QIULIN LIN

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RESEARCH INTEREST

Online Optimization and Algorithms with Applications in AI/ML Systems and Cyber-Physical Systems, Smart Power Grid Optimization (e.g., energy storage and electric vehicles), Intelligent Transportation Systems (e.g., ride-sharing and heavy-duty truck routing).

EDUCATION

The Chinese University of Hong Kong *Aug. 2016 - Dec. 2020*
Ph.D, Information Engineering
Supervisor: Minghua Chen

University of Science and Technology of China *Sept. 2012 - Jul. 2016*
B.Eng, Electronic Engineering and Information Science

APPOINTMENT

City University of Hong Kong *Jan. 2021 - Present*
Postdoc, Research Associate, School of Data Science
Supervisor: Minghua Chen

AWARD AND RECOGNITION

ACM e-Energy 2023 Best Paper Award (sole winner)	Jun 2023
Invited Talk, 34th International Teletraffic Congress (ITC-34), 2022	Sept. 2022
IEEE INFOCOM 2021 Best Poster Award (sole winner)	May 2021
Postgraduate Studentship	2016-2020
ACM SIGMobile Student Travel Grants	Jul. 2019
CUHK Postgraduate Student Grants for Overseas Academic Activities	2018, 2019
National Scholarship (**4**/291)	Sept. 2015

SELECTED ACADEMIC ACTIVITIES

TPC Member, ACM MobiHoc, 2023, 2024

TPC Member, ACM e-Energy, 2023, 2024

Publication Co-Chair, IEEE/ACM IWQoS, 2023

TPC Member, IEEE/ACM IWQoS, 2023

TPC Member, International Teletraffic Congress (ITC 34, ITC 35), 2022, 2023

Reviewer for IEEE Transactions on Networking (ToN), IEEE Transactions on Smart Grid (TSG), ACM SIGMETRICS, IEEE INFOCOM, IFIP PERFORMANCE, ACM e-Energy, IEEE WiOpt

Member of ACM and IEEE

TEACHING AND MENTORING EXPERIENCE

Teaching Assistant

- Probability for Engineers, CUHK $\qquad$ Spring 2019, 2020
- Introduction to Systems Programming, CUHK $\qquad$ Fall 2019
- Complex Analysis and Differential Equation for Engineers, CUHK $\qquad$ Fall 2017, 2018
- Probability and Statistics for Engineers, CUHK $\qquad$ Spring 2017, 2018
- Complex numbers, Differential Equations $\qquad$ Fall 2016
  and Discrete Mathematics for Engineers, CUHK
- C Programming Language, USTC $\qquad$ Fall 2015

Co-mentor

- Jingzhou Sun, summer intern from Tsinghua University, $\qquad$ Summer 2017
  working on demand-aware ride-sharing optimization (a paper published in INFOCOM'18)
  next hop: Ph.D. student in Tsinghua University
- Chengshuai Shi, summer intern from USTC, $\qquad$ Summer, 2018
  working on demand-aware ride-sharing optimization,
  next hop: Ph.D. student in University of Virginia
- Weici Pan, summer intern from Tsinghua University, $\qquad$ Summer 2019
  working on online optimization with dynamic inventory,
  next hop: Ph.D. student in Stony Brook University
- Yuqiu Zhang, undergraduate at CUHK, doing final year project, $\qquad$ 2018-2019
  working on online EV Charging (a paper in preparation)
  next hop: Ph.D. student in University of Toronto

CONFERENCE PRESENTATION AND INVITED TALK

- "Competitive Online Optimization with Inventory Constraints and its Applications," invited talk, 34th International Teletraffic Congress (ITC-34), Shenzhen, China, September 2022

- "Competitive Online Optimization with Multiple Inventories: A Divide-and-Conquer Approach," ACM SIGMETRICS/IFIP Performance, online, June 2022.

- "A Probabilistic Approach for Demand-Aware Ride-Sharing Optimization," ACM MobiHoc 2019, Catania, Italy, July 2019

- "Competitive Online Optimization under Inventory Constraints," ACM SIGMETRICS/IFIP PER-FORMANCE, Phoenix, Arizona, June 2019

- "Balancing Cost and Dissatisfaction in Online EV Charging under Real-time Pricing," IEEE INFO-COM, Paris, France, May 2019

- "Optimal Demand-Aware Ride-Sharing Routing," IEEE INFOCOM, Honolulu, HI, April 2018

PUBLICATION

Preprint

1. **Q. Lin**, Y. Zhang, H. Yi and M. Chen, "Online Algorithms for EV Charging with Minimum Commitment under Real-time Pricing," working paper.

2. **Q. Lin**, L. Deng, J. Sun and M. Chen, "Profit-Maximizing Demand-Aware Ride-Sharing Routing," working paper.

3. Y. Mo, **Q. Lin**, M. Chen and S. Qin, "Competitive Online Peak-Demand Minimization Using Energy Storage," arXiv:2103.00005.

Journal Article

1. **Q. Lin***, H. Yi*, and M. Chen, "Minimizing Cost-plus-Dissatisfaction in Online EV Charging under Real-Time Pricing," IEEE Transactions on Intelligent Transportation Systems, vol. 23, issue 8, pp. 12464-12479, Aug. 2022.

2. **Q. Lin**, Y. Mo, J. Su, and M. Chen, "Competitive Online Optimization with Multiple Inventories: A Divide-and-Conquer Approach," Proc. ACM Meas. Anal. Comput. Syst., June issue 2022. (Also in ACM SIGMETRICS/IFIP Performance 2022.)

3. **Q. Lin***, H. Yi*, J. Pang, M. Chen, A. Wierman, M. Honig, and Y. Xiao, "Competitive Online Optimization under Inventory Constraints," Proc. ACM Meas. Anal. Comput. Syst., vol. 3, issue 1, no. 10, March 2019. (Also in ACM SIGMETRICS/IFIP Performance 2019.)

Conference Paper

1. **Q. Lin**, J. Su, and M. Chen, "Competitive Online Age-of-Information Optimization for Energy Harvesting Systems," in Proceedings of IEEE INFOCOM, Vancouver, Canada, May 20 - 23, 2024.

2. J. Su, **Q. Lin**, M. Chen, and H. Zeng, "Minimizing Carbon Footprint for Timely E-Truck Transportation: Hardness and Approximation Algorithm," (invited), in Proceedings of the 62th IEEE Conference on Decision and Control (CDC), 2023.

3. J. Su, **Q. Lin**, and M. Chen, "Follow the Sun and Go with the Wind: Carbon Footprint Optimized Timely E-Truck Transportation," in Proceedings of 14th International Conference on Future Energy Systems (ACM e-Energy 2023), Orlando, Florida, June 20 - 23, 2023. (**Best Paper Award**)

4. **Q. Lin**, Y. Mo, J. Su, and M. Chen, "Competitive Online Optimization with Multiple Inventories: A Divide-and-Conquer Approach," in Proceedings of ACM SIGMETRICS/IFIP Performance, Mumbai, India, June 6-10, 2022.

5. Y. Mo, **Q. Lin**, M. Chen, and J. Qin, "Optimal Online Algorithms for Peak-Demand Reduction Maximization with Energy Storage," in Proceedings of 12th International Conference on Future Energy Systems (ACM e-Energy 2021), virtual conference, June 28 - July 2, 2021.

6. Y. Mo, **Q. Lin**, M. Chen, and J. Qin, "Optimal Peak-Minimizing Online Algorithms for Large-Load Users with Energy Storage," in Proceedings of IEEE INFOCOM, virtual conference, May 10 - 13, 2021. (poster paper, **Best Poster Award**)

7. **Q. Lin**, W. Xu, M. Chen and X. Lin, "A Probabilistic Approach for Demand-Aware Ride-Sharing Optimization," in Proceedings of the 20th ACM International Symposium on Mobile Ad Hoc Networking and Computing (ACM MobiHoc 2019), Catania, Italy, July 2-5, 2019.

8. **Q. Lin***, H. Yi*, J. Pang, M. Chen, A. Wierman, M. Honig, and Y. Xiao, "Competitive Online Optimization under Inventory Constraints," in Proceedings of ACM SIGMETRICS/IFIP Performance, Phoenix, Arizona, USA, June 24 - 28, 2019.

9. H. Yi*, **Q. Lin***, and M. Chen, "Balancing Cost and Dissatisfaction in Online EV Charging under Real-time Pricing," in Proceedings of IEEE INFOCOM, Paris, France, April 29 - May 2, 2019.

10. **Q. Lin**, L. Deng, J. Sun and M. Chen, "Optimal Demand-Aware Ride-Sharing Routing," in Proceedings of IEEE INFOCOM, Honolulu, HI, USA, April 16-19, 2018.

(*equally contributed)