

PUBLICATIONS

Listed below are some of my publications.

I. Refereed journal articles:

1. Dilip Sarkar and Avishek Ghosal, "Throughput maximization in Ad hoc Wireless Networks by Scheduling End-to-End Flows," *Infocommunications Journal*, Vol III, pp. 28-37, 2011.
2. D. Sarkar, U. K. Sarkar, and W. Zhou, "Bandwidth Estimation of Multiplexed Videos Using Multinomial Model", *Computer Communications*, Vol. 30, pp. 269-279, 2008
3. D. Sarkar, U. K. Sarkar, and G. Peng, "Bandwidth Requirement of Links in a Hierarchical Caching Network: A Graph-based Formulation, an Algorithm, and its Performance Evaluation," *International Journal of Computers and Applications*, Vol. 29, 2007.
4. D. Sarkar, P. D. Amer, and R. Stewart, "Concurrent Multipath Transport", *Computer Communications*, Vol. 30, pp. 3215-3217, 2007.
5. D. Sarkar, T. Jewell, and S. Ramakrishnan "Convergence in the Calculation of the Handoff Arrival Rate: A Log-Time Iterative Algorithm," *EURASIP Journal on Wireless Communications and Networking*, Vol. 2006, Article ID 15876, pp. 1-11. 2006
6. S. Brahma, S. P. Pal, and D. Sarkar, "A Linear Worst-case Lower Bound on the Number of Holes Inside Regions of Visible Due to Multiple Diffuse Reflections," *Journal of Geometry*, December 2004.
7. H. del Rio, and D. Sarkar, "Logarithmic Expected Packet Delivery Delay in Ad Hoc Wireless Networks," *Wireless Communications and Mobile Computing*, Vol. 4, pp. 281-287, 2004.
8. U. K. Sarkar, S. Ramakrishnan, and D. Sarkar, "Study of Long Duration MPEG-Trace Segmentation Methods for Developing Frame Size Based Traffic Models," *Computer Networks*, Vol. 44, No. 2, pp. 177-188, 2004.
9. U. K. Sarkar, S. Ramakrishnan, and D. Sarkar, "Modeling Full-Length Video Using Markov-Modulated Gamma-Based Framework," *IEEE/ACM Transactions on Networking*, Vol. 11, No. 4, pp. 638-649, 2003.
10. S. Kovvuri, V. Pandey, D. Ghosal, B. Mukherjee, and D. Sarkar, "A Call-Admission Control (CAC) Algorithm for Providing Guaranteed QoS in Cellular Networks," *International Journal of Wireless Information Networks*, Vol 10, No. 2, pp 73-85, 2003.
11. S. H. Wong, D. Sarkar, and S. L. Swartz, "CORBA-based Middleware Architecture for Building Open and Interoperable GISs," *IEEE Multimedia*, Vol 9, No 2, pp. 62-76, 2002.
12. D. Sarkar, "An Algorithm for Computation of Inter-Pattern Interference Noise in BAM," *Neural Network World*, Vol. 12, No. 1, pp. 67-73, 2002.
13. J. Escorcia, D. Ghosal, and D. Sarkar, "A Novel Cache Distribution Heuristic Algorithm for a Mesh of Caches and Its Performance Evaluation," *Computer Communications*, Vol. 25, No. 3, pp. 329-340, 2002.
14. D. Fedyanin and D. Sarkar, "Iterative algorithms for performance evaluation of wireless networks with guard channels," *International Journal of Wireless Information Networks*, Vol. 8, No. 4, pp. 239-245, 2001.
15. D. Sarkar, "Empirical Estimation of Generalization Ability of Neural Networks," *Neural Network World*, Vol. 11, No. 1, pp. 3 - 15, 2001.

16. S. Banerjee and D. Sarkar, "Hypercube Connected Rings: A Fault-Tolerant and Scalable Architecture for Virtual Lightwave Network Topology," *Computer Communications*, Vol 24, No. 11, pp. 1060-1079, 2001.
17. D. Sarkar and W. Tong, "Product Networks: A family of symmetric interconnection networks from a group model," *International Journal of Computer Mathematics*, Vol 73, pp. 183 - 200, 1999.
18. D. Sarkar, "Randomness in Generalization Ability: A Source to Improve It," *IEEE Transactions on Neural Networks*, Vol. 7, pp. 676-685, 1996.
19. D. Sarkar, "Methods to Speedup Error Back Propagation Learning Algorithm," *Computing Surveys*, Vol 27, No. 4, 1995.
20. S. Banerjee, B. Mukherjee, and D. Sarkar, "Heuristic Algorithms for Constructing Near-Optimal Structures of Linear Multihop Lightwave Networks," *IEEE Transactions on Communications*, Vol 42, pp. 1811-1826, 1994.
21. V. Pestien, S. Ramakrishnan, and D. Sarkar, "Packet Transmission in a Noisy-Channel Ring Network," *SIAM Journal on Computing*, Vol. 23, pp. 553-562, 1994.
22. H. Dhrif and D. Sarkar, "Fuzzy Arithmetic on Systolic Arrays," *Parallel Computing*, Vol. 19, pp. 1283-1301, 1993
23. D. Sarkar, "Cost and Time-Cost Effectiveness of Multiprocessing," *IEEE Transactions on Parallel and Distributed Systems*, Vol. 4, pp. 704-712, 1993.
24. B. Applegate, T. Fernandez, and D. Sarkar, "Analogical Problem Solving in an Expert System," *IEEE Transactions on Systems, Man, and Cybernetics*, Vol. 22, pp. 1138-1144, 1992.
25. V. E. Mendia and D. Sarkar, "Optimal Broadcasting on the Star Graph," *IEEE Transactions on Parallel and Distributed Systems*, Vol. 3, pp. 389-396, 1992.
26. D. Sarkar and A. Mukherjee, "Design of Optimal Systolic Algorithms for the Transitive Closure Problem," *IEEE Transactions on Computers*, Vol. 41, pp. 508-812, 1992.
27. V. Aggarwal, N. Deo, and D. Sarkar, "The Knapsack Problem with Disjoint Multiple-Choice Constraints," *Naval Research Logistic*, Vol. 39, pp. 213-227, 1992.
28. H. Dhrif and D. Sarkar, "Systolic Algorithms for the Dynamic Programming Problem," *International Journal of Computer Mathematics*, Vol. 41, pp. 151-163, 1992.
29. D. Sarkar and I. Stojmenovic, "Parallel Algorithm for Separation of Two Sets of Points and Recognition of Digital Convex Polygons," *International Journal of Parallel Programming*, Vol. 21, pp. 109-121, 1992.
30. S. K. Das, D. Sarkar, V. K. Agrawal, and L. M. Patnaik, "Extended Colored Petri Nets: An Efficient Tool for Analyzing Concurrent Systems," *Information Sciences*, Vol. 54, pp. 191-218, 1991
31. N. Deo and D. Sarkar, "Parallel Algorithms for Merging and Sorting," *Information Sciences*, Vol. 56, pp. 151-161, 1991.
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33. D. Sarkar and R. Guha, "Mapping a Class of Algorithms from Binary-Tree Machines to Linear Arrays," *Computer Systems: Science and Engineering*, Vol. 5, pp. 202-204, 1990.

34. D. Sarkar and N. Deo, "Estimating the Speedup in Parallel Parsing," *IEEE Transactions on Software Engineering*, Vol. 16, pp. 677-683, 1990.
35. W. Tong and D. Sarkar, "The Gg-network: A New Linear-Cost Computer Network," *Congressus Numerantium*, Vol. 74, pp. 76-94, 1990.
36. D. Sarkar and I. Stojmenovic, "An Optimal Parallel Circle-Cover Algorithm," *Information Processing Letters*, Vol. 32, pp. 3-6, 1989.
37. N. Deo and D. Sarkar, "On Certain Planar Coverings of Complete Graphs," *Congressus Numerantium*, Vol. 66, pp. 33-44, 1988.
38. D. Sarkar and R. Guha, "A Fast Deadlock-Detection Algorithm for Hypercube," *International Journal of Computer Mathematics*, Vol. 25, pp. 69-82, 1988.
39. S. K. Das, V. K. Agrawal, D. Sarkar, L. M. Patnaik, "Invariant-Preserving Petri Net Reduction and Conditions for Invariant-Existence," *Computers & Electrical Engineering*, Vol. 14, pp. 75-91, 1988.
40. S. K. Das, V. K. Agrawal, D. Sarkar, L. M. Patnaik, and P. S. Goel, "Reflexive Incidence Matrix (RIM) Representation of Petri Nets," *IEEE Transactions on Software Engineering*, Vol. SE-13, No. 6, pp. 643-653, 1987.
41. D. Sarkar, "Lessa - An Array to Solve a Set of Linear Equations," *International Journal of Computer Mathematics*, Vol. 21, No. 3-4, pp. 297 -310, 1987.

II. Papers in refereed conference proceedings:

1. D. Sarkar, B. Sato, and T. Murase, "Algorithms for Selecting Higher Wireless Connection-Capacity Routes," in *Proceedings of 2014 IEEE 80th Vehicular Technology Conference*, Vancouver, Canada, 2014.
2. F. Sikder and D. Sarkar, "Scalable Self-Tuning Implementation of Smith-Waterman Algorithm for Multicore CPUs," in *Proceedings of PDPTA Conference*, 2014.
3. I-T. Lin, D. Sarkar, T. Murase, and I. Sasase, "Dijkstra-based higher capacity route selection algorithm using bounded length and state change for Automobile," *Proc. IEEE 75th Vehicular Technology Conference (VTC)*, Yokohama, Japan, 2012.
4. Dilip Sarkar and Harendra Narayan, "Transport Layer Protocols for Cognitive Networks," *INFOCOM 2010 WCWCN*, 2010.
5. Uttam Sarkar, Dilip Sarkar and Mitsunori Ogihara, "Some Interesting Patterns In The Adverse Event Reporting System Of The Food And Drug Administration," *30th Annual Conference of the International Society for Clinical Biostatistics*, 2009
6. D. Sarkar and U. K. Sarkar, "Balancing Load of APs by Concurrent Association of Every Wireless Node with Many APs," in *Proceedings of the International Conference on Networking and Services*, 2009.
7. D. Sarkar, S. Paul, H. Narayan, S. Prasad, and Uttam K. Sarkar, "Effect of Path Parameter Imbalance on the Performance of Concurrent Multipath TCPs",, *In Proceedings of Military Communications Conference (MILCOM 2007)*, October 2007.
8. Anand J. and Dilip Sarkar, "Architecture, Implementation, and Evaluation of a Concurrent Multipath Real-time Transport Control Protocol", *In Proceedings of Military Communications Conference (MILCOM 2007)*, October 2007.

9. Anand J. and Dilip Sarkar, "cmpRTCP: Concurrent Multi-path Real-time TCP", *Proceedings of the Globecom*, 2007.
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11. D. Sarkar, "A Novel Backoff-State Assignment Algorithm for Wireless Networks to Improve Channel Utilization," *Proceedings of the ICC*, 2006
12. W. Zhou, D. Sarkar, and S. Ramakrishnan, "Traffic Models for MPEG-4 Spatial Scalable Video," *Proceedings of the GLOBECOM*, 2005.
13. H. del Rio and D. Sarkar, "Packet Delivery Delay Estimation for a Wireless ad hoc Network," *Proceedings of the ICCCN*,, 2005.
14. N. S. C. Rupenaguntla, and D. Sarkar "Call Admission Control in Mobile Cellular CDMA Systems using Fuzzy Associative Memory," in the *Proceedings of the ICC 2004*.
15. W. Zhou, S. Ramakrishnan, D. Sarkar, and U. K. Sarkar, "Bandwidth Estimation for Multiplexed Videos Using MMG-Based Single Video Traffic Model" in the *Proceedings of the GLOBECOM*, 2003
16. S. Mopati, and D. Sarkar, "Call Admission Control in Mobile Cellular Systems using Fuzzy Associative Memory," *Proceedings of the ICCCN*, 2003.
17. J. Wang, K. Makki, N. Pissinou, D. Sarkar, R. Luo, A. Monitzer, and S. Gianordoli, "Rear-Time Path Computation with Reliability Constraints" *Proceedings of the NFOEC03*, 2003.
18. C. W. Snyder, U. K. Sarkar, and D. Sarkar, "Effect of Cell Loss on MPEG Video: Analytical Modeling and Empirical Validation" *Proceedings of the ICME02*, 2002.
19. S. P. Pal and D. Sarkar, "On Multiple-connectedness of regions visible due to multiple diffusive reflections," *International Conference on Analysis and Discrete Structures*, 2002.
20. U. K. Sarkar, S. Ramakrishnan, and D. Sarkar, "Modeling Full-Length Video Using Markov-Modulated Gamma-Based Framework," *Proceedings of the GLOBECOM*, 2001.
21. U. K. Sarkar, S. Ramakrishnan, and D. Sarkar, "Segmenting Full-Length VBR Video into Shots for Modeling with Markov-Modulated Gamma-Based Framework," *Proceedings of the ITCOM*, 2001.
22. S. Kovvuri, V. Pandey, D. Ghosal, B. Mukherjee, and D. Sarkar, "A call-admission control (CAC) algorithm for providing guaranteed QoS in cellular networks," *International Conference on Broadband Wireless Access Systems*, 2000.
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24. P. O'Hara-Murdock, C. McClure, O. Lage, D. Sarkar, and R. Tamer, "MAPP: A Multimedia Instructional Program for youths with Chronic Illness," *Proceedings of the Mid-South Instructional Technology Conference*, March 1999, abstract only.
25. H. Schmidl and D. Sarkar, "Classification of Chords by Neural Networks," *Applications and Science of Artificial Neural Networks*, April 1998.
26. D. Sarkar, "A Three-Stage Architecture for Bidirectional Associative Memory," *Proceedings of the International Conference on Neural Networks*, 1996.
27. D. Sarkar, "Empirical Estimation of Generalization Ability of Neural Networks," *Proceedings of the Applications and Science of Artificial Neural Networks*, April 1996.

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30. Y-C. Liu and D. Sarkar, "Integration of On-Line and Batch Versions of the EBP Algorithm and Its Three Cost-Effective Approximate Implementations," *Proceedings of the World Congress on Neural Networks*, 1994.
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34. D. Sarkar, "Improving Generalization Through Multiple Redundant Output Units," *Proceedings of the World Congress on Neural Networks*, 1993.
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36. N. Deo, S. Prasad, and D. Sarkar, "Some Fast PRAM Algorithms for Matching Parentheses," *Proceedings of Workshop on Parallel Compilation*, 1990.
37. S. Das and D. Sarkar, "Invariant Computation of Petri Nets for Analysis of Distributed Systems," *Proceedings of First Annual IEEE Symposium on Parallel and Distributed Processing*, May 1989, Dallas.
38. N. Deo and D. Sarkar, "Optimal Parallel Algorithms for Merging and Sorting," *Proceedings of the Third International Conference on Supercomputing*, May 1988, Boston, MA.
39. D. Sarkar and N. Deo, "An Optimal Parallel Parsing Algorithm for a Class of Block-Structured Languages," *Proceedings of 1987 International Conference on Parallel Processing*, August 1987, St. Charles, IL.
40. D. Sarkar and N. Deo, "Parallel Algorithms for Parenthesis Matching and Generation of Random Balanced Sequences of Parentheses," *Lecture Notes in Computer Science*, Vol. 297, pp. 970-984, 1987.
41. D. Sarkar and N. Deo, "Estimating the Speedup in Parallel Parsing," *Proceedings of 1986 International Conference on Parallel Processing*, August 1986, St. Charles, IL.

III. Other works, publications and abstracts:

1. D. Sarkar, "System and Method for Body Movement and Gait Information Collection, Analysis, and Fusion to Assess Fall-Risk," UM invention disclosure, August 14, 2014.
2. D. Sarkar, "Concurrent Association of a Wireless Mobile Node with Access Points for Increasing Capacity of Access Points," US Patent No. US8,792,349 B2; Assignee: University of Miami; July 29, 2014.
3. D. Sarkar, "Backoff-state assignment for channel throughput maximization of wireless networks," not approved US patent application # 60/662,231
4. D. Sarkar, Producer of the interactive multimedia CD-ROM, "MAPP Module 1: Diabetes, Puberty & Pregnancy." 1998.

5. D. Sarkar, Producer of the interactive multimedia CD-ROM, "MAPP Module 3: Peer Pressure, Causal and Intimate Relationships." 1998.
6. D. Sarkar, Producer of the interactive multimedia CD-ROM, "MAPP Module 1: Sickle Cell Disease, Puberty & Pregnancy." 1999.