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Research Interests Internet congestion control, delayed stability analysis, active queue management (AQM), router buffer sizing, Internet measurement, datacenter networking, and peer-to-peer networks.

Employment Research Staff Member April 2008 – Present
NEC Laboratories America, Inc. Princeton, NJ

Education Ph.D. in Computer Engineering May 2008
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Texas A&M University College Station, TX

B.S. in Computer Science Jul. 2001
Beijing University of Aeronautics and Astronautics Beijing, China

Academic Experience Research Assistant 2003 – 2008
Internet Research Lab
Department of Computer Science Texas A&M University

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Publications

Thesis

- [1] “Stable and Scalable Congestion Control for High-Speed Heterogeneous Networks,” *Ph.D. Dissertation*, Texas A&M University, May 2008.

Journals

- [2] Y. Zhang, Y. Xiong, S. Liu, and D. Loguinov, “Queuing Dynamics and Single-Link Stability of Delay-Based Window Congestion Control,” *accepted to Elsevier Computer Networks*.
- [3] M. Dai, Y. Zhang, and D. Loguinov, “A Unified Traffic Model for MPEG-4 and H.264 Video Traces,” *IEEE Transactions on Multimedia*, vol. 11, no. 5, Aug. 2009.
- [4] Y. Zhang, S. Jain, and D. Loguinov, “Towards Experimental Evaluation of Explicit Congestion Control,” *Elsevier Computer Networks*, vol. 53, no. 7, May 2009.
- [5] Y. Zhang and D. Loguinov, “On Delay-Independent Diagonal Stability of Max-Min Congestion Control,” *IEEE Transactions on Automatic Control*, vol. 54, no. 4, Apr. 2009.
- [6] Y. Zhang and D. Loguinov, “Local and Global Stability of Delayed Congestion Control Systems,” *IEEE Transactions on Automatic Control*, vol. 53, no. 10, Nov. 2008.
- [7] Y. Zhang, D. Leonard, and D. Loguinov, “JetMax: Scalable Max-Min Congestion Control for High-Speed Heterogeneous Networks,” *Elsevier Computer Networks*, vol. 52, no. 6, Apr. 2008.
- [8] Y. Zhang, S.-R. Kang, and D. Loguinov, “Delay-Independent Stability and Performance of Distributed Congestion Control,” *IEEE/ACM Transactions on Networking*, vol. 15, no. 4, Aug. 2007.

Conferences

- [9] X. Wang, Y. Zhang, Z. Yao, and D. Loguinov, “Robust Lifetime Measurement in Large-Scale P2P Systems with Non-Stationary Arrivals,” *IEEE P2P*, Sep. 2009.

- [10] Y. Zhang, V. Singh, Y. Gu, and G. Jiang, "QoEScope: Adaptive IP Service Management for Large-Scale Heterogeneous Networks," *IEEE IWQoS*, Jul. 2009.
- [11] Y. Zhang and D. Loguinov, "ABS: Adaptive Buffer Sizing for Heterogeneous Internet Traffic," *IEEE IWQoS*, Jun. 2008.
- [12] S. Jain, Y. Zhang, and D. Loguinov, "Towards Experimental Evaluation of Explicit Congestion Control," *IEEE IWQoS*, Jun. 2008.
- [13] S. Bhandarkar, A. L. Narasimha Reddy, Y. Zhang, and D. Loguinov, "Emulating AQM at End Hosts," *ACM SIGCOMM*, Aug. 2007.
- [14] Y. Zhang and D. Loguinov, "On Delay-Independent Diagonal Stability of Single-Link Congestion Control," *IEEE CDC*, Dec. 2006.
- [15] Y. Zhang, D. Leonard, and D. Loguinov, "JetMax: Scalable Max-Min Congestion Control for High-Speed Heterogeneous Networks," *IEEE INFOCOM*, Apr. 2006.
- [16] Y. Zhang and D. Loguinov, "Local and Global Stability of Symmetric Heterogeneously-Delayed Control Systems," *IEEE CDC*, Dec. 2004.
- [17] Y. Zhang, S.-R. Kang, and D. Loguinov, "Delayed Stability and Performance of Distributed Congestion Control," *ACM SIGCOMM*, Aug. 2004.
- [18] Y. Zhang and D. Loguinov, "Oscillations and Buffer Overflows in Video Streaming under Non-Negligible Queuing Delay," *ACM NOSSDAV*, Jun. 2004.
- [19] X. Wang, Y. Zhang, X. Li, and D. Loguinov, "On Zone-Balancing of Peer-to-Peer Networks: Analysis of Random Node Join," *ACM SIGMETRICS*, Jun. 2004.
- [20] S.-R. Kang, Y. Zhang, M. Dai, and D. Loguinov, "Multi-Layer Active Queue Management and Congestion Control for Scalable Video Streaming," *IEEE ICDCS*, Mar. 2004.

Preprints

- [21] S. Jain, Y. Zhang, and D. Loguinov, "PIQI-RCP: Design and Analysis of Rate-Based Explicit Congestion Control," *submitted to IEEE/ACM Transactions on Networking*.

Patents

- [22] Y. Zhang, Y. Ru, and G. Jiang, "Inferring Physical Network Topology from End-to-End Measurement," *US patent pending*, NEC Labs America.
- [23] Y. Gu, G. Jiang, V. Singh, and Y. Zhang, "Towards Optimal Probing Pairs for Network Tomography with End-to-End Unicast Probing," *US patent pending*, NEC Labs America.

Presentations

1. "QoEScope: Adaptive IP Service Management for Heterogeneous Enterprise Networks," *IEEE IWQoS*, Charleston, SC, Jul. 15, 2009.
2. "Delay-Independent Stable Max-Min Congestion Control," *Networking Seminar*, Department of Electrical and Computer Engineering, Texas A&M University, College Station, TX, Feb. 28, 2007.
3. "On Delay-Independent Diagonal Stability of Single-Link Congestion Control," *IEEE CDC*, San Diego, CA, Dec. 13, 2006.
4. "JetMax: Scalable Max-Min Congestion Control for High-Speed Heterogeneous Networks," *IEEE INFOCOM*, Barcelona, Spain, Apr. 26, 2006.
5. "Local and Global Stability of Symmetric Heterogeneously-Delayed Control Systems," *IEEE CDC*, Nassau, Bahamas, Dec. 16, 2004.
6. "Delayed Stability and Performance of Distributed Congestion Control," *ACM SIGCOMM*, Portland, OR, Sep. 2, 2004.

7. "Oscillations and Buffer Overflows in Video Streaming under Non-Negligible Queuing Delay," *ACM NOSSDAV*, Cork, Ireland, Jun. 18, 2004.

Awards Texas A&M Graduate Teaching Academy Fellow
NSF Travel Awards: ACM NOSSDAV 2004, IEEE CDC 2004, and IEEE ICNP 2005

Professional Activities Member: IEEE and ACM
Reviewer: IEEE/ACM Transactions on Networking, IEEE Transactions on Automatic Control, American Control Conference 2007, Elsevier Computer Networks

Students Supervision Yu Ru (UIUC), Summer Intern, 2008
Ao-Jan Su (Northwestern), Summer Intern, 2009