

Xin Liu

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| Contact Information | Address: 2785 Windwood Dr, 173, Ann Arbor, MI 48105, USA Website (Google Scholar): https://liuxincell.github.io/ Email: xinliuee@umich.edu Phone: (+1)4802770515 |
| Research Interests | Stochastic models, analysis, and optimization, online learning and decision-making |
| Current Appointment | Postdoctoral Research Fellow, May 2020 – Present University of Michigan, Anna Arbor, Michigan Electrical Engineering and Computer Science Department Advisor: Prof. Lei Ying |
| Education | Arizona State University, Tempe, Arizona Ph.D. in Electrical Engineering, Aug. 2014 – Dec. 2019 Advisor: Prof. Lei Ying University of Chinese Academy of Sciences, Beijing, China M.S. in Signal and Information Processing, Sept. 2011 – July 2014 Advisor: Prof. Haibing Wang Hunan University, Changsha, Hunan B.E. in Electrical Engineering, Sept. 2007 – June 2011 |
| Honors and Awards | INFOCOM paper invited for a fast review to IEEE Transactions on Network Science and Engineering (7 out of 312 accepted papers), 2018 Best Student Paper at CHINACOM, 2013 Excellent Bachelor Thesis, Hunan University, 2011 |
| Preprint | Xin Liu, Bin Li, Pengyi Shi, and Lei Ying. <i>POND: Pessimistic-Optimistic oNline Dispatch</i> . ArXiv:2010.09995. In Submission. Hairi, Xin Liu, and Lei Ying. <i>Beyond Scaling: Calculable Error Bounds of the Power-of-Two-Choices Mean-Field Model in Heavy-Traffic</i> . In Submission. Xin Liu, Kang Gong, and Lei Ying. <i>Steady-State Analysis of Load Balancing with Coxian-2 Distribution Service Times</i> . ArXiv:2005.09815. (Major Revision and Second Round Review in Naval Research Logistics). Xin Liu and Lei Ying. <i>On Universal Scaling of Distributed Queues under Load Balancing</i> . ArXiv:1912.11904. (Review in IEEE/ACM Transactions on Networking). |
| Journal Publications | Xin Liu and Lei Ying. <i>Steady-State Analysis of Load Balancing Algorithms in the Sub-Halfin-Whitt Regime</i> . Journal of Applied Probability. Apr., 2020. Anton Braverman, Jim Dai, Xin Liu, and Lei Ying. <i>Empty-car routing in ridesharing systems</i> . Operations Research. Aug., 2019. Media: [TechXplore] [Informs Press]. Xin Liu and Lei Ying. <i>Spatial-temporal routing for supporting end-to-end hard deadlines in multi-hop networks</i> . Performance Evaluation. July, 2019. Xin Liu and Lei Ying. <i>On achieving zero delay with power-of-d-choices load balancing</i> . IEEE Transactions on Network Science and Engineering. Oct., 2018 |

Xin Liu, Feifei Gao, Gongpu Wang, and Xiyuan Wang. *Joint beamforming and user selection in multicast downlink channel under secrecy-outage constraint*. IEEE Communications Letters, Jan., 2014.

Conference Publications

Xin Liu and Lei Ying. *A Simple Steady-State Analysis of Load Balancing Algorithms in the Sub-Halfin-Whitt Regime*. Mathematical Performance Modeling and Analysis Workshop (MAMA) in SIGMETRICS, Irvine, California, June, 2018 .

Xin Liu and Lei Ying. *On achieving zero delay with power-of-d-choices load balancing*. In Proc. IEEE International Conference on Computer Communications (INFOCOM), Honolulu, Hawaii, Apr., 2018. Fast-Track Review for IEEE Transactions on Network Science and Engineering (7 out of 312 accepted papers were invited).

Yiqiu Liu, **Xin Liu**, Lei Ying, and R. Srikant. *Wireless scheduling with deadline and power constraints*. 2018 Annual Conference on Information Science and Systems (CISS), Princeton, NJ, Mar., 2018.

Anton Braverman, Jim Dai, **Xin Liu**, and Lei Ying. *Fluid-model-based car routing for modern ridesharing systems*. (Poster) SIGMETRICS, Urbana-Champaign, Illinois, June, 2017.

Xin Liu and Lei Ying. *Spatial-temporal routing for supporting end-to-end hard deadlines in multi-hop networks*. 2016 Annual Conference on Information Science and Systems (CISS), Princeton, NJ, Apr., 2016.

Xin Liu, Haoqi Li, and Haibin Wang. *Probability constrained robust multicast beamforming in cognitive radio network*. 8th International Conference on Communications and Networking in China (CHINACOM), Guilin, Aug., 2013. (Best Student Paper).

Selected Presentations

“Steady-State Analysis of Load Balancing Algorithms”

- ACM MobiHoc Frontiers Workshop, Virtual, Oct. 2020
- INFORMS Annual Meeting, Phoenix, Arizona, Nov. 2018
- Poster at NSF Cyber-Physical System Meeting, Alexandria, Virginia, Nov. 2018

“On Achieving Zero Delay with Power-of-d-Choices Load Balancing”

- INFOCOM, Honolulu, Hawaii, Apr. 2018
- INFORMS Annual Meeting, Houston, Texas, Oct. 2017

“Fluid-Model-Based Car Routing for Modern Ridesharing Systems”

- Poster at SIGMETRICS, Urbana-Champaign, Illinois, June, 2017

Industry Experience

Senior Algorithm Engineer in Cainiao AI, Hangzhou, China, Dec. 2019 – Jan. 2020
Algorithm Engineer Intern in Cardinal Operations, Shanghai, China, Summer, 2018

Professional Service

Reviewer for IEEE/ACM Transactions on Networking, Performance Evaluation, IEEE Transactions on Information Theory, IEEE Journal on Selected Areas in Communications, IEEE Communications Letters, INFOCOM, MOBIHOC, WiOpt.