

# Dmitri Loguinov

Computer Science and Engineering  
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- Research Interests**     ◇ Big-data computing, graph algorithms, Internet measurement, stochastic modeling, peer-to-peer networks, larger-scale information retrieval, web crawling, congestion control, analysis of random graphs, topology modeling, bandwidth estimation, and video streaming.
- Education**     ◇ 10/2002     PhD in Computer Science (GPA 4.0/4.0)  
City University of New York, New York, NY 10016  
Thesis: “Adaptive Scalable Internet Streaming”  
Co-advisors: Hayder Radha and Kaliappa Ravindran
- ◇ 6/1995     BS (with honors) in Computer Science (GPA 4.85/5.0)  
Moscow State University, Moscow, Russia 119991  
Thesis: “Optimal Multi-Processor Scheduling Algorithms”  
Advisor: Meran Furugian
- Experience**     ◇ 9/2011–     Professor  
9/2007–8/2011     Associate Professor  
9/2002–8/2007     Assistant Professor  
Department of Computer Science and Engineering  
Texas A&M University, College Station, TX 77843
- Publications**     ◇ **Refereed Journal** († marks advised students)
1. Z. Shamsi† and D. Loguinov, “Unsupervised Clustering Under Temporal Feature Volatility in Network Stack Fingerprinting,” *Accepted to IEEE/ACM Transactions on Networking*, 2017.
  2. X. Li†, D.B.H. Cline, and D. Loguinov, “Temporal Update Dynamics under Blind Sampling,” *IEEE/ACM Trans. Networking*, vol. 25, no. 1, pp. 363–376, Feb. 2017.
  3. X. Li†, D.B.H. Cline, and D. Loguinov, “On Sample-Path Staleness in Lazy Data Replication,” *IEEE/ACM Trans. Networking*, vol. 24, no. 5, pp. 2858–2871, Oct. 2016.
  4. Z. Shamsi†, A. Nandwani†, D. Leonard†, and D. Loguinov, “Hershel: Single-Packet OS Fingerprinting,” *IEEE/ACM Trans. Networking*, vol. 24, no. 4, pp. 2196–2209, Aug. 2016.
  5. Z. Yao†, D.B.H. Cline, and D. Loguinov, “Unstructured P2P Link Lifetimes Redux,” *IEEE/ACM Trans. Networking*, vol. 23, no. 3, pp. 755–767, Jun. 2015.
  6. Z. Yao†, D.B.H. Cline, X. Wang†, and D. Loguinov, “Unifying Models of Churn and Resilience for Unstructured P2P Graphs,” *IEEE Trans. Parallel and Distributed Systems*, vol. 25, no. 9, pp. 2475–2485, Sep. 2014.
  7. D. Leonard† and D. Loguinov, “Demystifying Internet-Wide Service Discovery,” *IEEE/ACM Trans. Networking*, vol. 21, no. 6, pp. 1760–1773, Dec. 2013.

8. X. Wang<sup>†</sup>, X. Li<sup>†</sup>, and D. Loguinov, “Modeling Residual-Geometric Flow Sampling,” *IEEE/ACM Trans. Networking*, vol. 21, no. 4, pp. 1090–1103, Aug. 2013.
9. Z. Yao<sup>†</sup> and D. Loguinov, “Analysis of Link Lifetimes and Neighbor Selection in Switching DHTs,” *IEEE Trans. Parallel and Distributed Systems*, vol. 22, no. 11, pp. 1834–1841, Nov. 2011.
10. Z. Yao<sup>†</sup> and D. Loguinov, “Understanding Disconnection and Stabilization of Chord,” *IEEE Trans. Parallel and Distributed Systems*, vol. 22, no. 4, pp. 650–661, Apr. 2011.
11. Y. Zhang<sup>†</sup> and D. Loguinov, “ABS: Adaptive Buffer Sizing for Heterogeneous Networks,” *Elsevier Computer Networks*, vol. 54, no. 14, pp. 2562–2574, Oct. 2010.
12. Y. Zhang<sup>†</sup>, Y. Xiong, S. Liu, and D. Loguinov, “Queuing Dynamics and Single-Link Stability of Delay-Based Window Congestion Control,” *Elsevier Computer Networks*, vol. 54, no. 10, pp. 1543–1553, Jul. 2010.
13. X. Wang<sup>†</sup> and D. Loguinov, “Understanding and Modeling the Internet Topology: Economics and Evolution Perspective,” *IEEE/ACM Trans. Networking*, vol. 18, no. 1, pp. 257–270, Feb. 2010.
14. M. Dai<sup>†</sup>, Y. Zhang<sup>†</sup>, and D. Loguinov, “A Unified Traffic Model for MPEG-4 and H.264 Video Traces,” *IEEE Trans. Multimedia*, vol. 11, no. 5, pp. 1010–1023, Aug. 2009.
15. H.-T. Lee<sup>†</sup>, D. Leonard<sup>†</sup>, X. Wang<sup>†</sup>, and D. Loguinov, “IRLbot: Scaling to 6 Billion Pages and Beyond,” *ACM Trans. Web*, vol. 3, no. 3, pp. 1–33, Jun. 2009.
16. X. Wang<sup>†</sup>, Z. Yao<sup>†</sup>, and D. Loguinov, “Residual-Based Estimation of Peer and Link Lifetimes in P2P Networks,” *IEEE/ACM Trans. Networking*, vol. 17, no. 3, pp. 726–739, Jun. 2009.
17. Y. Zhang<sup>†</sup> and D. Loguinov, “On Delay-Independent Diagonal Stability of Max-Min Congestion Control,” *IEEE Trans. Automatic Control*, vol. 54, no. 5, pp. 1111–1116, May 2009.
18. Y. Zhang<sup>†</sup>, S. Jain<sup>†</sup>, and D. Loguinov, “Towards Experimental Evaluation of Explicit Congestion Control,” *Elsevier Computer Networks*, vol. 53, no. 7, pp. 1027–1039, May 2009.
19. Z. Yao<sup>†</sup>, X. Wang<sup>†</sup>, D. Leonard<sup>†</sup>, and D. Loguinov, “Node Isolation Model and Age-Based Neighbor Selection in Unstructured P2P Networks,” *IEEE/ACM Trans. Networking*, vol. 17, no. 1, pp. 144–157, Feb. 2009.
20. D. Leonard<sup>†</sup>, Z. Yao<sup>†</sup>, X. Wang<sup>†</sup>, and D. Loguinov, “On Static and Dynamic Partitioning Behavior of Large-Scale P2P Networks,” *IEEE/ACM Trans. Networking*, vol. 16, no. 6, pp. 1475–1488, Dec. 2008.
21. Y. Zhang<sup>†</sup> and D. Loguinov, “Local and Global Stability of Delayed Congestion Control Systems,” *IEEE Trans. Automatic Control*, vol. 53, no. 10, pp. 2356–2360, Nov. 2008.
22. Y. Zhang<sup>†</sup>, D. Leonard<sup>†</sup>, and D. Loguinov, “JetMax: Scalable Max-Min Congestion Control for High-Speed Heterogeneous Networks,” *Elsevier Computer Networks*, vol. 52, no. 6, pp. 1193–1219, Apr. 2008.
23. X. Liu<sup>†</sup>, K. Ravindran, and D. Loguinov, “A Stochastic Foundation of Available Bandwidth Estimation: Multi-Hop Analysis,” *IEEE/ACM Trans. Networking*, vol. 16, no. 1, pp. 130–143, Feb. 2008.

24. X. Liu<sup>†</sup>, K. Ravindran, and D. Loguinov, "A Queuing-Theoretic Foundation of Available Bandwidth Estimation: Single-Hop Analysis," *IEEE/ACM Trans. Networking* vol. 15, no. 4, pp. 918–931, Aug. 2007.
25. Y. Zhang<sup>†</sup>, S.-R. Kang<sup>†</sup>, and D. Loguinov, "Delay-Independent Stability and Performance of Distributed Congestion Control," *IEEE/ACM Trans. Networking*, vol. 15, no. 4, pp. 838–851, Aug. 2007.
26. X. Wang<sup>†</sup> and D. Loguinov, "Load-Balancing Performance of Consistent Hashing: Asymptotic Analysis of Random Node Join," *IEEE/ACM Trans. Networking*, vol. 15, no. 4, pp. 892–905, Aug. 2007.
27. D. Leonard<sup>†</sup>, Z. Yao<sup>†</sup>, V. Rai<sup>†</sup>, and D. Loguinov, "On Lifetime-Based Node Failure and Stochastic Resilience of Decentralized Peer-to-Peer Networks," *IEEE/ACM Trans. Networking*, vol. 15, no. 3, pp. 644–656, Jun. 2007.
28. S.-R. Kang<sup>†</sup> and D. Loguinov, "Modeling Best-Effort and FEC Streaming of Scalable Video in Lossy Network Channels," *IEEE/ACM Trans. Networking*, vol. 15, no. 1, pp. 187–200, Feb. 2007.
29. M. Dai<sup>†</sup>, D. Loguinov, and H. Radha, "Rate-Distortion Analysis and Quality Control in Scalable Internet Streaming," *IEEE Trans. Multimedia*, vol. 8, no. 6, pp. 1135–1146, Dec. 2006.
30. X. Liu<sup>†</sup>, K. Ravindran, and D. Loguinov, "Towards a Generalized Stochastic Model of End-to-End Packet-Pair Sampling," *IEEE JSAC Special Issue on Sampling the Internet*, vol. 24, no. 12, pp. 2249–2262, Dec. 2006.
31. D. Loguinov, J. Casas<sup>†</sup>, and X. Wang<sup>†</sup>, "Graph-Theoretic Analysis of Structured Peer-to-Peer Systems: Routing Distances and Fault Resilience," *IEEE/ACM Trans. Networking*, vol. 13, no. 5, pp. 1107–1120, Oct. 2005.
32. M. Dai<sup>†</sup>, C. Peng, A.K. Chan, and D. Loguinov, "Bayesian Wavelet Shrinkage with Edge Detection for SAR Image Despeckling," *IEEE Trans. Geoscience and Remote Sensing*, vol. 42, no. 8, pp. 1642–1648, Aug. 2004.
33. S.A. Khayam, S. Karande, H. Radha, and D. Loguinov, "Performance Analysis and Modeling of Errors and Losses over 802.11b LANs for High-Bitrate Real-Time Multimedia," *Elsevier Signal Processing: Image Communication*, vol. 18, no. 7, pp. 575–595, Aug. 2003.
34. D. Loguinov and H. Radha, "End-to-End Rate-Based Congestion Control: Convergence Properties and Scalability Analysis," *IEEE/ACM Trans. Networking*, vol. 11, no. 4, pp. 564–577, Aug. 2003.
35. D. Loguinov and H. Radha, "Retransmission Schemes for Streaming Internet Multimedia: Evaluation Model and Performance Analysis," *ACM SIGCOMM Computer Communication Review (CCR)*, vol. 32, no. 2, pp. 70–83, Apr. 2002.
36. D. Loguinov and H. Radha, "Large-Scale Experimental Study of Internet Performance Using Video Traffic," *ACM SIGCOMM Computer Communication Review (CCR)*, vol. 32, no. 1, pp. 7–19, Jan. 2002.

◇ **Refereed Conference and Workshop**

37. Y. Cui<sup>†</sup>, D. Xiao<sup>†</sup>, D.B.H. Cline, and D. Loguinov, "Improving I/O Complexity of Triangle Enumeration," *IEEE ICDM*, Nov. 2017 (9.3%).
38. Z. Shamsi<sup>†</sup>, D.B.H. Cline, and D. Loguinov, "Faults: A Non-Parametric Iterative Classifier for Internet-Wide OS Fingerprinting," *ACM CCS*, Oct. 2017 (18%).
39. D. Xiao<sup>†</sup>, Y. Cui<sup>†</sup>, D.B.H. Cline, and D. Loguinov, "On Asymptotic Cost of Triangle Listing in Random Graphs," *ACM PODS*, pp. 261–272, May 2017 (28.7%).

40. Y. Cui<sup>†</sup>, D. Xiao<sup>†</sup>, and D. Loguinov, “On Efficient External-Memory Triangle Listing,” *IEEE ICDM*, pp. 101–110, Dec. 2016 (8.5%).
41. Z. Shamsi<sup>†</sup> and D. Loguinov, “Unsupervised Clustering Under Temporal Feature Volatility in Network Stack Fingerprinting,” *ACM SIGMETRICS*, pp. 127–138, Jun. 2016 (13.5%).
42. X. Li<sup>†</sup>, D.B.H. Cline, and D. Loguinov, “On Sample-Path Staleness in Lazy Data Replication,” *IEEE INFOCOM*, pp. 1104–1112, Apr. 2015 (19.3%).
43. X. Li<sup>†</sup>, D.B.H. Cline, and D. Loguinov, “Temporal Update Dynamics under Blind Sampling,” *IEEE INFOCOM*, pp. 1634–1642, Apr. 2015 (19.3%).
44. S.T. Ahmed<sup>†</sup>, C. Sparkman<sup>†</sup>, H.-T. Lee<sup>†</sup>, and D. Loguinov, “Around the Web in Six Weeks: Documenting a Large-Scale Crawl,” *IEEE INFOCOM*, pp. 1598–1606, Apr. 2015 (19.3%).
45. S.T. Ahmed<sup>†</sup> and D. Loguinov, “Modeling Randomized Data Streams in Caching, Data Processing, and Crawling Applications,” *IEEE INFOCOM*, pp. 1625–1633, Apr. 2015 (19.3%).
46. S.T. Ahmed<sup>†</sup> and D. Loguinov, “On the Performance of MapReduce: A Stochastic Approach,” *IEEE BigData*, pp. 49–54, Oct. 2014 (short paper, 40%).
47. Z. Yao<sup>†</sup>, D.B.H. Cline, and D. Loguinov, “On the Tradeoff between Resilience and Degree Overload in Dynamic P2P Graphs,” *IEEE P2P*, pp. 1–10, Sep. 2014 (25%).
48. X. Li<sup>†</sup> and D. Loguinov, “Stochastic Models of Pull-Based Data Replication in P2P Systems,” *IEEE P2P*, pp. 1–10, Sep. 2014 (25%).
49. Z. Shamsi<sup>†</sup>, A. Nandwani<sup>†</sup>, D. Leonard<sup>†</sup>, and D. Loguinov, “Hershel: Single-Packet OS Fingerprinting,” *ACM SIGMETRICS*, pp. 195–206, Jun. 2014 (16.8%).
50. Z. Yao<sup>†</sup>, D.B.H. Cline, and D. Loguinov, “Unstructured P2P Link Lifetimes Redux,” *IEEE INFOCOM*, pp. 1762–1770, Apr. 2013 (17.4%).
51. D. Leonard<sup>†</sup>, Z. Yao<sup>†</sup>, X. Wang<sup>†</sup>, and D. Loguinov, “Stochastic Analysis of Horizontal IP Scanning,” *IEEE INFOCOM*, pp. 2077–2085, Mar. 2012 (18%).
52. Z. Yao<sup>†</sup>, D.B.H. Cline, and D. Loguinov, “On Superposition of Heterogeneous Edge Processes in Dynamic Random Graphs,” *IEEE INFOCOM Mini-Conference*, pp. 2991–2995, Mar. 2012 (25.7%).
53. S. Sood<sup>†</sup> and D. Loguinov, “Probabilistic Near-Duplicate Detection Using Simhash,” *ACM CIKM*, pp. 1117–1126, Oct. 2011 (15%).
54. C. Sparkman<sup>†</sup>, H.-T. Lee<sup>†</sup>, and D. Loguinov, “Agnostic Topology-Based Spam Avoidance in Large-Scale Web Crawls,” *IEEE INFOCOM*, pp. 811–819, Apr. 2011 (16%).
55. X. Wang<sup>†</sup>, X. Li<sup>†</sup>, and D. Loguinov, “Modeling Residual-Geometric Flow Sampling,” *IEEE INFOCOM*, pp. 1808–1816, Apr. 2011 (16%).
56. D. Leonard<sup>†</sup> and D. Loguinov, “Demystifying Service Discovery: Implementing an Internet-Wide Scanner,” *ACM IMC*, pp. 109–122, Nov. 2010 (22.2%).
57. Z. Yao<sup>†</sup>, D.B.H. Cline, and D. Loguinov, “In-Degree Dynamics of Large-Scale P2P Systems,” *ACM HotMetrics*, pp. 37–42, Jun. 2010 (37.5%).
58. S.-R. Kang<sup>†</sup> and D. Loguinov, “Characterizing Tight-Link Bandwidth of Multi-Hop Paths Using Probing Response Curves,” *IEEE IWQoS*, pp. 1–9, Jun. 2010 (24.8%).

59. M. Smith<sup>†</sup> and D. Loguinov, “Enabling High-Performance Internet-Wide Measurements on Windows,” *Passive and Active Measurement Conference (PAM)*, pp. 121–130, Apr. 2010 (29.1%).
60. C. Reddy<sup>†</sup>, D. Leonard<sup>†</sup>, and D. Loguinov, “Optimizing Capacity-Heterogeneous Unstructured P2P Networks for Random-Walk Traffic,” *IEEE P2P*, pp. 41–50, Sep. 2009 (**best paper award**, 19.8%).
61. X. Wang<sup>†</sup>, Z. Yao<sup>†</sup>, Y. Zhang<sup>†</sup>, and D. Loguinov, “Robust Lifetime Measurement in Large-Scale P2P Systems with Non-Stationary Arrivals,” *IEEE P2P*, pp. 101–110, Sep. 2009 (19.8%).
62. Y. Zhang<sup>†</sup> and D. Loguinov, “ABS: Adaptive Buffer Sizing for Heterogeneous Networks,” *IEEE IWQoS*, pp. 90–99, Jun. 2008 (36%).
63. S. Jain<sup>†</sup>, Y. Zhang<sup>†</sup>, and D. Loguinov, “Towards Experimental Evaluation of Explicit Congestion Control,” *IEEE IWQoS*, pp. 121–130, Jun. 2008 (36%).
64. S.A. Khayam, H. Radha, and D. Loguinov, “Worm Detection at Network Endpoints Using Information-Theoretic Traffic Perturbations,” *IEEE ICC*, pp. 1561–1565, May 2008 (36%).
65. H.-T. Lee<sup>†</sup>, D. Leonard<sup>†</sup>, X. Wang<sup>†</sup>, and D. Loguinov, “IRLbot: Scaling to 6 Billion Pages and Beyond,” *WWW*, pp. 427–436, Apr. 2008 (**best paper award**, 11%).
66. S.-R. Kang<sup>†</sup> and D. Loguinov, “IMR-Pathload: Robust Available Bandwidth Estimation under End-Host Interrupt Delay,” *Passive and Active Measurement Conference (PAM)*, pp. 172–181, Apr. 2008 (32%).
67. X. Wang<sup>†</sup>, X. Liu<sup>†</sup>, and D. Loguinov, “Modeling the Evolution of Degree Correlation in Scale-Free Topology Generators,” *IEEE INFOCOM*, pp. 1768–1776, Apr. 2008 (20.3%).
68. Z. Yao<sup>†</sup> and D. Loguinov, “Understanding Disconnection and Stabilization of Chord,” *IEEE INFOCOM*, pp. 1723–1731, Apr. 2008 (20.3%).
69. Z. Yao<sup>†</sup> and D. Loguinov, “Link Lifetimes and Randomized Neighbor Selection in DHTs,” *IEEE INFOCOM*, pp. 637–645, Apr. 2008 (20.3%).
70. D. Leonard<sup>†</sup> and D. Loguinov, “Turbo King: Framework for Large-Scale Internet Delay Measurements,” *IEEE INFOCOM*, pp. 430–438, Apr. 2008 (20.3%).
71. S. Bhandarkar, A.L.N. Reddy, Y. Zhang<sup>†</sup>, and D. Loguinov, “Emulating AQM from End Hosts,” *ACM SIGCOMM*, pp. 349–360, Aug. 2007 (13.6%).
72. S. Jain<sup>†</sup> and D. Loguinov, “PIQI-RCP: Design and Analysis of Rate-Based Explicit Congestion Control,” *IEEE IWQoS*, pp. 10–20, Jun. 2007 (**nominated for the best student paper award**, 27%).
73. Z. Yao<sup>†</sup>, X. Wang<sup>†</sup>, D. Leonard<sup>†</sup>, and D. Loguinov, “On Node Isolation under Churn in Unstructured P2P Networks with Heavy-Tailed Lifetimes,” *IEEE INFOCOM*, pp. 2126–2134, May 2007 (18%).
74. X. Wang<sup>†</sup>, Z. Yao<sup>†</sup>, and D. Loguinov, “Residual-Based Measurement of Peer and Link Lifetimes in Gnutella Networks,” *IEEE INFOCOM*, pp. 391–399, May 2007 (18%).
75. Y. Zhang<sup>†</sup> and D. Loguinov, “On Delay-Independent Diagonal Stability of Max-Min Congestion Control,” *IEEE CDC*, pp. 621–626, Dec. 2006 (64%).
76. Z. Yao<sup>†</sup>, D. Leonard<sup>†</sup>, X. Wang<sup>†</sup>, and D. Loguinov, “Modeling Heterogeneous User Churn and Local Resilience of Unstructured P2P Networks,” *IEEE ICNP*, pp. 32–41, Nov. 2006 (14.2%).
77. S.-R. Kang<sup>†</sup>, X. Liu<sup>†</sup>, A. Bhati<sup>†</sup>, and D. Loguinov, “On Estimating Tight Link Bandwidth Characteristics over Multi-Hop Paths,” *IEEE ICDCS*, pp. 1–10, Jul. 2006 (13.8%).

78. Y. Zhang<sup>†</sup>, D. Leonard<sup>†</sup>, and D. Loguinov, “JetMax: Scalable Max-Min Congestion Control for High-Speed Heterogeneous Networks,” *IEEE INFOCOM*, pp. 1–13, Apr. 2006 (18%).
79. X. Wang<sup>†</sup> and D. Loguinov, “Wealth-Based Evolution Model for the Internet AS-Level Topology,” *IEEE INFOCOM*, pp. 1–11, Apr. 2006 (18%).
80. X. Liu<sup>†</sup>, K. Ravindran, and D. Loguinov, “Measuring Probing Response Curves over the RON Testbed,” *Passive and Active Measurement Conference (PAM)*, pp. 191–200, Mar. 2006 (25%).
81. D. Leonard<sup>†</sup>, Z. Yao<sup>†</sup>, X. Wang<sup>†</sup>, and D. Loguinov, “On Static and Dynamic Partitioning Behavior of Large-Scale Networks,” *IEEE ICNP*, pp. 345–357, Nov. 2005 (17%).
82. X. Liu<sup>†</sup>, K. Ravindran, and D. Loguinov, “Multi-Hop Probing Asymptotics in Available Bandwidth Estimation: Stochastic Analysis,” *ACM/USENIX IMC*, pp. 173–186, Oct. 2005 (24.3%).
83. S.-R. Kang<sup>†</sup> and D. Loguinov, “Impact of FEC Overhead on Scalable Video Streaming,” *ACM NOSSDAV*, pp. 123–128, Jun. 2005 (38%).
84. D. Leonard<sup>†</sup>, V. Rai<sup>†</sup>, and D. Loguinov, “On Lifetime-Based Node Failure and Resilience of Decentralized Peer-to-Peer Networks,” *ACM SIGMETRICS*, pp. 26–37, Jun. 2005 (**nominated for the best student paper award**, 13.1%).
85. M. Dai<sup>†</sup> and D. Loguinov, “Analysis and Modeling of H.264 and MPEG-4 Multi-Layer Video Traffic,” *IEEE INFOCOM*, pp. 2257–2267, Mar. 2005 (17.2%).
86. X. Liu<sup>†</sup>, K. Ravindran, and D. Loguinov, “What Signals Do Packet-Pair Dispersions Carry?” *IEEE INFOCOM*, pp. 281–292, Mar. 2005 (17.2%).
87. M. Dai<sup>†</sup> and D. Loguinov, “Wavelet and Time-Domain Modeling of Multi-Layer VBR Video Traffic,” *Packet Video*, pp. 1–10, Dec. 2004 (50%).
88. Y. Zhang<sup>†</sup> and D. Loguinov, “Local and Global Stability of Symmetric Heterogeneously-Delayed Control Systems,” *IEEE CDC*, pp. 5004–5009, Dec. 2004 (50%).
89. X. Li<sup>†</sup>, D. Leonard<sup>†</sup>, and D. Loguinov, “On Reshaping of Clustering Coefficients in Degree-Based Topology Generators,” *Workshop on Algorithms and Models for the Web-Graph (WAW)*, pp. 68–79, Oct. 2004 (45%).
90. X. Liu<sup>†</sup>, K. Ravindran, B. Liu, and D. Loguinov, “Single-Hop Probing Asymptotics in Available Bandwidth Estimation: Sample-Path Analysis,” *ACM IMC*, pp. 300–313, Oct. 2004 (19%).
91. S.-R. Kang<sup>†</sup>, X. Liu<sup>†</sup>, M. Dai<sup>†</sup>, and D. Loguinov, “Packet Pair Bandwidth Estimation: Stochastic Analysis of a Single Congested Node,” *IEEE ICNP*, pp. 316–325, Oct. 2004 (15.5%).
92. M. Dai<sup>†</sup>, D. Loguinov, and H. Radha, “Rate-Distortion Modeling of Scalable Video Coders,” *IEEE ICIP*, pp. 1093–1096, Oct. 2004 (46%).
93. M. Dai<sup>†</sup>, D. Loguinov, and H. Radha, “A Hybrid Wavelet Framework for Modeling VBR Video Traffic,” *IEEE ICIP*, pp. 3125–3128, Oct. 2004 (46%).
94. X. Liu<sup>†</sup>, K. Ravindran, and D. Loguinov, “Evaluating the Potential of Bandwidth Estimators,” *New York Metro Area Networking Workshop (NYMAN)*, pp. 1–4, Sep. 2004.
95. Y. Zhang<sup>†</sup>, S.-R. Kang<sup>†</sup>, and D. Loguinov, “Delayed Stability and Performance of Distributed Congestion Control,” *ACM SIGCOMM*, pp. 307–318, Aug. 2004 (9.1%).

96. Y. Zhang<sup>†</sup> and D. Loguinov, "Oscillations and Buffer Overflows in Video Streaming under Non-Negligible Delay," *ACM NOSSDAV*, pp. 88–93, Jun. 2004 (25%).
97. X. Wang<sup>†</sup>, Y. Zhang<sup>†</sup>, X. Li<sup>†</sup>, and D. Loguinov, "On Zone-Balancing of Peer-to-Peer Networks: Analysis of Random Node Join," *ACM SIGMETRICS*, pp. 211–222, Jun. 2004 (12.4%).
98. S.-R. Kang<sup>†</sup>, Y. Zhang<sup>†</sup>, M. Dai<sup>†</sup>, and D. Loguinov, "Multi-layer Active Queue Management and Congestion Control for Scalable Video Streaming," *IEEE ICDCS*, pp. 768–777, Mar. 2004 (17.7%).
99. M. Dai<sup>†</sup>, D. Loguinov, and H. Radha, "Statistical Analysis and Distortion Modeling of MPEG-4 FGS," *IEEE ICIP*, pp. 301–304, Sep. 2003 (44%).
100. D. Loguinov, A. Kumar<sup>†</sup>, V. Rai<sup>†</sup>, and S. Ganesh<sup>†</sup>, "Graph-Theoretic Analysis of Structured Peer-to-Peer Systems: Routing Distances and Fault Resilience," *ACM SIGCOMM*, pp. 395–406, Aug. 2003 (10.3%).
101. M. Dai<sup>†</sup> and D. Loguinov, "Analysis of Rate-Distortion Functions and Congestion Control in Scalable Internet Video Streaming," *ACM NOSSDAV*, pp. 60–69, Jun. 2003 (30%).
102. D. Loguinov and H. Radha, "Open-loop Rate Control for Real-time Video Streaming: Analysis of Binomial Algorithms," *IEEE ICIP*, pp. 193–196, Sep. 2002 (55%).
103. D. Loguinov and H. Radha, "Video-Receiver Based Real-time Estimation of Channel Capacity," *IEEE ICIP*, pp. 213–216, Sep. 2002 (55%).
104. D. Loguinov and H. Radha, "Effects of Channel Delays on Underflow Events of Compressed Video Over the Internet," *IEEE ICIP*, pp. 205–208, Sep. 2002 (55%).
105. D. Loguinov and H. Radha, "End-to-End Internet Video Traffic Dynamics: Statistical Study and Analysis," *IEEE INFOCOM*, pp. 723–732, Jun. 2002 (20.5%).
106. D. Loguinov and H. Radha, "Increase-Decrease Congestion Control for Real-time Streaming: Scalability," *IEEE INFOCOM*, pp. 525–534, Jun. 2002 (20.5%).
107. D. Loguinov and H. Radha, "Measurement Study of Low-bitrate Internet Video Streaming," *ACM IMW*, pp. 281–293, Nov. 2001 (26.4%).
108. H. Radha and D. Loguinov, "Encoder Buffer Constraints for Video Transmission over Networks with No Quality-of-Service Guarantees," *IEEE ISCC*, pp. 359–363, Jul. 2001 (55%).
109. K. Ravindran, D. Loguinov, K. Bhat, T.-J. Gong, and K. Gould, "Performance Engineering of End-Systems for High Bandwidth Multimedia Communications," *SCS SPECTS*, Jul. 2001 (60%).
110. D. Loguinov and H. Radha, "On Retransmission Schemes for Real-time Streaming in the Internet," *IEEE INFOCOM*, pp. 1310–1319, Apr. 2001 (23.1%).
111. K. Ravindran, A. Sabbir, D. Loguinov, and G. Bloom, "Cost Optimal Multicast Trees for Multi-Source Data Flows," *IEEE INFOCOM*, pp. 966–975, Apr. 2001 (23.1%).
112. K. Ravindran, D. Loguinov, and T.-J. Gong, "Flow & QoS Based Routing Control for Multicast Protocols," *SCS WMC*, Jan. 2001.
113. K. Ravindran and D. Loguinov, "Incorporation of Flow and QoS Control in Multicast Routing Architectures," *IEEE ICCCN*, pp. 312–320, Oct. 1998 (41%).

◇ **Invited Abstracts**

114. X. Wang<sup>†</sup> and D. Loguinov, “Modeling the Dynamics of the Internet AS-Level Structure: An Economic Perspective,” *ISMA Workshop on the Internet Topology (WIT)*, May 2006.
115. D. Loguinov, “What Does it Take to Disconnect a P2P Network?” *Allerton Conference on Communication, Control, and Computing*, Sep. 2005.

◇ **Book Chapters**

116. H. Radha and D. Loguinov, “Channel Modeling and Analysis for the Internet,” *Multimedia over IP and Wireless Networks*, Eds. Mihaela van der Schaar and Philip Chou, Academic Press, pp. 229–270, Mar. 2007.

◇ **Technical Reports**

117. Z. Shamsi<sup>†</sup>, D.B.H. Cline, and D. Loguinov, “Faults: A Non-Parametric Iterative Classifier for Internet-Wide OS Fingerprinting,” *Texas A&M Technical Report 2017-8-2*, Aug. 2017.
118. D. Xiao<sup>†</sup>, Y. Cui<sup>†</sup>, D.B.H. Cline, and D. Loguinov, “On Asymptotic Cost of Triangle Listing in Random Graphs,” *Texas A&M Technical Report 2016-9-2*, Sep. 2016.
119. Y. Cui<sup>†</sup>, D. Xiao<sup>†</sup>, and D. Loguinov, “On Efficient External-Memory Triangle Listing,” *Texas A&M Technical Report 2016-9-1*, Sep. 2016.
120. X. Li<sup>†</sup>, D.B.H. Cline, and D. Loguinov, “Temporal Update Dynamics under Blind Sampling,” *Texas A&M Technical Report 2015-1-2*, Jan. 2015.
121. X. Li<sup>†</sup>, D.B.H. Cline, and D. Loguinov, “On Sample-Path Staleness in Lazy Data Replication,” *Texas A&M Technical Report 2015-1-1*, Jan. 2015.
122. X. Wang<sup>†</sup>, X. Li<sup>†</sup>, and D. Loguinov, “Modeling Residual-Geometric Flow Sampling,” *Texas A&M Technical Report 2010-12-2*, Dec. 2010.
123. X. Wang<sup>†</sup>, Z. Yao<sup>†</sup>, Y. Zhang<sup>†</sup>, and D. Loguinov, “Robust Lifetime Measurement in Large-Scale P2P Systems with Non-Stationary Arrivals,” *Texas A&M Technical Report 2009-6-2*, Jun. 2009.
124. M. Dai<sup>†</sup>, Y. Zhang<sup>†</sup>, and D. Loguinov, “A Unified Traffic Model for MPEG-4 and H.264 Video Traces,” *Texas A&M Technical Report 2009-4-3*, Apr. 2009.
125. H.-T. Lee<sup>†</sup>, D. Leonard<sup>†</sup>, X. Wang<sup>†</sup>, and D. Loguinov, “IRLbot: Scaling to 6 Billion Pages and Beyond,” *Texas A&M Technical Report 2008-2-2*, Feb. 2008.
126. X. Wang<sup>†</sup>, X. Liu<sup>†</sup>, and D. Loguinov, “Modeling the Evolution of Degree Correlation in Scale-Free Topology Generators,” *Texas A&M Technical Report 2007-12-1*, Dec. 2007.
127. Z. Yao<sup>†</sup>, D. Leonard<sup>†</sup>, X. Wang<sup>†</sup>, and D. Loguinov, “Modeling Heterogeneous User Churn and Local Resilience of Unstructured P2P Networks,” *Texas A&M Technical Report 2006-8-1*, Aug. 2006.
128. X. Liu<sup>†</sup>, K. Ravindran, and D. Loguinov, “Multi-Hop Probing Asymptotics in Available Bandwidth Estimation: Stochastic Analysis,” *CUNY Technical Report TR-2005010*, Aug. 2005.
129. X. Liu<sup>†</sup>, K. Ravindran, B. Liu, and D. Loguinov, “Single-Hop Probing Asymptotics in Available Bandwidth Estimation: Sample-Path Analysis,” *CUNY Technical Report TR-2004012*, Aug. 2004.

**Funding**

◇ **Research Grants**



1. D. Loguinov (PI), “Algorithms and Abstractions for Efficient Virtual-Memory Streaming and Big-Data Computing,” *NSF CISE, Computer Systems Research (CNS-1717982)*, \$471,008, 2017-2020.
2. D. Loguinov (PI) and D.B.H. Cline (co-PI), “Yesterday’s News: Theory of Staleness under Data Churn,” *NSF CISE, Computer Systems Research (CNS-1319984)*, \$473,420, 2013-2016.
3. D. Loguinov (PI), “Large-Scale Web Crawling and Spam Avoidance in Search-Engine Applications,” *NSF CISE, Computer Systems Research (CNS-1017766)*, \$400,105, 2010-2013.
4. D. Loguinov (PI), “Bridging Analytical and Empirical Understanding of Churn in Decentralized P2P Networks,” *NSF CISE, Computer Systems Research (CNS-0720571)*, \$318,990, 2007-2010.
5. D. Loguinov (PI), “Distributed Congestion Control for Heterogeneous Networks,” *NSF CISE, Networking Research (CNS-0519442)*, \$300,000, 2005-2008.
6. D. Loguinov (PI), “Topology Models for Decentralized Random Graphs,” *NSF CISE, Networking Research (CNS-0434940)*, \$335,541, 2004-2007.
7. D. Loguinov (PI), “Efficient Self-Organizing Content Distribution Network for Scalable Video Streaming Services,” *NSF CISE, Information Technology Research (ANI-0312461)*, \$274,999, 2003-2006.
8. D. Loguinov (PI), “Optimal-Diameter Routing and Error Resilience in Peer-to-Peer Networks,” *NSF CISE, Distributed Systems and Compilers (CCR-0306246)*, \$248,283, 2003-2006.

◇ **Research Experience for Undergrads (REU)**

9. D. Loguinov (PI), “REU: Large-Scale Web Crawling and Spam Avoidance in Search-Engine Applications,” *NSF CISE*, \$15,000, 2010-2013.
10. D. Loguinov (PI), “REU: Bridging Analytical and Empirical Understanding of Churn in Decentralized P2P Networks,” *NSF CISE*, \$12,000, 2007-2010.
11. D. Loguinov (PI), “REU: Efficient Self-Organizing Content Distribution Network for Scalable Video Streaming Services,” *NSF CISE*, \$6,000, 2003-2006.

**Patents**

◇ **United States**

1. D. Loguinov, “Method for Supporting Non-Linear, Highly Scalable Increase-Decrease Congestion Control Methods,” *U.S. Patent no. 7,206,285*, Issued: Apr. 17, 2007.
2. D. Loguinov, “Scheme for Supporting Real-Time Packetization and Retransmission in Rate-Based Streaming Applications,” *U.S. Patent no. 7,164,680*, Issued: Jan. 16, 2007.
3. D. Loguinov and H. Radha, “Method for Efficient Retransmission Timeout Estimation in NACK-based protocols,” *U.S. Patent no. 6,907,460*, Issued: Jun. 14, 2005.
4. H. Radha and D. Loguinov, “System and Method for Controlling the Delay Budget of a Decoder Buffer in a Streaming Data Receiver,” *U.S. Patent no. 6,700,893*, Issued: Mar. 2, 2004.

**Awards**

◇ **Research**

- *Best Paper Award* (among 25 accepted and 124 submitted), IEEE P2P 2009.
- *TEES Fellow*, Texas A&M University (for outstanding long-term research performance and commitment to excellence in engineering research initiatives in the Texas Engineering Experiment Station), 2008/2009.

- *Best Paper Award* (among 97 accepted and 880 submitted), WWW 2008.
- *TEES Select Young Faculty*, Texas A&M University (for outstanding research performance and commitment to excellence in engineering research initiatives in the Texas Engineering Experiment Station), 2005/2006.

◇ **Teaching**

- *Association of Former Students Distinguished Achievement (College Level)*, Texas A&M University (for dedication, interest, enthusiasm, and attitude in accomplishing the assigned mission in teaching), 2015/2016.

◇ **Undergraduate Mentoring**

- *First-place award*, REU/USRG poster competition at Texas A&M University, Autumn Breese “Characterizing DNS Implementations and their Cache-Poisoning Vulnerabilities,” Aug. 2009.
- *First-place award*, REU/USRG poster competition at Texas A&M University, Drew Fisher “Efficient HTML Parsing for Web Crawlers,” Aug. 2008.

**Professional  
Activities**

◇ **Societies**

- IEEE: Student Member 1999-2002, Member 2003-2006, Senior Member 2007–
- ACM: Student Member 2000-2002, Member 2003-2006, Senior Member 2007-2013, Distinguished Scientist 2014–
- SIGCOMM: Member 2004-2008

◇ **Technical Program Committees (TPC)**

- IEEE ICNP 2017
- PAM 2014
- IEEE/ACM IWQoS 2013
- IEEE ICDCS 2013
- ACM CIKM 2011
- WWW 2009, 2010, 2013
- IEEE BroadNets 2008, 2009
- ACM NOSSDAV 2008
- IEEE INFOCOM 2004, 2005, 2006
- IEEE ICIP 2004, 2005
- IEEE ICME 2003

◇ **Journal Reviewer**

- ACM SIGCOMM Computer Communication Review
- ACM Trans. on Multimedia Computing, Comm., and Applications
- Elsevier Computer Communications
- Elsevier Computer Networks
- Elsevier Journal of Visual Communications and Image Representation
- IEEE Communications Letters
- IEEE Journal of Selected Topics in Signal Processing
- IEEE Journal on Selected Areas in Communications
- IEEE Trans. on Automatic Control
- IEEE Trans. on Circuits and Systems for Video Technology
- IEEE Trans. on Circuits and Systems II

- IEEE Trans. on Computers
- IEEE Trans. on Control Systems Technology
- IEEE Trans. on Multimedia
- IEEE/ACM Trans. on Networking
- IEEE Trans. on Parallel and Distributed Systems
- IEEE Trans. on Vehicular Technology
- IEEE Trans. on Wireless Communications
- Oxford Computer Journal
- Springer World Wide Web Journal
- Springer VLDB Journal
- ◇ **Conference Reviewer (non-TPC)**
  - Packet Video 2007
  - ACC 2006
  - IEEE CDC 2005
  - IEEE ICC 2003
  - IEEE INFOCOM 1999
- ◇ **Session Chair**
  - IEEE ICME 2003
- ◇ **External Proposal Reviewer**
  - NSF panels: 2006, 2008, 2011
  - Research Foundation, City University of New York: 2004

**Students  
Advised**

- ◇ **PhD Thesis**
  1. Yi Cui, “Efficient External-Memory Algorithms for Graph Mining,” *PhD in Computer Science, Texas A&M University*, December 2017.
  2. Zain Shamsi, “Scalable OS Fingerprinting: Classification Problems And Applications,” *PhD in Computer Science, Texas A&M University*, May 2017.
  3. Tanzir Ahmed, “Analysis, Modeling, And Algorithms For Scalable Web Crawling,” *PhD in Computer Science, Texas A&M University*, August 2016.
  4. Xiaoyong Li, “Distributed Synchronization Under Data Churn,” *PhD in Computer Science, Texas A&M University*, May 2016.
  5. Derek Leonard, “Algorithms for Internet-Wide Delay Sampling and Service Discovery,” *PhD in Computer Science, Texas A&M University*, Dec. 2010.
  6. Xiaoming Wang, “Robust and Scalable Sampling Algorithms for Network Measurement,” *PhD in Computer Science, Texas A&M University*, Aug. 2009.
  7. Zhongmei Yao, “Understanding Churn in Decentralized Peer-to-Peer Networks,” *PhD in Computer Science, Texas A&M University*, Aug. 2009.
  8. Seong-Ryong Kang, “Performance Analysis and Network Path Characterization for Scalable Internet Streaming,” *PhD in Computer Science, Texas A&M University*, May 2008.
  9. Yueping Zhang, “Stable and Scalable Congestion Control for High-Speed Heterogeneous Networks,” *PhD in Computer Engineering, Texas A&M University*, May 2008.
  10. Xiliang Liu, “A Stochastic Analysis of Available Bandwidth Estimation,” *PhD in Computer Science, City University of New York*, May 2005 (unofficial advisor).

11. Min Dai, "Rate-Distortion Analysis and Traffic Modeling for Scalable Video Coders," *PhD in Electrical Engineering, Texas A&M University*, Dec. 2004 (co-advised with Dr. Chan).
- ◇ **MS Thesis**
12. Xiangzhou Xia, "Efficient and Scalable Listing of Four-Vertex Subgraphs", *MS in Computer Science, Texas A&M University*, Dec. 2015.
  13. Yue Zhuo, "IRLstack 3.0: High-Performance Windows Sockets," *MS in Computer Science, Texas A&M University*, Dec. 2014.
  14. Patrick Webster, "Towards More Efficient Delay Measurements on the Internet," *MS in Computer Science, Texas A&M University*, Aug. 2013.
  15. Xiaoxi Zhang, "Efficient Parallel Text Compression on GPUs," *MS in Computer Science, Texas A&M University*, Dec. 2011.
  16. Siddhartha Mathiharan, "Identifying Search Engine Spam Using DNS," *MS in Computer Science, Texas A&M University*, Dec. 2011.
  17. Sadhan Sood, "Probabilistic Simhash Matching," *MS in Computer Science, Texas A&M University*, Aug. 2011.
  18. Ankur Nandwani, "Snap: Robust Tool For Internet-Wide Operating System Fingerprinting," *MS in Computer Science, Texas A&M University*, Dec. 2010.
  19. Chandan Reddy, "Capacity-Proportional Unstructured Peer-To-Peer Networks," *MS in Computer Engineering, Texas A&M University*, Aug. 2009.
  20. Videsh Sadafal, "Measurement and Analysis of BitTorrent," *MS in Computer Science, Texas A&M University*, Aug. 2008.
  21. Hsin-Tsang Lee, "IRLbot: Design and Performance Analysis of a Large-Scale Web Crawler," *MS in Computer Science, Texas A&M University*, May 2008.
  22. Kunal Patel, "Dispatch: Distributed Peer-to-Peer Simulations," *MS in Computer Science, Texas A&M University*, Aug. 2007.
  23. Saurabh Jain, "Evaluation of Explicit Congestion Control for High-Speed Networks," *MS in Electrical Engineering, Texas A&M University*, May 2007 (co-advised with Dr. Reddy).
  24. Prasanth Nittala, "Deterministic Routing Algorithms in Large Scale Wireless Sensor Networks," *MS in Computer Science, Texas A&M University*, Dec. 2004.
  25. Amit Bhati, "Envelope: A Method to Estimate Bottleneck and Available Bandwidth over a Network Path with Multiple Congested Links," *MS in Computer Science, Texas A&M University*, Dec. 2004.
  26. Geetha Kakarlapudi, "Analysis of Beacon Triangulation in Random Graphs," *MS in Computer Science, Texas A&M University*, Dec. 2004.
  27. Bharat Iyer, "Capacity and Scale-Free Dynamics of Evolving Wireless Networks," *MS in Electrical Engineering, Texas A&M University*, Aug. 2003 (co-advised with Dr. Reddy).
  28. Sai Ganesh, "Nonlinear Continuous Feedback Controllers," *MS in Computer Science, Texas A&M University*, Aug. 2003.
- ◇ **Undergraduate Research**
29. Nicholas Gilpin, "Delay Measurement via DNS," *Texas A&M University, NSF REU*, Summer 2015.
  30. Hayden Wood, "Bucket Sort with Streams," *Texas A&M University, NSF REU*, 2013-2014.

31. John Keech, “High-Performance Data Streaming under MapReduce Workloads,” *Texas A&M University*, NSF REU, 2011-2013.
32. Philip van Ruitenbeek, “Algorithms for Efficient Multi-Core Parallelization of Hash Tables,” *Texas A&M University*, NSF REU, Summer 2011.
33. Rand Dusing, “High-Performance User-Space TCP Stack for Large-Scale Internet Measurements,” *Texas A&M University*, NSF REU, Spring 2010.
34. Patrick Webster, “Efficient Architecture for Scalable DNS Services,” *Texas A&M University*, NSF REU, Spring 2010.
35. Autumn Breese “Characterizing DNS Implementations and Their Cache-Poisoning Vulnerabilities,” *Texas A&M University*, NSF Site REU, Summer 2009.
36. Drew Fisher, “Efficient HTML Parsing for Web Crawlers,” *Texas A&M University*, NSF Site REU, Summer 2008.
37. Matt Smith, “Mapping the Internet with Reverse Traceroute,” *Texas A&M University*, NSF REU, Spring 2008.
38. Robert Lychev, “Distributed Computing of Monte Carlo Simulations in Peer-to-Peer Networks,” *Texas A&M University*, NSF Site REU, Summer 2005.
39. Juan Casas, “Performance Analysis of Structured P2P Networks: Graph Diameter and Average Distance,” *Texas A&M University*, NSF Site REU, Summer 2004.

## Service

### ◇ University

- University Grievance Committee (UGC): Elected Member 2010-2012

### ◇ College of Engineering

- Honors and Awards Committee (Research): Member 2010-2011

### ◇ Department

- Graduate Awards Committee: Member 2016-2017
- PhD Admissions and Recruiting: Member 2015-2017
- Research Computing Services Committee: Chair 2016-2017
- Space Committee: Member 2004-2005, 2015-2017
- Climate Committee: Member 2015-2016
- Computing Services Committee (CSC): Chair 2013-2014
- Industrial Affiliates Program (IAP) Development: Member 2009-2013
- Graduate Advisory Committee (GAC): Member 2007-2012
- Graduate Admissions and Awards (GAAC): Member 2002-2004, 2007-2009
- Department Advisory Committee (AdCom): Elected Member 2006-2007
- Undergraduate Curriculum & ABET Committee (UGCC): Member 2005-2007
- Computing Services Advisory Committee (CSAC): Member 2002-2004

## Student Committees

### ◇ PhD Thesis

1. Sandeep Yadav, “Scalable Techniques for Anomaly Detection,” *PhD in Computer Engineering, Texas A&M University*, December 2012.
2. Srikanth Sastry, “A Prescription for Partial Synchrony,” *PhD in Computer Engineering, Texas A&M University*, May 2011.
3. Hang Su, “Design and Analysis of Opportunistic MAC Protocols for Cognitive Radio Networks,” *PhD in Computer Engineering, Texas A&M University*, Dec. 2010.

4. Qinghe Du, "Adaptive Resource Allocation for Statistical QoS Provisioning in Mobile Wireless Communications and Networks," *PhD in Computer Engineering, Texas A&M University*, Dec. 2010.
  5. Ni Qin, "Algorithms, Protocols & System for Remote Observation Using Networked Robotic Cameras," *PhD in Computer Science, Texas A&M University*, May 2008.
  6. Qian Xu, "Layered Wyner-Ziv Video Coding: A New Approach to Video Compression and Delivery," *PhD in Electrical and Computer Engineering, Texas A&M University*, Aug. 2007.
  7. Zhixin Liu, "Slepian-Wolf Coded Nested Quantization for Wyner-Ziv Coding: High-Rate Performance Analysis, Code Design, and Application to Cooperative Networks," *PhD in Electrical and Computer Engineering, Texas A&M University*, Aug. 2007.
  8. Sumitha Bhandarkar, "Congestion Control Algorithms of TCP in Emerging Networks," *PhD in Electrical and Computer Engineering, Texas A&M University*, Aug. 2006.
  9. Soohyun Cho, "Congestion Control Schemes for Single and Parallel TCP Flows in High Bandwidth-Delay Product Networks," *PhD in Computer Science, Texas A&M University*, Dec. 2005.
  10. Xinwen Fu, "On Traffic Analysis Attacks and Countermeasures," *PhD in Computer Engineering, Texas A&M University*, Dec. 2005.
  11. Eun-Sun Jung, "Energy Efficiency in Wireless Networks," *PhD in Computer Science, Texas A&M University*, Aug. 2005.
  12. Yong Xiong, "Modeling and Control of Network Traffic for Performance and Secure Communications," *PhD in Computer Science, Texas A&M University*, Dec. 2004.
- ◇ **MS Thesis**
13. Saswat Mohanty, "Using Secure Real-Time Padding Protocol to Secure Voice-Over-IP from Traffic Analysis Attacks," *MS in Computer Science, Texas A&M University*, May 2011.
  14. Zhiyuan Yin, "Performance of Early Retransmission Scheme and Delay Based Protocol in Video Streaming," *MS in Electrical Engineering, Texas A&M University*, Dec. 2010.
  15. Prajjwal Devkota, "Performance of Quantized Congestion Notification in TCP Incast Scenarios of Data Centers," *MS in Computer Engineering, Texas A&M University*, May 2010.
  16. Kiran Kotla, "Adapting A Delay Based Protocol To Heterogeneous Environments," *MS in Computer Engineering, Texas A&M University*, Aug. 2008.
  17. Praveen Kota, "Rate-Adaptive H.264 for TCP/IP Networks," *MS in Electrical Engineering, Texas A&M University*, May 2006.
  18. Mallik Kommaraju, "Predictor Development for Controlling Real-time Applications over the Internet," *MS in Mechanical Engineering, Texas A&M University*, Dec. 2005.
  19. Qian Xu, "Layered Wyner-Ziv Video Coding for Noisy Channels," *MS in Electrical Engineering, Texas A&M University*, Jun. 2004.
- ◇ **MS Project**
20. Kathleen Gustafson, MS in Statistics, Texas A&M University, May 2016.
  21. Benjamin Coneway, MS in Statistics, Texas A&M University, May 2016.

## Invited Talks

### ◇ University

- Georgia Institute of Technology, “On the Partitioning Behavior of Churn-Based Peer-to-Peer Systems,” *Networking and Telecommunications Seminar*, Mar. 2006.
- University of Illinois, Urbana-Champaign, “JetMax: Scalable Max-Min Congestion Control for High-Speed Heterogeneous Networks,” *Computer Engineering Seminar*, Feb. 2006.
- Washington University in St. Louis, “JetMax: Scalable Max-Min Congestion Control for High-Speed Heterogeneous Networks,” *Computer Science & Engineering Colloquium*, Jan. 2006.
- Texas A&M University, “On Lifetime-Based Node Failure and Stochastic Resilience of Decentralized Peer-to-Peer Networks,” *Computer Science Colloquium*, Apr. 2005.
- Texas A&M University, “Routing in Structured P2P Networks: Diameter-Degree Tradeoffs,” *Computer Science Colloquium*, Apr. 2004.
- Texas A&M University, “Adaptive Scalable Internet Streaming,” *Computer Science Colloquium*, Oct. 2002.

### ◇ Conference

- D. Loguinov, “What Does it Take to Disconnect a P2P Network?” *Allerton Conference on Communication, Control, and Computing*, Sep. 2005.

## Courses Taught

### ◇ Undergraduate

- CSCE 313, “Introduction to Computer Systems,” Spring 2011, Fall 2011 (honors), Spring 2013 (honors), Spring 2016 (honors)
- CSCE 463/612, “Networks and Distributed Processing,” Fall 2004, Fall 2005, Fall 2006, Fall 2007, Spring 2009, Fall 2009, Spring 2010, Fall 2010, Fall 2011, Spring 2013, Fall 2013, Spring 2015, Spring 2016

### ◇ Graduate

- CSCE 619, “Networks and Distributed Processing,” Spring 2004, Spring 2005, Spring 2006, Spring 2008, Spring 2010, Spring 2011, Fall 2012, Spring 2015
- CSCE 662, “Distributed Systems,” Spring 2003
- CSCE 689, “Special Topics in Scalable Data Computing,” Fall 2015
- CSCE 689, “Special Topics in Overlay Networks,” Spring 2008, Spring 2009
- CSCE 689, “Special Topics in Congestion Control,” Fall 2006
- CSCE 689, “Special Topics in P2P Networks,” Spring 2005, Fall 2005
- CSCE 689, “Special Topics in Networking,” Fall 2002, Fall 2003

## Other

### ◇ Student Travel Grants

- ACM SIGCOMM, Aug. 2001
- IEEE INFOCOM, Apr. 2001

### ◇ Fellowships/Scholarships

- Internet Video Project, Philips Research USA, 1998–2001
- Computer Science Department, City University of New York, 1997–1999

### ◇ Teaching Assistant

- Computer Science, City College of New York, 1996–1998
- Computer Science, Kansas State University, 1995–1996

◇ **Miscellaneous**

- Erdős number 3 (Paul Erdős → Stephan A. Burr → Gary S. Bloom → me)
- Top score (out of 17 students), PhD qualifying exam, Computer Science Department, City University of New York, Jun. 1998
- Nine-way tie for top score (out of 1261 applicants), Entrance Exam, Department of Computer Science, Moscow State University, Jul. 1991