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, network security, web crawling, congestion control, analysis of random graphs, topology modeling, bandwidth estimation, 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. Y. Cui†, D. Xiao†, D.B.H. Cline, and D. Loguinov, "Improving I/O Complexity of Triangle Enumeration," *IEEE Trans. Knowledge and Data Engineering*, vol. 32, no. 4, pp. 1815–1828, Apr. 2022.
2. Z. Shamsi†, D.B.H. Cline, and D. Loguinov, "Faulds: A Non-Parametric Iterative Classifier for Internet-Wide OS Fingerprinting," *IEEE/ACM Trans. Networking*, vol. 29, no. 5, pp. 2339–2352, Oct. 2021.
3. X. Wang†, D. Xiao†, X. Li†, D. Cline, and D. Loguinov, "Consistent Sampling of Churn Under Periodic Non-Stationary Arrivals in Distributed Systems," *ACM Trans. Modeling and Performance Evaluation of Computing Systems*, vol. 4, no. 4, pp. 22:1–22:33, Dec. 2019.
4. Y. Cui†, D. Xiao†, and D. Loguinov, "On Efficient External-Memory Triangle Listing," *IEEE Trans. Knowledge and Data Engineering*, vol. 31, no. 8, pp. 1555–1568, Aug. 2019.
5. Y. Cui†, C. Sparkman†, H.-T. Lee†, and D. Loguinov, "Unsupervised Domain Ranking in Large-Scale Web Crawls," *ACM Trans. Web*, vol. 12, no. 4, pp. 26:1–26:29, Sep. 2018.
6. Z. Shamsi† and D. Loguinov, "Unsupervised Clustering Under Temporal Feature Volatility in Network Stack Fingerprinting," *IEEE/ACM Trans. Networking*, vol. 25, no. 4, pp. 2430–2443, Aug. 2017.

7. 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. D. Leonard† and D. Loguinov, "Demystifying Internet-Wide Service Discovery," *IEEE/ACM Trans. Networking*, vol. 21, no. 6, pp. 1760–1773, Dec. 2013.
13. X. Wang†, X. Li†, and D. Loguinov, "Modeling Residual-Geometric Flow Sampling," *IEEE/ACM Trans. Networking*, vol. 21, no. 4, pp. 1090–1103, Aug. 2013.
14. Z. Yao† 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.
15. Z. Yao† and D. Loguinov, "Understanding Disconnection and Stabilization of Chord," *IEEE Trans. Parallel and Distributed Systems*, vol. 22, no. 4, pp. 650–661, Apr. 2011.
16. Y. Zhang† and D. Loguinov, "ABS: Adaptive Buffer Sizing for Heterogeneous Networks," *Elsevier Computer Networks*, vol. 54, no. 14, pp. 2562–2574, Oct. 2010.
17. Y. Zhang†, 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.
18. X. Wang† 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.
19. M. Dai†, Y. Zhang†, 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.
20. H.-T. Lee†, D. Leonard†, X. Wang†, and D. Loguinov, "IRLbot: Scaling to 6 Billion Pages and Beyond," *ACM Trans. Web*, vol. 3, no. 3, pp. 1–33, Jun. 2009.
21. X. Wang†, Z. Yao†, 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.
22. Y. Zhang† 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.
23. Y. Zhang†, S. Jain†, and D. Loguinov, "Towards Experimental Evaluation of Explicit Congestion Control," *Elsevier Computer Networks*, vol. 53, no. 7, pp. 1027–1039, May 2009.

24. Z. Yao†, X. Wang†, D. Leonard†, 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.
25. D. Leonard†, Z. Yao†, X. Wang†, 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.
26. Y. Zhang† 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.
27. 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, pp. 1193–1219, Apr. 2008.
28. X. Liu†, 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.
29. X. Liu†, 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.
30. Y. Zhang†, S.-R. Kang†, 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.
31. X. Wang† 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.
32. D. Leonard†, Z. Yao†, V. Rai†, 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.
33. S.-R. Kang† 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.
34. M. Dai†, 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.
35. X. Liu†, 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.
36. D. Loguinov, J. Casas†, and X. Wang†, "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.
37. M. Dai†, 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.
38. 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.
39. 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.

40. 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.
41. 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**

42. G. Stella† and D. Loguinov, "On High-Latency Bowtie Data Streaming," *IEEE BigData*, pp. 75–84, Dec. 2022 (19.2%).
43. A. Arman† and D. Loguinov, "Origami: A High-Performance Mergesort Framework," *VLDB*, pp. 259–271, Sep. 2022 (18%).
44. C. Hanel†, A. Arman†, D. Xiao†, J. Keech†, and D. Loguinov, "Vortex: Extreme-Performance Memory Abstractions for Data-Intensive Streaming Applications," *ACM ASPLOS*, pp. 623–638, Mar. 2020 (18.0%).
45. D. Xiao†, X. Li†, D.B.H. Cline, and D. Loguinov, "Estimation of DNS Source and Cache Dynamics under Interval-Censored Age Sampling," *IEEE INFOCOM*, pp. 1358–1366, Apr. 2018 (19.2%).
46. Y. Cui†, D. Xiao†, D.B.H. Cline, and D. Loguinov, "Improving I/O Complexity of Triangle Enumeration," *IEEE ICDM*, pp. 61–70, Nov. 2017 (9.3%).
47. Z. Shamsi†, D.B.H. Cline, and D. Loguinov, "Faulds: A Non-Parametric Iterative Classifier for Internet-Wide OS Fingerprinting," *ACM CCS*, pp. 971–982, Oct. 2017 (18.1%).
48. D. Xiao†, Y. Cui†, 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%).
49. Y. Cui†, D. Xiao†, and D. Loguinov, "On Efficient External-Memory Triangle Listing," *IEEE ICDM*, pp. 101–110, Dec. 2016 (8.5%).
50. Z. Shamsi† and D. Loguinov, "Unsupervised Clustering Under Temporal Feature Volatility in Network Stack Fingerprinting," *ACM SIGMETRICS*, pp. 127–138, Jun. 2016 (13.5%).
51. X. Li†, D.B.H. Cline, and D. Loguinov, "On Sample-Path Staleness in Lazy Data Replication," *IEEE INFOCOM*, pp. 1104–1112, Apr. 2015 (19.3%).
52. X. Li†, D.B.H. Cline, and D. Loguinov, "Temporal Update Dynamics under Blind Sampling," *IEEE INFOCOM*, pp. 1634–1642, Apr. 2015 (19.3%).
53. S.T. Ahmed†, C. Sparkman†, H.-T. Lee†, and D. Loguinov, "Around the Web in Six Weeks: Documenting a Large-Scale Crawl," *IEEE INFOCOM*, pp. 1598–1606, Apr. 2015 (19.3%).
54. S.T. Ahmed† and D. Loguinov, "Modeling Randomized Data Streams in Caching, Data Processing, and Crawling Applications," *IEEE INFOCOM*, pp. 1625–1633, Apr. 2015 (19.3%).
55. S.T. Ahmed† and D. Loguinov, "On the Performance of MapReduce: A Stochastic Approach," *IEEE BigData*, pp. 49–54, Oct. 2014 (short paper, 40%).
56. Z. Yao†, 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%).
57. X. Li† and D. Loguinov, "Stochastic Models of Pull-Based Data Replication in P2P Systems," *IEEE P2P*, pp. 1–10, Sep. 2014 (25%).

58. Z. Shamsi†, A. Nandwani†, D. Leonard†, and D. Loguinov, "Hershel: Single-Packet OS Fingerprinting," *ACM SIGMETRICS*, pp. 195–206, Jun. 2014 (16.8%).

59. Z. Yao†, D.B.H. Cline, and D. Loguinov, "Unstructured P2P Link Lifetimes Redux," *IEEE INFOCOM*, pp. 1762–1770, Apr. 2013 (17.4%).

60. D. Leonard†, Z. Yao†, X. Wang†, and D. Loguinov, "Stochastic Analysis of Horizontal IP Scanning," *IEEE INFOCOM*, pp. 2077–2085, Mar. 2012 (18%).

61. Z. Yao†, 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%).

62. S. Sood† and D. Loguinov, "Probabilistic Near-Duplicate Detection Using Simhash," *ACM CIKM*, pp. 1117–1126, Oct. 2011 (15%).

63. C. Sparkman†, H.-T. Lee†, and D. Loguinov, "Agnostic Topology-Based Spam Avoidance in Large-Scale Web Crawls," *IEEE INFOCOM*, pp. 811–819, Apr. 2011 (16%).

64. X. Wang†, X. Li†, and D. Loguinov, "Modeling Residual-Geometric Flow Sampling," *IEEE INFOCOM*, pp. 1808–1816, Apr. 2011 (16%).

65. D. Leonard† and D. Loguinov, "Demystifying Service Discovery: Implementing an Internet-Wide Scanner," *ACM IMC*, pp. 109–122, Nov. 2010 (22.2%).

66. Z. Yao†, D.B.H. Cline, and D. Loguinov, "In-Degree Dynamics of Large-Scale P2P Systems," *ACM HotMetrics*, pp. 37–42, Jun. 2010 (37.5%).

67. S.-R. Kang† and D. Loguinov, "Characterizing Tight-Link Bandwidth of Multi-Hop Paths Using Probing Response Curves," *IEEE IWQoS*, pp. 1–9, Jun. 2010 (24.8%).

68. M. Smith† and D. Loguinov, "Enabling High-Performance Internet-Wide Measurements on Windows," *Passive and Active Measurement Conference (PAM)*, pp. 121–130, Apr. 2010 (29.1%).

69. C. Reddy†, D. Leonard†, 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%).

70. X. Wang†, Z. Yao†, Y. Zhang†, and D. Loguinov, "Robust Lifetime Measurement in Large-Scale P2P Systems with Non-Stationary Arrivals," *IEEE P2P*, pp. 101–110, Sep. 2009 (19.8%).

71. Y. Zhang† and D. Loguinov, "ABS: Adaptive Buffer Sizing for Heterogeneous Networks," *IEEE IWQoS*, pp. 90–99, Jun. 2008 (36%).

72. S. Jain†, Y. Zhang†, and D. Loguinov, "Towards Experimental Evaluation of Explicit Congestion Control," *IEEE IWQoS*, pp. 121–130, Jun. 2008 (36%).

73. 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%).

74. H.-T. Lee†, D. Leonard†, X. Wang†, and D. Loguinov, "IRLbot: Scaling to 6 Billion Pages and Beyond," *WWW*, pp. 427–436, Apr. 2008 (**best paper award**, 11%).

75. S.-R. Kang† 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%).

76. X. Wang†, X. Liu†, and D. Loguinov, "Modeling the Evolution of Degree Correlation in Scale-Free Topology Generators," *IEEE INFOCOM*, pp. 1768–1776, Apr. 2008 (20.3%).

77. Z. Yao† and D. Loguinov, "Understanding Disconnection and Stabilization of Chord," *IEEE INFOCOM*, pp. 1723–1731, Apr. 2008 (20.3%).

78. Z. Yao† and D. Loguinov, "Link Lifetimes and Randomized Neighbor Selection in DHTs," *IEEE INFOCOM*, pp. 637–645, Apr. 2008 (20.3%).

79. D. Leonard† and D. Loguinov, "Turbo King: Framework for Large-Scale Internet Delay Measurements," *IEEE INFOCOM*, pp. 430-438, Apr. 2008 (20.3%).

80. S. Bhandarkar, A.L.N. Reddy, Y. Zhang†, and D. Loguinov, "Emulating AQM from End Hosts," *ACM SIGCOMM*, pp. 349–360, Aug. 2007 (13.6%).

81. S. Jain† 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%).

82. Z. Yao†, X. Wang†, D. Leonard†, and D. Loguinov, "On Node Isolation under Churn in Unstructured P2P Networks with Heavy-Tailed Lifetimes," *IEEE INFOCOM*, pp. 2126–2134, May 2007 (18%).

83. X. Wang†, Z. Yao†, and D. Loguinov, "Residual-Based Measurement of Peer and Link Lifetimes in Gnutella Networks," *IEEE INFOCOM*, pp. 391–399, May 2007 (18%).

84. Y. Zhang† and D. Loguinov, "On Delay-Independent Diagonal Stability of Max-Min Congestion Control," *IEEE CDC*, pp. 621–626, Dec. 2006 (64%).

85. Z. Yao†, D. Leonard†, X. Wang†, and D. Loguinov, "Modeling Heterogeneous User Churn and Local Resilience of Unstructured P2P Networks," *IEEE ICNP*, pp. 32–41, Nov. 2006 (14.2%).

86. S.-R. Kang†, X. Liu†, A. Bhati†, and D. Loguinov, "On Estimating Tight Link Bandwidth Characteristics over Multi-Hop Paths," *IEEE ICDCS*, pp. 1–10, Jul. 2006 (13.8%).

87. Y. Zhang†, D. Leonard†, and D. Loguinov, "JetMax: Scalable Max-Min Congestion Control for High-Speed Heterogeneous Networks," *IEEE INFOCOM*, pp. 1–13, Apr. 2006 (18%).

88. X. Wang† and D. Loguinov, "Wealth-Based Evolution Model for the Internet AS-Level Topology," *IEEE INFOCOM*, pp. 1–11, Apr. 2006 (18%).

89. X. Liu†, 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%).

90. D. Leonard†, Z. Yao†, X. Wang†, and D. Loguinov, "On Static and Dynamic Partitioning Behavior of Large-Scale Networks," *IEEE ICNP*, pp. 345–357, Nov. 2005 (17%).

91. X. Liu†, 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%).

92. S.-R. Kang† and D. Loguinov, "Impact of FEC Overhead on Scalable Video Streaming," *ACM NOSSDAV*, pp. 123–128, Jun. 2005 (38%).

93. D. Leonard†, V. Rai†, 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%).

94. M. Dai† 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%).

95. X. Liu†, K. Ravindran, and D. Loguinov, "What Signals Do Packet-Pair Dispersions Carry?" *IEEE INFOCOM*, pp. 281–292, Mar. 2005 (17.2%).

96. M. Dai† and D. Loguinov, "Wavelet and Time-Domain Modeling of Multi-Layer VBR Video Traffic," *Packet Video*, pp. 1–10, Dec. 2004 (50%).

97. Y. Zhang† and D. Loguinov, "Local and Global Stability of Symmetric Heterogeneously-Delayed Control Systems," *IEEE CDC*, pp. 5004–5009, Dec. 2004 (50%).

98. X. Li†, D. Leonard†, 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%).

99. X. Liu†, 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%).

100. S.-R. Kang†, X. Liu†, M. Dai†, and D. Loguinov, "Packet Pair Bandwidth Estimation: Stochastic Analysis of a Single Congested Node," *IEEE ICNP*, pp. 316–325, Oct. 2004 (15.5%).

101. M. Dai†, D. Loguinov, and H. Radha, "Rate-Distortion Modeling of Scalable Video Coders," *IEEE ICIP*, pp. 1093–1096, Oct. 2004 (46%).

102. M. Dai†, D. Loguinov, and H. Radha, "A Hybrid Wavelet Framework for Modeling VBR Video Traffic," *IEEE ICIP*, pp. 3125–3128, Oct. 2004 (46%).

103. X. Liu†, K. Ravindran, and D. Loguinov, "Evaluating the Potential of Bandwidth Estimators," *New York Metro Area Networking Workshop (NYMAN)*, pp. 1–4, Sep. 2004.

104. Y. Zhang†, S.-R. Kang†, and D. Loguinov, "Delayed Stability and Performance of Distributed Congestion Control," *ACM SIGCOMM*, pp. 307–318, Aug. 2004 (9.1%).

105. Y. Zhang† and D. Loguinov, "Oscillations and Buffer Overflows in Video Streaming under Non-Negligible Delay," *ACM NOSSDAV*, pp. 88–93, Jun. 2004 (25%).

106. X. Wang†, Y. Zhang†, X. Li†, 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%).

107. S.-R. Kang†, Y. Zhang†, M. Dai†, and D. Loguinov, "Multi-layer Active Queue Management and Congestion Control for Scalable Video Streaming," *IEEE ICDCS*, pp. 768–777, Mar. 2004 (17.7%).

108. M. Dai†, D. Loguinov, and H. Radha, "Statistical Analysis and Distortion Modeling of MPEG-4 FGS," *IEEE ICIP*, pp. 301–304, Sep. 2003 (44%).

109. D. Loguinov, A. Kumar†, V. Rai†, and S. Ganesh†, "Graph-Theoretic Analysis of Structured Peer-to-Peer Systems: Routing Distances and Fault Resilience," *ACM SIGCOMM*, pp. 395–406, Aug. 2003 (10.3%).

110. M. Dai† and D. Loguinov, "Analysis of Rate-Distortion Functions and Congestion Control in Scalable Internet Video Streaming," *ACM NOSSDAV*, pp. 60–69, Jun. 2003 (30%).

111. 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%).

112. D. Loguinov and H. Radha, "Video-Receiver Based Real-time Estimation of Channel Capacity," *IEEE ICIP*, pp. 213–216, Sep. 2002 (55%).

113. 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%).

114. 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%).

115. D. Loguinov and H. Radha, "Increase-Decrease Congestion Control for Real-time Streaming: Scalability," *IEEE INFOCOM*, pp. 525–534, Jun. 2002 (20.5%).

116. D. Loguinov and H. Radha, "Measurement Study of Low-bitrate Internet Video Streaming," *ACM IMW*, pp. 281–293, Nov. 2001 (26.4%).

117. 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%).

118. 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%).

119. D. Loguinov and H. Radha, "On Retransmission Schemes for Real-time Streaming in the Internet," *IEEE INFOCOM*, pp. 1310–1319, Apr. 2001 (23.1%).

120. 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%).

121. K. Ravindran, D. Loguinov, and T.-J. Gong, "Flow & QoS Based Routing Control for Multicast Protocols," *SCS WMC*, Jan. 2001.

122. 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**

123. X. Wang† and D. Loguinov, "Modeling the Dynamics of the Internet AS-Level Structure: An Economic Perspective," *ISMA Workshop on the Internet Topology (WIT)*, May 2006.

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

◇ **Book Chapters**

125. 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**

126. Y. Cui†, D. Xiao†, D.B.H. Cline, and D. Loguinov, "Improving I/O Complexity of Triangle Enumeration," *Texas A&M Technical Report 2017-8-3*, Aug. 2017.

127. Z. Shamsi†, D.B.H. Cline, and D. Loguinov, "Faulds: A Non-Parametric Iterative Classifier for Internet-Wide OS Fingerprinting," *Texas A&M Technical Report 2017-8-2*, Aug. 2017.

128. D. Xiao†, Y. Cui†, 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.

129. Y. Cui†, D. Xiao†, and D. Loguinov, "On Efficient External-Memory Triangle Listing," *Texas A&M Technical Report 2016-9-1*, Sep. 2016.

130. X. Li†, D.B.H. Cline, and D. Loguinov, "Temporal Update Dynamics under Blind Sampling," *Texas A&M Technical Report 2015-1-2*, Jan. 2015.

131. X. Li†, 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.

132. X. Wang†, X. Li†, and D. Loguinov, "Modeling Residual-Geometric Flow Sampling," *Texas A&M Technical Report 2010-12-2*, Dec. 2010.

133. X. Wang†, Z. Yao†, Y. Zhang†, 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.

134. M. Dai†, Y. Zhang†, 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.

135. H.-T. Lee†, D. Leonard†, X. Wang†, and D. Loguinov, "IRLbot: Scaling to 6 Billion Pages and Beyond," *Texas A&M Technical Report 2008-2-2*, Feb. 2008.

136. X. Wang†, X. Liu†, and D. Loguinov, "Modeling the Evolution of Degree Correlation in Scale-Free Topology Generators," *Texas A&M Technical Report 2007-12-1*, Dec. 2007.

137. Z. Yao†, D. Leonard†, X. Wang†, and D. Loguinov, "Modeling Heterogeneous User Churn and Local Resilience of Unstructured P2P Networks," *Texas A&M Technical Report 2006-8-1*, Aug. 2006.

138. X. Liu†, K. Ravindran, and D. Loguinov, "Multi-Hop Probing Asymptotics in Available Bandwidth Estimation: Stochastic Analysis," *CUNY Technical Report TR-2005010*, Aug. 2005.

139. X. Liu†, 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: Algorithms and Abstractions for Efficient Virtual-Memory Streaming and Big-Data Computing," *NSF CISE*, $16,000, 2017-2020.
10. D. Loguinov (PI), "REU: Large-Scale Web Crawling and Spam Avoidance in Search-Engine Applications," *NSF CISE*, $15,000, 2010-2013.
11. D. Loguinov (PI), "REU: Bridging Analytical and Empirical Understanding of Churn in Decentralized P2P Networks," *NSF CISE*, $12,000, 2007-2010.
12. 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. H. Radha and D. Loguinov, "Method and Device for Robust Real-Time Estimation of Bottleneck Bandwidth," *European Patent no. 1,382,219*, Issued: March 22, 2006.
4. 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.
5. 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**

- *Graduate Faculty Teaching Excellence Award (Department Level)*, Texas A&M University (in grateful appreciation of dedicated service, exemplary attitude, and significant contribution), 2021/2022.
- *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 2017-2020
- 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 2004-2006
- 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 Networking Letters
- 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 Dependable and Secure Computing
- 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)**

- IEEE INFOCOM 2008
- 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*, Dec. 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*, Aug. 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. Siru Li, "A Quest For SIMD-Friendly Sorting Networks," *MS in Computer Science, Texas A&M University*, Aug. 2020.
13. Matthew Wiecek, "Nemesis: Judging the Efficacy of OS Fingerprinting Systems", *MS in Computer Science, Texas A&M University*, Aug. 2019.
14. Xiangzhou Xia, "Efficient and Scalable Listing of Four-Vertex Subgraphs", *MS in Computer Science, Texas A&M University*, Dec. 2015.

15. Yue Zhuo, "IRLstack 3.0: High-Performance Windows Sockets," *MS in Computer Science, Texas A&M University*, Dec. 2014.
16. Patrick Webster, "Towards More Efficient Delay Measurements on the Internet," *MS in Computer Science, Texas A&M University*, Aug. 2013.
17. Xiaoxi Zhang, "Efficient Parallel Text Compression on GPUs," *MS in Computer Science, Texas A&M University*, Dec. 2011.
18. Siddhartha Mathiharan, "Identifying Search Engine Spam Using DNS," *MS in Computer Science, Texas A&M University*, Dec. 2011.
19. Sadhan Sood, "Probabilistic Simhash Matching," *MS in Computer Science, Texas A&M University*, Aug. 2011.
20. Ankur Nandwani, "Snap: Robust Tool For Internet-Wide Operating System Fingerprinting," *MS in Computer Science, Texas A&M University*, Dec. 2010.
21. Chandan Reddy, "Capacity-Proportional Unstructured Peer-To-Peer Networks," *MS in Computer Engineering, Texas A&M University*, Aug. 2009.
22. Videsh Sadafal, "Measurement and Analysis of BitTorrent," *MS in Computer Science, Texas A&M University*, Aug. 2008.
23. Hsin-Tsang Lee, "IRLbot: Design and Performance Analysis of a Large-Scale Web Crawler," *MS in Computer Science, Texas A&M University*, May 2008.
24. Kunal Patel, "Dispatch: Distributed Peer-to-Peer Simulations," *MS in Computer Science, Texas A&M University*, Aug. 2007.
25. 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).
26. Prasanth Nittala, "Deterministic Routing Algorithms in Large Scale Wireless Sensor Networks," *MS in Computer Science, Texas A&M University*, Dec. 2004.
27. 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.
28. Geetha Kakarlapudi, "Analysis of Beacon Triangulation in Random Graphs," *MS in Computer Science, Texas A&M University*, Dec. 2004.
29. 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).
30. Sai Ganesh, "Nonlinear Continuous Feedback Controllers," *MS in Computer Science, Texas A&M University*, Aug. 2003.

◇ **Undergraduate Research**

31. Alex Labbane, "Memory-Efficient Multi-Threaded Streaming Partitioning Algorithm," *Texas A&M University Undergraduate Honors Research*, 2021-2022.
32. Eta Gluck, "Network Vortex: Distributed Virtual Memory for Streaming Applications," *Texas A&M University Undergraduate Honors Research*, 2021-2022.
33. Vidith Madhu, "Analyzing External Memory Politeness Control for Web Crawling Applications," *Texas A&M University Undergraduate Honors Research*, 2021-2022.
34. Reginald Frank, "Designing a High Throughput Bounded Multi-Producer, Multi-Consumer Queue," *Texas A&M University Undergraduate Honors Research*, 2020-2021.

35. John Pecot, "Neighbor Based Internet Structure Simulator (NBISS)," *Texas A&M University Undergraduate Honors Research*, 2020-2021.
36. Cason Hanel, "Achieving Concurrency in Streaming," *Texas A&M University Undergraduate Honors Research and NSF REU*, 2018-2019.
37. Gabriel Stella, "An Efficient External-Memory Sorting Algorithm," *Texas A&M University Undergraduate Honors Research*, 2018-2019.
38. Paul Rutherford, "IBAS: An Infinite Buffer Abstraction for Streaming," *Texas A&M University Undergraduate Honors Research*, 2018-2019.
39. Yuan Yao, "Faster Sorting with Streams," *Texas A&M University Undergraduate Honors Research*, 2016-2018.
40. Siru Li, "Improving Lock-Free Concurrent Queues," *Texas A&M University Undergraduate Research*, Summer 2017.
41. Joseph Johnson, "Characterization of DNS Servers for Latency Estimation Metrics," *Texas A&M University Undergraduate Honors Research*, 2016-2017.
42. Nicholas Gilpin, "Delay Measurement via DNS," *Texas A&M University*, NSF REU, Summer 2015.
43. Hayden Wood, "Bucket Sort with Streams," *Texas A&M University*, NSF REU, 2013-2014.
44. John Keech, "High-Performance Data Streaming under MapReduce Workloads," *Texas A&M University*, NSF REU, 2011-2013.
45. Philip van Ruitenbeek, "Algorithms for Efficient Multi-Core Parallelization of Hash Tables," *Texas A&M University*, NSF REU, Summer 2011.
46. Rand Dusing, "High-Performance User-Space TCP Stack for Large-Scale Internet Measurements," *Texas A&M University*, NSF REU, Spring 2010.
47. Patrick Webster, "Efficient Architecture for Scalable DNS Services," *Texas A&M University*, NSF REU, Spring 2010.
48. Autumn Breese "Characterizing DNS Implementations and Their Cache-Poisoning Vulnerabilities," *Texas A&M University*, NSF Site REU, Summer 2009.
49. Drew Fisher, "Efficient HTML Parsing for Web Crawlers," *Texas A&M University*, NSF Site REU, Summer 2008.
50. Matt Smith, "Mapping the Internet with Reverse Traceroute," *Texas A&M University*, NSF REU, Spring 2008.
51. Robert Lychev, "Distributed Computing of Monte Carlo Simulations in Peer-to-Peer Networks," *Texas A&M University*, NSF Site REU, Summer 2005.
52. Juan Casas, "Performance Analysis of Structured P2P Networks: Graph Diameter and Average Distance," *Texas A&M University*, NSF Site REU, Summer 2004.

Service

◇ **University Committees**

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

◇ **College of Engineering Committees**

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

◇ **Department Committees**

- Undergraduate Honors: Member 2022-2023
- Undergraduate Awards: Member 2021-2023
- Space: Member 2004-2005, 2015-2021; Chair 2021-2022

- Graduate Awards: Member 2016-2019, 2020-2021
- Faculty Awards: Member 2017-2019
- PhD Admissions and Recruiting: Member 2015-2018
- Research Computing Services: Chair 2013-2014, 2016-2017
- Climate: Member 2015-2016
- Industrial Affiliates Program Development: Member 2009-2013
- Graduate Advisory: Member 2007-2012
- Graduate Admissions and Awards: Member 2002-2004, 2007-2009
- Department Advisory: Elected Member 2006-2007
- Undergraduate Curriculum & ABET: Member 2005-2007
- Computing Services Advisory: Member 2002-2004

Student Committees

◇ **PhD Thesis**

1. Erica Metheney, "Simulating Networks with Heavy-tailed Degree Distributions," *PhD in Statistics, Texas AM University*, August 2019.
2. Sandeep Yadav, "Scalable Techniques for Anomaly Detection," *PhD in Computer Engineering, Texas A&M University*, December 2012.
3. Srikanth Sastry, "A Prescription for Partial Synchrony," *PhD in Computer Engineering, Texas A&M University*, May 2011.
4. Hang Su, "Design and Analysis of Opportunistic MAC Protocols for Cognitive Radio Networks," *PhD in Computer Engineering, Texas A&M University*, Dec. 2010.
5. 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.
6. Ni Qin, "Algorithms, Protocols & System for Remote Observation Using Networked Robotic Cameras," *PhD in Computer Science, Texas A&M University*, May 2008.
7. 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.
8. 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.
9. Sumitha Bhandarkar, "Congestion Control Algorithms of TCP in Emerging Networks," *PhD in Electrical and Computer Engineering, Texas A&M University*, Aug. 2006.
10. 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.
11. Xinwen Fu, "On Traffic Analysis Attacks and Countermeasures," *PhD in Computer Engineering, Texas A&M University*, Dec. 2005.
12. Eun-Sun Jung, "Energy Efficiency in Wireless Networks," *PhD in Computer Science, Texas A&M University*, Aug. 2005.
13. 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**

14. 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.
15. Zhiyuan Yin, "Performance of Early Retransmission Scheme and Delay Based Protocol in Video Streaming," *MS in Electrical Engineering, Texas A&M University*, Dec. 2010.
16. Prajjwal Devkota, "Performance of Quantized Congestion Notification in TCP Incast Scenarios of Data Centers," *MS in Computer Engineering, Texas A&M University*, May 2010.
17. Kiran Kotla, "Adapting A Delay Based Protocol To Heterogeneous Environments," *MS in Computer Engineering, Texas A&M University*, Aug. 2008.
18. Praveen Kota, "Rate-Adaptive H.264 for TCP/IP Networks," *MS in Electrical Engineering, Texas A&M University*, May 2006.
19. Mallik Kommaraju, "Predictor Development for Controlling Real-time Applications over the Internet," *MS in Mechanical Engineering, Texas A&M University*, Dec. 2005.
20. Qian Xu, "Layered Wyner-Ziv Video Coding for Noisy Channels," *MS in Electrical Engineering, Texas A&M University*, Jun. 2004.

◇ **MS Project**

21. Yiling Luo, *MS in Statistics, Texas AM University*, May 2019.
22. Kathleen Gustafson, *MS in Statistics, Texas A&M University*, May 2016.
23. 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 (honors), "Introduction to Computer Systems," Spring 2011, Fall 2011, Spring 2013, Spring 2016, Spring 2018, Spring 2019, Fall 2019, Fall 2020, Spring 2022, Spring 2023

- 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, Spring 2017, Spring 2018, Spring 2019, Fall 2020, Fall 2021, Spring 2022, Fall 2022, Spring 2023

◇ **Graduate**

- CSCE 619, "Networks and Distributed Processing," Spring 2004, Spring 2005, Spring 2006, Spring 2008, Spring 2010, Spring 2011, Fall 2012, Spring 2015, Spring 2017
- 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**

- Erdös number 3 (Paul Erdös → 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