Yangming Zhao
Research Scientist
Department of Computer Science and Engineering, University at Buffalo
Email: yangming@buffalo.edu   Cell phone: (716)322-8729
Google Scholar: https://scholar.google.com/citations?user=5_gP3W8AAAAJ

Employment History

Research Scientist, University at Buffalo, Computer Science and Engineering	03/2016 - Present
Research Scientist, Alcatel-Lucent Shanghai Bell Co.. Bell Labs China	08/2015 - 03/2016

Education Background

Ph.D. University of Electronic Science and Technology of China	09/2010 – 06/2015
Communication and Information Engineering	
Dissertation: "Routing and Resource Allocation in Data Center Networks"	
Visiting Ph.D. Student Hong Kong University of Science and Technology	11/2013 – 03/2014
Department of Computer Science and Engineering	
Visiting Ph. D. Student University at Buffalo	04/2013 – 10/2013
Department of Computer Science and Engineering,	
Graduate Study University of Electronic Science and Technology of China	09/2008 – 06/2010
Transfer to Ph.D. program before finishing my master degree	
B.S. University of Electronic Science and Technology of China	09/2004 – 06/2008
Thesis: "Network Traffic Engineering Based on Flow Deviation"	

Selected Awards and Honors

First Prize of Excellent Graduate Scholarship	2010 – 2011
Excellent Postgraduate Award	2008 – 2009
Meritorious Winner in The Interdisciplinary Contest in Modeling (ICM) for Undergraduate	02/2007
National Scholarship	2006 – 2007

Teaching Experience

Fill-in Instructor for CSE 410 "Introduction for Deep Learning" at UB	Fall 2019
Fill-in Instructor for CSE 368 "Introduction for Artificial Intelligence" at UB	Fall 2019
Instructor for CSE 489/589 "Modern Network Concepts" at UB	Summer 2019
Teaching Assistant for CSE 487/587 "Data Intensive Computing" at UB	Spring 2019
Teaching Assistant for "Graph Theory and Its Applications" at UESTC	Fall 2011
Teaching Assistant for "Computer Communication Networks" at UESTC	Fall 2010

Selected Journal Publications

[12] **Y. Zhao**, C. Tian, J. Fan, T. Guan, X, Zhang and C. Qiao "Joint Reducer Placement and Coflow Bandwidth Scheduling for Computing Clusters", Submitted to IEEE Transactions on Networking, minor revision

[11] **Y. Zhao**, X. Liu, L. Tu, C. Tian and C. Qiao "Dynamic Service Entity Placement for Latency Sensitive Applications in Transportation Systems", IEEE Transactions on Mobile Computing, to appear

[10] J. Fan, M. Jiang, Ori Rottenstreich, **Y. Zhao***, T. Guan, R. Ramesh, S. Das and C. Qiao, "A Framework for Provisioning Availability of NFV in Data Center Networks", IEEE J. of Sele. Area in Commu. , 2018 (corresponding author)

[9] C. Tian, A. Munir, A. Liu, J. Yang and **Y. Zhao**, "OpenFunction: An Extensible Data Plane Abstraction Protocol for Platform-Independent Software-Defined Middleboxes", IEEE Transactions on Networking, 2018

[8] **Y. Zhao**, C. Tian, Z. Zhu, J. Cheng, C. Qiao and A. Liu "Minimize the Make-span of Batched Requests for FPGA Pooling in Cloud Computing", IEEE Transactions on Parallel and Distributed Systems, 2018

[7] H. Chen, X. Wang, **Y. Zhao**, T. Song, Y. Wang, S. Xu, L. Li "MOSC: a method to assign the outsourcing of service function chain across multiple clouds", Computer Networks, Volume 133, 14, March 2018

[6] S. Luo, H. Yu, **Y. Zhao**, B. Wu, S. Wang. S. Yu, L. Li, "Towards Practical and Near-optimal Coflow Scheduling for Data Center Networks", IEEE Trans. on Parallel and Distributed Systems, Nov. 2016

[5] X. Zhang, S. Wang, **Y. Zhao**, S. Xu, X. Wang, X. Gao, C. Qiao, "Multi-Objective Optimization for Green Network Routing in Game Theoretical Perspective", IEEE J. of Sele. Area on Commu. , Dec. 2015 (Extended version of INFOCOM 2013)

[4] **Y. Zhao**, S. Wang, S. Luo, V. Anand, H. Yu, S. Xu and X. Zhang, "Dynamic Topology Management in Optical Datacenter Networks", IEEE J. of Lightwave Tech., Oct. 2015

[3] X. Gao, Z. Ye, J. Fan, W. Zhong, **Y. Zhao**, X. Cao, H. Yu, C. Qiao, "Virtual network mapping for multicast services with max-min fairness of reliability", IEEE/OSA J. of Optical Communication Netw., Sep. 2015

[2] Y. Peng, K, Chen, G. Wang, W. Bai, **Y. Zhao**, H. Wang, Y. Geng, Z. Ma, L. Gu, "Towards Comprehensive Traffic Forecasting in Cloud Computing: Design and Application", IEEE Transactions on Networking, Aug. 2015

[1] **Y. Zhao**, Y. Huang, K. Chen, M. Yu, S. Wang and D. Li, "Joint VM Placement and Topology Optimization for Traffic Scalability in Dynamic Datacenter Networks", Elsevier Computer Networks, Apr. 2015

Selected Conference Publications

[21] **Y. Zhao**, J. Fan, L. Su, T. Song, S. Wang and C. Qiao "SNAP: A Communication Efficient Distributed Machine Learning Framework for Edge Computing", IEEE ICDCS 2020

[20] G. Zhao, H. Xu, **Y. Zhao**, C. Qiao and L. Huang "Offloading Dependent Tasks in Mobile Edge Computing with Service Caching", IEEE INFOCOM 2020

[19] X. Liu, **Y. Zhao** and C. Qiao "Autonomous Vehicle Dispatching for Person Evacuation", IEEE Globecom 2019

[18] **Y. Zhao**, C. Tian, J. Fan, T. Guan and C. Qiao "RPC: Joint Online Reducer Placement and Coflow Bandwidth Scheduling for Clusters", IEEE ICNP 2018

[17] **Y. Zhao**, J. Fan, H. Chen and C. Qiao "Providing VNF Services with Pipe &Hose Model Based Nonblocking SDN Networks", ACM/IEEE IWQoS 2018

[16] **Y. Zhao**, X. Liu, C. Qiao "Job Scheduling for Acceleration systems in Cloud Computing", IEEE ICC 2018

[15] **Y. Zhao**, S. Luo, Y. Wang, S. Wang "Cotask Scheduling in Cloud Computing", IEEE ICNP 2017

[14] **Y. Zhao**, C. Qiao "Enhancing the Robustness of Interdependent Cyber-Physical Systems by Designing the Interdependency Relationship", IEEE ICC 2017

[13] X. Zhang, **Y. Zhao**, S. Guo, Y. Li "Performance-aware Energy-efficient Virtual Machine Placement in Cloud Data Center", IEEE ICC 2017

[12] J. Fan, C. Guan, **Y. Zhao**, C. Qiao "Availability-aware Mapping of Service Function Chains", IEEE INFOCOM 2017

[11] **Y. Zhao**, M. Pithapur, C. Qiao "On Progressive Recovery in Interdependent Cyber Physical Systems", IEEE Globecom 2016

[10] **Y. Zhao**, K. Chen, W. Bai, M. Yu, C. Tian, Y. Geng, Y. Zhang, D. Li, S. Wang, "RAPIER: Integrating Routing and Scheduling for Coflow-aware Data Center Networks", IEEE INFOCOM 2015.

[9] S. Luo, H. Yu, **Y. Zhao**, B. Wu, S. Wang. L. Li, "Minimizing Average Coflow Completion Time with Decentralized Scheduling", IEEE ICC 2015

[8] **Y. Zhao**, S. Wang, S. Luo, H. Yu, S. Xu and X. Zhang, "Dynamic Topology Management in Optical Datacenter Networks", IEEE Globecom 2014.

[7] W. Bai, K. Chen, H. Wu, W. Lan and **Y. Zhao**, "PAC: Taming TCP Incast Congestion Using Proactive ACK Control", IEEE ICNP 2014.

[6] H. Wang, **Y. Zhao** and H. Guang "On Pricing Schemes in Data Center Network with Game Theoretic Approach", IEEE ICCCN 2014.

[5] **Y. Zhao**, S. Wang, S. Xu, X. Wang, X. Gao and C. Qiao, "Load Balance vs Energy Efficiency in Traffic Engineering: A Game Theoretical Perspective", IEEE INFOCOM 2013

[4] G. Feng, **Y. Zhao** and S. Wang, "A Modified Implementation of Bounded Shortest Path Algorithm for Constrained Multicast Routing", ICIST 2012

[3] **Y. Zhao**, S. Xu, B. Wu, X. Wang and S. Wang, "Monitoring Trail Allocation in All-Optical Networks with the Random Next Hop Policy", IEEE HPSR 2012

[2] **Y. Zhao**, S. Wang, H. Cai and X. Wang, "A New Framework to Design Distributed Query System", IET AIAI 2011

[1] **Y. Zhao**, S. Xu, X. Wang and S. Wang, "A New Heuristic for Monitoring Trail Allocation in All-Optical WDM Networks", IEEE Globecom 2010

Presentations

[9] "RPC: Joint Online Reducer Placement and Coflow Bandwidth Scheduling for Clusters", IEEE ICNP 2018, Cambridge, UK

[8] "Providing VNF Services with Pipe &Hose Model Based Nonblocking SDN Networks", IEEE IWQoS 2018, Banff, Canada

[7] "On Progressive Recovery in Interdependent Cyber Physical Systems", IEEE Globecom 2016, Washington D.C., USA

[6] "RAPIER: Integrating Routing and Scheduling for Coflow-aware Data Center Networks", IEEE INFOCOM 2015, Hong Kong

[5] "Dynamic Topology Management in Optical Datacenter Networks" at IEEE Globecom 2014, Austin, TX, USA

[4] "Monitoring Trail Allocation in All-Optical Networks with the Random Next Hop Policy" at HPSR 2012, Belgrade, Serbia

[3] "A Modified Implementation of Bounded Shortest Path Algorithm for Constrained Multicast Routing" at ICIST 2012, Wuhan, China

[2] "A New Framework to Design Distributed Query System" at IET AIAI 2011, Shenzhen, China

[1] "A New Heuristic for Monitoring Trail Allocation in All-Optical WDM Networks", at IEEE Globecom 2010, Miami, FL, USA

TPC Members

- The 11th EAI International Conference on Communications and Networking in China, Chongqing, 2016
- The Seventeenth International Conference on Networks, Athens, Greece, 2018

Reviewers

- IEEE Internet of Things Journal
- IEEE Transactions on Cloud Computing
- IEEE Transactions on Networking
- IEEE Transactions on Parallel and Distributed Systems

- IEEE Journal of Selected Area on Communications
- IEEE/OSA Journal of Optical Communications and Networking
- Elsevier Journal of Computer Communications
- Security and Communication Networks
- Journal of Network and Computer Applications
- Digital Communications and Networks
- KSII Transactions on Internet and Information Systems
- Concurrency and Computation: Practice and Experience
- IEEE International Conference on Distributed Computing Systems
- IEEE International Conference on Communications
- IEEE Global Communications Conference
- IFIP Networking
- CloudCom