LIN YANG

LGRC A313, 140 Governors Dr., University of Massachusetts, Amherst, MA 01003.

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EDUCATION

Ph.D. in Information Engineering   August 2015 - August 2018
The Chinese University of Hong Kong, Hong Kong.
Advisor: Wing Shing Wong (FIEEE)
Thesis: Competitive and Regret Analysis for Online Optimization

Master in Automatic Control   August 2012 - June 2015
University of Science and Technology of China, Hefei.
Advisor: Jin Zhu

Bachelor in Information Science   August 2008 - June 2012
University of Science and Technology of China, Hefei.

EMPLOYMENTS

Postdoctoral Research Associate (with fellowship) in College of Information & Computer Science, UMass Amherst   2020.1 - Pres.
Advisor: Donald F. Towsley, Mohammad Hajiesmaili

Postdoctoral Fellow in IE, CUHK   2018.10 - 2019.12
Advisor: Wing Shing Wong

RESEARCH INTERESTS

Performance Analysis, Modeling, and Algorithm Design for Networked Computing Systems and Large-scale Applications
Online Optimization for Buffer Management, Knapsacks and Linear Programming etc.
Learning Theory: Bandits, Expert Problem, Distributed Learning, Learning with Corruptions etc.

ACADEMIC SERVICES

TPC Member: ICCCN 2022

External Conference Reviewers: ICML, SIGMETRICS, MOBIHOC, ICDCS

HONORS AND AWARDS

CDS Postdoctoral Fellowship (UMass Amherst)   2020

ACM SIGMETRICS Student Travel Grant   2018

Best Teaching Assistant Award   2016
Awarded by IE Department of CUHK

Excellent Graduate   2015
Awarded by the Education Department of Anhui Province

China National Scholarship   2014
Awarded by the Chinese Government

Guanghua Scholarship   2013
Awarded by the Chinese Academy of Science

TEACHING EXPERIENCE

ENGG1110D Problem Solving by Programming	*Fall 2015*
ENGG2430B Probability and Statistics for Engineers	*Spring 2016*
CSCI1140 Programming Laboratory	*Fall 2016*
ENGG2430C Probability and Statistics for Engineers	*Spring 2017*
CSCI1140 Programming Laboratory	*Fall 2017*
CSCI2100D Data Structure	*Spring 2018*

TALKS

1. Adversarial Bandits with Corruptions

- NeurIPS 2020 (virtual) (2020.12)

2. Online Learning and Online Optimization

- The International Young Scholars Forum of Sun Yat-sen University (2020.12)

- Invited talk at Northeast University (China) (2021.5)

3. Cooperative Learning with Heterogeneous Agents

- Internal talk of Annual Fall Meeting (virtual) hosted by Distributed Analytics & Information Science International Technology Alliance (2020.9)

4. Heterogeneous Structures for Online Learning Algorithms

- Theory Seminar in Department of CICS in UMass, Amherst (2020.3)

- SIGMETRICS 2018 (2018.6)

5. Online QoS Bugger Management

- SIGMETRICS 2018 (2018.6)

PUBLICATIONS

– **Journal**

(* equal contribution, ⋆ corresponding author, Ⓡ Five Representative Publications)

[1] **Lin Yang**, Ali Zeynali, Mohammad Hajiesmaili, Ramesh Sitaraman, Donald F. Towsley.
Competitive Algorithms for Online Multidimensional Knapsack Problems.
Proceedings of the ACM on Measurement and Analysis of Computing Systems (POMACS), to appear. (Also in SIGMETRICS 2022)

[2] Cheng Tan, **Lin Yang**⋆, Wing Shing Wong.
Learning Based Control Policy and Regret Analysis for Online Quadratic Optimization with Asymmetric Information Structure.
Transactions on Cybernetics. 2021.

[3] **Lin Yang***, Mohammad Hajiesmaili*, Ramesh Sitaraman, Adam Wierman, Enrique Mallada, Wing Shing Wong.
Online Linear Optimization with Inventory Management Constraints.
Proceedings of the ACM on Measurement and Analysis of Computing Systems (POMACS), 3 (2). (Also in SIGMETRICS 2020)

[4] Cheng Tan, **Lin Yang**, Fangfang Zhang, Zhengqiang Zhang and Wing Shing Wong.
Stabilization of discrete time stochastic system with input delay and control dependent noise.
Systems & Control Letters, 123, 62–68, 2019. Elsevier.

[5] **Lin Yang**, Lei Deng, Mohammad H. Hajiesmaili, Cheng Tan and Wing Shing Wong.
An Optimal Algorithm for Online Non-convex Learning.
Proceedings of the ACM on Measurement and Analysis of Computing Systems (POMACS), 2018, 2(2): 25.
(Also in SIGMETRICS 2018)

[6] Jin Zhu, Tong Luo, **Lin Yang**, Wanqing Xie, and G. E. Dullerud.
An average queue-length-difference-based congestion detection algorithm in TCP/AQM network.
International Journal of Adaptive Control and Signal Processing, 2018.

[7] Tong Luo, Jin Zhu, **Lin Yang**, Wanqing Xie, Hongsheng Xie.
Robust stability analysis of a kind of joint scheduling algorithms in wireless access network.
Control and Decision. (in Chinese)

[8] **Lin Yang**, Wing Shing Wong, and Mohammad H. Hajiesmaili.
An Optimal Randomized Online Algorithm for QoS Buffer Management.
Proceedings of the ACM on Measurement and Analysis of Computing Systems (POMACS), 2017, 1(2): 36.
(Also in SIGMETRICS 2018)

[9] Cheng Tan, Changbao Xu, **Lin Yang**, and Wing Shing Wong.
Gittins index based control policy for a class of pursuit-evasion problems.
IET Control Theory and Applications, 12(1), 110-118, 2017.

[10] **Lin Yang**, Jin Zhu, Wanqing Xie, and G. E. Dullerud.
Time Series Analysis for Congestion Detection in TCP/AQM Networks.
IEEE Communications Letters, 19(3), 331-334, 2015.

[11] Jin Zhu, Limin Xu, **Lin Yang**, and Wanqing Xie.
An optimal vertical handoff decision algorithm for multiple services with different priorities in heterogeneous wireless networks.
Wireless Personal Communications, 83(1), 527-549, 2015.

– **Conference**

[1] **Lin Yang**, Yu-Zhen Chen, Mohammad Hajiesmaili, Mark Herbster, Donald F. Towsley.
Learning with Heterogeneous Experts.
Accepted to **SIGMETRICS** with one-shot revision.

[2] **Lin Yang**, Yu-Zhen Janice Chen, Mohammad Hajiesmaili, John CS Lui, Don Towsley..
Distributed Bandits with Heterogeneous Agents.
IEEE International Conference on Computer Communications (**INFOCOM**), 2022.
(CORE A*, Tsinghua CS Conference Rank A, CCF Rank A, Acceptance Rate: $225/1129 \approx 19.9\%$)

[3] **Lin Yang**, Ali Zeynali, Mohammad Hajiesmaili, Ramesh Sitaraman, Donald F. Towsley.
Competitive Algorithms for Online Multidimensional Knapsack Problems. Ⓡ
ACM International Conference on Measurement and Modeling of Computer Systems (**SIGMETRICS**), June 2022. (Full Paper)
(CORE A*, Tsinghua CS Conference Rank A, Acceptance Rate at Summer Round: $10/64 \approx 16\%$)

[4] **Lin Yang**, Yu-Zhen Janice Chen, Stephen Pasteris, Mohammad Hajiesmaili, John CS Lui, Don Towsley.
Cooperative Stochastic Bandits with Asynchronous Agents and Constrained Feedback.
Advances in Neural Information Processing Systems (**NeurIPS**), 2021.
(CORE A*, Tsinghua CS Conference Rank A, CCF Rank A, Acceptance Rate: 26%)

[5] Russell Lee, Yutao Zhou, **Lin Yang**, Mohammad Hajiesmaili, Ramesh Sitaraman.
Competitive Bidding Strategies for Online Linear Optimization with Inventory Management Constraints.
IFIP Performance, 2021.

[6] **Lin Yang**, Mohammad Hajiesmaili, Mohammad Sadegh Talebi, John CS Lui, Wing Shing Wong.
Adversarial Bandits with Corruptions: Regret Lower Bound and No-regret Algorithm. Ⓡ

Advances in Neural Information Processing Systems (**NeurIPS**), 2020.
(CORE A*, Tsinghua CS Conference Rank A, CCF Rank A, Acceptance Rate: $1900/9454 \approx 20.9\%$)

[7] **Lin Yang***, Mohammad Hajiesmaili*, Ramesh Sitaraman, Adam Wierman, Enrique Mallada, Wing Shing Wong.
Online Linear Optimization with Inventory Management Constraints. Ⓡ
ACM International Conference on Measurement and Modeling of Computer Systems (**SIGMETRICS**), June 2020. (Full Paper)
(CORE A*, Tsinghua CS Conference Rank A, Acceptance Rate at Winter Round: $14/91 \approx 16\%$)

[8] **Lin Yang**, Mohammad H. Hajiesmaili, and Wing Shing Wong.
Online Linear Programming with Uncertain Constraints.
The 53rd Annual Conference on Information Sciences and Systems (CISS), 2019.

[9] **Lin Yang**, Lei Deng, Mohammad H. Hajiesmaili, Cheng Tan and Wing Shing Wong.
An Optimal Algorithm for Online Non-convex Learning. Ⓡ
ACM International Conference on Measurement and Modeling of Computer Systems (**SIGMETRICS**), June 2018. (Full Paper)
(CORE A*, Tsinghua CS Conference Rank A, Acceptance Rate at Winter Round: $16/114 \approx 14\%$)

[10] **Lin Yang**, Wing Shing Wong, and Mohammad H. Hajiesmaili.
An Optimal Randomized Online Algorithm for QoS Buffer Management. Ⓡ
ACM International Conference on Measurement and Modeling of Computer Systems (**SIGMETRICS**), June 2018. (Full Paper)
(CORE A*, Tsinghua CS Conference Rank A, Acceptance Rate at Summer Round: $10/51 \approx 19.6\%$)

[11] **Lin Yang**, Mohammad H. Hajiesmaili, Hanling Yi, and Minghua Chen.
Hour-Ahead Offering Strategies in Electricity Market for Power Producers with Storage and Intermittent Supply.
ACM International Conference on Measurement and Modeling of Computer Systems (**SIGMETRICS**), 2017. (Poster Paper)

[12] Liang Wang, Jin Zhu, **Lin Yang**, Wanqing Xie.
A smooth adaptive RED gateway for congestion control with TCP-friendly multimedia applications.
IEEE Chinese Control Conference (CCC), July 2016.

[13] Chi-Kin Chau, **Lin Yang**.
Competitive online algorithms for geographical load balancing in data centers with energy storage.
International Workshop on Energy Efficient Data Centres. 2016.

[14] **Lin Yang**, Jin Zhu, Wanqing Xie, and Xiaobin Tan.
Stable Tuning for Random Early Detection Algorithm.
IEEE Chinese Control Conference (CCC), July 2014.

[15] Tongshun Liu, Wanqing Xie, **Lin Yang**, Jin Zhu, Qiang Ling.
Wave-front aberration modeling based on wavelet methods.
IEEE Chinese Control Conference (CCC), July 2014.

[16] **Lin Yang**, Jin Zhu, Liang Tang, Xita Hu, and Xiaobin Tan.
An Adaptive Resource Reservation Approach in Packet-Switched Wireless Mesh Networks.
IEEE Chinese Control Conference (CCC), July 2013.

[17] Limin Xu, **Lin Yang**, Jin Zhu, Liang Tang, Xiaobin Tan.
An online dynamic multi-threshold bandwidth reservation scheme for multi-services mobile wireless cellular networks.
IEEE Chinese Control Conference (CCC), July 2013.

REFERENCES

Wing Shing Wong (Ph.D. Supervisor)
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