** Undergraduate since Sep. 2022 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 Energy Systems, IEEE Control Systems Society	
Editorial board	
Guest editor	
1. Frontiers in Energy Research	2022
Special Issue on Transactive Energy	
Conference organization	
Session chair	
1. POMS International Conference in China	Jun. 2022
Data-Driven Operations Management	
2. SIAM Conference on Control and Its Applications	Jul. 2021
Analysis and Control of Nonlinear Systems	
3. Conference on Information Sciences and Systems	Mar. 2021
Power System Control, Optimization and Economics I & II	
Systems and Control	
4. Conference on Information Sciences and Systems	Mar. 2019
Security and Privacy	
• TPC member	

<ol> <li>IEEE International Conference on Communications, Control, and Computing Technoloc Smart Grids</li> <li>IEEE Global Communications Conference</li> <li>IEEE Global Communications Conference</li> <li>IEEE International Conference on Communications, Control, and Computing Technoloc Smart Grids</li> </ol>	ogies for ov. 2023 ec. 2023 ec. 2022 ogies for oct. 2022
5. IEEE Global Communications ConferenceD	ec. 2021
6. Conference on Information Sciences and Systems M	[ar. 2021
7. International Workshop on Cyberspace Security	<i>ec.</i> 2020
Dissertation Committee	• • • • •
• Rajni K. Bansal, Johns Hopkins University At Efficiency and Market Power in Electricity Markets with Inelastic Demand, Energy Storage, and Energy Resources	ug. 2023 l Hybrid
Yongkang Ding, Peking University	lay 2023
Deep Reinforcement Learning-Based Optimization Control Method for Mobile Energy Storage Sys	stems
• Jiasheng Zhang, Isinghua University N. Empowerment Mechanism Decion for Power System Elevibility in the Context of Carbon Neutrali	1ay 2023
<ul> <li>Impower ment Mechanism Design for Fower System Flexibility in the Context of Carbon Neutral</li> <li>Iingshi Cui Tsinghua University</li> </ul>	lav 2023
Operation Framework Evolution Research for Electricity Balancing Market Based on Market Participating Modes	Entity's
• Fan Zhang, Peking University N	lay 2022
• Fan Zhang, Peking University <i>Na</i> Decision-Making Optimization of Data-Driven Complex Stochastic Systems	lay 2022
Fan Zhang, Peking University     Decision-Making Optimization of Data-Driven Complex Stochastic Systems	lay 2022
<ul> <li>Fan Zhang, Peking University Decision-Making Optimization of Data-Driven Complex Stochastic Systems</li> <li>Peer review.</li> <li>Journal: Nature Communications, TAC, TCNS, TCST, TPS, TSG, TSE, TITS, TIE, TII, TPDS Automatica, IEEE L-CSS, IEEE Systems Journal, IEEE Network, etc.</li> <li>Conference: ACC, CDC, PSCC, CISS, PESGM, SmartGridComm, Globecom, etc.</li> </ul>	1ay 2022  5, TECS,
<ul> <li>Fan Zhang, Peking University <i>Decision-Making Optimization of Data-Driven Complex Stochastic Systems</i></li> <li>Peer review.</li> <li>Journal: Nature Communications, TAC, TCNS, TCST, TPS, TSG, TSE, TITS, TIE, TII, TPDS Automatica, IEEE L-CSS, IEEE Systems Journal, IEEE Network, etc.</li> <li>Conference: ACC, CDC, PSCC, CISS, PESGM, SmartGridComm, Globecom, etc.</li> </ul>	1ay 2022 5, TECS,
<ul> <li>Fan Zhang, Peking University Decision-Making Optimization of Data-Driven Complex Stochastic Systems</li> <li>Peer review.</li> <li>Journal: Nature Communications, TAC, TCNS, TCST, TPS, TSG, TSE, TITS, TIE, TII, TPDS Automatica, IEEE L-CSS, IEEE Systems Journal, IEEE Network, etc.</li> <li>Conference: ACC, CDC, PSCC, CISS, PESGM, SmartGridComm, Globecom, etc.</li> <li>Short visits.</li> <li>California Institute of Technology, Dept. of Computing and Mathematical Sciences, Pa California, US, Jun. 2023</li> <li>University of California San Diego, Dept. of Electrical and Computer Engineering. San</li> </ul>	1ay 2022 5, TECS, usadena,
<ul> <li>Fan Zhang, Peking University Decision-Making Optimization of Data-Driven Complex Stochastic Systems</li> <li>Peer review.</li> <li>Journal: Nature Communications, TAC, TCNS, TCST, TPS, TSG, TSE, TITS, TIE, TII, TPDS Automatica, IEEE L-CSS, IEEE Systems Journal, IEEE Network, etc.</li> <li>Conference: ACC, CDC, PSCC, CISS, PESGM, SmartGridComm, Globecom, etc.</li> <li>Short visits.</li> <li>California Institute of Technology, Dept. of Computing and Mathematical Sciences, Pa California, US, Jun. 2023</li> <li>University of California San Diego, Dept. of Electrical and Computer Engineering, Sar California, US, Jun. 2023</li> </ul>	Iay 2022 S, TECS, Isadena, n Diego,
<ul> <li>Fan Zhang, Peking University Decision-Making Optimization of Data-Driven Complex Stochastic Systems</li> <li>Peer review.</li> <li>Journal: Nature Communications, TAC, TCNS, TCST, TPS, TSG, TSE, TITS, TIE, TII, TPDS Automatica, IEEE L-CSS, IEEE Systems Journal, IEEE Network, etc.</li> <li>Conference: ACC, CDC, PSCC, CISS, PESGM, SmartGridComm, Globecom, etc.</li> <li>Short visits.</li> <li>California Institute of Technology, Dept. of Computing and Mathematical Sciences, Pa California, US, Jun. 2023</li> <li>University of California San Diego, Dept. of Electrical and Computer Engineering, Sar California, US, Jun. 2023</li> <li>Microsoft Research Asia, Machine Learning Group, Beijing, China, Apr. 2023 - Jul. 2023</li> <li>Southern University of Science and Technology, Dept. of Mechanical and Energy Engin Shenzhen, China, Jul. 2018 - Sep. 2018</li> </ul>	Iay 2022 S, TECS, Isadena, n Diego, neering,
<ul> <li>Fan Zhang, Peking University Decision-Making Optimization of Data-Driven Complex Stochastic Systems</li> <li>Peer review.</li> <li>Journal: Nature Communications, TAC, TCNS, TCST, TPS, TSG, TSE, TITS, TIE, TII, TPDE Automatica, IEEE L-CSS, IEEE Systems Journal, IEEE Network, etc.</li> <li>Conference: ACC, CDC, PSCC, CISS, PESGM, SmartGridComm, Globecom, etc.</li> <li>Short visits.</li> <li>California Institute of Technology, Dept. of Computing and Mathematical Sciences, Pa California, US, Jun. 2023</li> <li>University of California San Diego, Dept. of Electrical and Computer Engineering, Sar California, US, Jun. 2023</li> <li>Microsoft Research Asia, Machine Learning Group, Beijing, China, Apr. 2023 - Jul. 2023</li> <li>Southern University of Science and Technology, Dept. of Mechanical and Energy Engin Shenzhen, China, Jul. 2018 - Sep. 2018</li> <li>Chinese University of Hong Kong, Dept. of Information Engineering, Hong Kong, China, M</li> <li>Chinese University of Hong Kong-Shenzhen, School of Science and Engineering, Shenzher Sep. 2016</li> </ul>	Iay 2022 S, TECS, usadena, n Diego, neering, Iay 2018 n, China,

## TALKS

#### Conference and workshop presentations

- "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", IN-FORMS 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

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