

QIULIN LIN

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RESEARCH INTEREST

Online Optimization and Algorithms with Application in Communication Network and Cyber-Physical Systems, Ride-Sharing, Smart Grid, Heavy-duty Truck Routing, Intelligent Transportation Systems

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

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
Outstanding Student Scholarship (Gold Prize), USTC (Top 3%)	Sept. 2014
Outstanding Student Scholarship (Silver Prize), USTC	Sept. 2013

SELECTED ACADEMIC ACTIVITIES

TPC Member, 35th International Teletraffic Congress (ITC-35) - Networked Systems and Services, 2023

Publication Co-Chair, IEEE/ACM IWQoS, 2023

TPC Member, ACM MobiHoc, 2023

TPC Member, ACM e-Energy, 2023

TPC Member, IEEE/ACM IWQoS, 2023

TPC Member, 34th International Teletraffic Congress (ITC-34) - Teletraffic Engineering for Smart Networking , 2022

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

TEACHING AND MENTORING EXPERIENCE

Teaching Assistant

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

Co-mentor

- Jingzhou Sun, summer intern from Tsinghua University, 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, 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, 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, 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 PERFORMANCE, Phoenix, Arizona, June 2019
- “Balancing Cost and Dissatisfaction in Online EV Charging under Real-time Pricing,” IEEE INFOCOM, 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. 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.
2. 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**)
3. **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.
4. 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.
5. 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**)
6. **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.
7. **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.
8. 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.
9. **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)