

# LIN YANG

LGRC A313, 140 Governors Dr., University of Massachusetts, Amherst, MA 01003.  
+1(413)4040976 ◊ linyang@cs.umass.edu yanglin.cuhk@gmail.com

## 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

---

- System:** Performance Analysis, Modeling, and Online Resource Optimization for Networked and Energy-Efficient Computing Systems
- Online Optimization:** Online Knapsacks (Online Multidimensional Knapsack, Online Multiple Knapsack, Online Knapsack with Departure), Online Buffer Management and Online Linear Programming etc.
- Learning Theory:** Multi-Armed Bandits, Expert Problems, Distributed Learning, and Learning with Attacks/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	<i>Fall 2015</i>
ENGG2430B Probability and Statistics for Engineers	<i>Spring 2016</i>
CSCI1140 Programming Laboratory	<i>Fall 2016</i>
ENGG2430C Probability and Statistics for Engineers	<i>Spring 2017</i>
CSCI1140 Programming Laboratory	<i>Fall 2017</i>
CSCI2100D Data Structure	<i>Spring 2018</i>

## 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*.  $\text{\textcircled{R}}$   
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*.  $\text{\textcircled{R}}$   
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*.  $\text{\textcircled{R}}$   
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)**

Choh-Ming Li Chair Professor  
Department of Information Engineering  
The Chinese University of Hong Kong  
Shatin, NT, Hong Kong, China  
[wswong@ie.cuhk.edu.hk](mailto:wswong@ie.cuhk.edu.hk)  
(852)3943-1444

**Donald F. Towsley**

Distinguished Professor  
College of Information & Computer Sciences  
University of Massachusetts, Amherst  
Amherst, MA, USA, 01003  
[towsley@cs.umass.edu](mailto:towsley@cs.umass.edu)  
(413)545-0207

**Ramesh K. Sitaraman**

Professor  
College of Information & Computer Sciences  
University of Massachusetts, Amherst  
Amherst, MA, USA, 01003  
[ramesh@cs.umass.edu](mailto:ramesh@cs.umass.edu)  
(413)577-3178

**John C.S. Lui**

Choh-Ming Li Chair Professor  
Department of Computer Science and Engineering  
The Chinese University of Hong Kong  
Shatin, NT, Hong Kong, China  
[cslui@cse.cuhk.edu.hk](mailto:cslui@cse.cuhk.edu.hk)  
(852)3943-8407

**Mohammad H. Hajiesmaili**

Research Assistant Professor  
College of Information & Computer Sciences  
University of Massachusetts, Amherst  
Amherst, MA, USA, 01003  
[hajiesmaili@cs.umass.edu](mailto:hajiesmaili@cs.umass.edu)  
(202)431-3560

**Mohammad Sadegh Talebi**

Assistant Professor  
Department of Computer Science (ML Section)  
University of Copenhagen  
Universitetsparken 1, 2100 Copenhagen, Denmark  
[m.shahi@di.ku.dk](mailto:m.shahi@di.ku.dk)  
(45)3153-9770