

VITA

January 20, 2025

BHARAT BHARGAVA

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EDUCATION

- 1966 B.S. Mathematics (Honors), Punjab University
- 1969 B.E. Electrical Communication Engineering (With Distinction), Indian Institute of Science, Bangalore
- 1974 MS and Ph.D., Electrical and Computer Engineering, Purdue University
- 1971-73 Thirty credit hours toward M.S. in Industrial Administration, Purdue University

PROFESSIONAL EXPERIENCE

- 1973-76 Research Associate (Regenstrief Institute), Department of Medicine, Indiana University
- 1976-78 Assistant Professor, Cleveland State University
- 1978-summer Visiting Faculty, Stanford University
- 1978-84 Assistant Professor, University of Pittsburgh
- 1984-88 Associate Professor, Purdue University
- 1988- Professor, Purdue University,
- 1991-2019 Summer Visiting Professor (Various years), ETH-Zurich and EPFL-Lausanne

HONORS AND AWARDS

1. Award for two Ph.D students/alumni: Amber Johnson (Purdue College of Science Early Career Alumni Award for 2024), and Shafkat Islam (One-time employee recognition award for 2023. John Riedl was also a Distinguished alumni of CS department at Purdue in 2011)
2. Distinguished alumnae award from Indian Institute of Science, Bengaluru, India, 2022
3. Fulbright Specialist 2019-2024
4. EAI FELLOW, European Alliance for Innovation
5. Fellow of CERIAS security center, Purdue University
6. First and Second Place award among all posters in CERIAS security Symposium, Purdue University, April 2019 (Voted by industrial partners)
7. Distinguished Alumnae of D.A.V. College in Jalandhar, India,
<http://davjalandhar.com/index.php/campus-watch/alumni/1030-distinguished-alumni>
8. Computer Science Department Corporate Partner's Research Award (voted by industrial partners), April, 2017
9. Helen Schleman Gold Medallion award for Advocating and Advancing Women students and Women issues, Mortar Board, Purdue University, 2017
<https://www.cs.purdue.edu/homes/bb/Awards2017/Board-of-Trustee-letter-SchlemanBhargava.pdf>

10. Focus Faculty Award for Outstanding Contributions to Disability Accessibility and Diversity, Purdue University, 2017, <https://www.cs.purdue.edu/news/Bhargava-Wins-Focus-Award.html>
https://www.cs.purdue.edu/homes/bb/focus_award_2017.pdf
11. Best Research Poster award, 6th International conference on Cloud Computing and Service Science (CLOSER), Rome, Italy, 2016
12. Diversity award by College of Science and CS, 2016
13. Best paper award, 6th International IEEE workshop on Dependable Network Computing and Mobile Systems held in conjunction with 34th Symposium on Reliable Distributed Systems (SRDS), Montreal, 2015
14. Best research poster award (voted by corporate partners), Purdue CERIAS security center symposium, March, 2015
15. Hind Rattan award, India NRI welfare society, 2015
16. Bharat Gaurav award, India Friendship Society, 2014
17. Guest of Honor at Convocation of Chitkara University, Chandigarh, February, 2012
18. Best paper award in International Conference on Advances in Computing Communication – (ICACC), 2011, (Identity Management in Cloud)
<http://www.cs.purdue.edu/news/5-4-11ICACC.html>
19. Engagement award by College of Science and CS, 2011
20. Graduate mentoring award by College of Science and CS, 2009
21. Co-best paper award in Secure Knowledge Management Conference, Buffalo, 2005
22. Seed for Success award by Provost at Purdue, 2005.
23. Inducted in The Book of Great Teachers at Purdue, 2003.
24. Best idea paper, International Conference on Data Warehouse and Knowledge Management Conference, 2000.
25. Technical Achievement Award from IEEE Computer Society, 1999.
26. Outstanding Instructor Award (Purdue ACM Student Chapter), 1998.
27. Golden Core Member of IEEE Computer Society.
28. Outstanding Instructor Award (Purdue ACM Student Chapter), 1996.
29. Fellow of Institution of Electronics and Telecommunications Engineers (IETE).
30. Meritorious Service Certificate from IEEE Computer Society.
31. Fellow of Institute of Electrical and Electronics Engineers (IEEE).
32. Best Research Paper Award, IEEE Data Engineering Conference, 1988.
33. WHO'S WHO in Frontiers of Science and Technology.
34. SHELL fellowship, 1969 (Highest award to the best graduate student at Indian Institute of Technology, New Delhi).
35. Indian National Merit Scholarship, 1963-1969.

36. Merit List: Ranked 2nd out of 3500 students in Punjab University state wide examination, 1966.
37. Merit List: Ranked 13th out of 17000 students in Delhi Higher Secondary examination, 1963.

MEMBER OF PROFESSIONAL ORGANIZATIONS

1. Institute of Electrical and Electronics Engineers (IEEE).
2. Fellow of IEEE, Steering Committee of Technical Committee on Distributed Processing for Symposium on Reliable Distributed Systems.
3. Association of Computing Machinery.
4. Upsilon Pi Epsilon.
5. Institution of Electronics and Telecommunications Engineers (IETE).
6. Fellow of Institute of Electronics and Telecommunications Engineering (IETE)
7. Fulbright Specialist by Fulbright Foundation, (2019-2022)
8. Fellow of European Alliance for Innovation (EAI)

RESEARCH INTERESTS

Intelligent Autonomous Systems, Data Analytics, Adversarial Machine Learning, Explainable AI, Software Defined Networks, Moving Target Defense, Theory of Novelty in Open World, Blockchain, Trust Management, Privacy in Data Access, Collaborative Attacks and Defense in Networks

PATENT

Method and System for Providing Cellular Assisted Secure Communication of a Plurality of Ad hoc Devices (With Motorola), US7817986 B2
http://www.cs.purdue.edu/news/10-31-11_Bhargava.html

RECENT Software and Demos

WaxedPrune System developed for demo in NGC Tech Fest 2016 and for deployment with NGC customers. (Joint work with MIT W3C.org)

Surveillance Video Querying - [VIDEO], HILDA/SIGMOD, 2020.

Situation Knowledge on Demand System Demo, NGC Tech Fest, 2020

Following Demos are available on link <https://www.cs.purdue.edu/homes/bb>

Moving Target Defense (MTD) Demo Video

Data Dissemination Demo Video

Secure Data Dissemination/Provenance Demo video

Secure/Resilient Systems Demo video

Find Them Demo Video

Google Scholar Citations (dated Jan 18, 2025)

ALL Since 2020

Citations 18255 3429

h-index 67 27

i10-index 271 85

PUBLICATIONS

1. Edited Proceedings

1. S Jain, S. Groppe, B. Bhargava (editors), Semantic Intelligence, Springer Verlag. Lecture Notes in Electrical Engineering, ISBN number: 978-981-19-7125-9, Semantic Intelligence: Select Proceedings of ISIC 2022 | SpringerLink, 2023.
2. S. Jain, B. Bhargava, D. Kalra, S. Groppe "International Health Informatics Conference IHIC 2023", MERI Delhi, India, Oct 17-19, 2023, LNEE Series, Springer, 2024
3. B. Bhargava, P. Angin, SRMC 2022: International Workshop on Reliable and Secure Microservices and Containers, September 2022
4. P. Singh, M. Paprzycki, B. Bhargava, J. Chhabra, N. Kaushal, and Yugal Kumar (Eds.), "Communications in Computer and Information Science", ISSN 1865-0929 ISSN 1865-0937 (electronic), ISBN 978-981-13-3803-8 ISBN 978-981-13-3804-5 (eBook), <https://doi.org/10.1007/978-981-13-3804-5>, Library of Congress Control Number: 2018964612
5. P. Singh, B. Bhargava, W. Hong, P. Angin, Futuristic trends and innovations in multimedia systems using big data, IoT and cloud technologies (FTIMS), Multimedia Tools and Applications 81 (24), 34439-34445, 2022
6. N. Adam, B. Bhargava, M. Halem, and Y. Yesha (eds.) "Digital Libraries Research and Technology Advances," edited proceedings, Springer-Verlag. Lecture Notes in Computer Science No. 1082, 1996, 290 pages and Adam, B. Bhargava, and Y. Yesha. "Digital Libraries," edited proceedings, Springer Verlag, Lecture Notes in Computer Science No. 916, December 1994, 321 pages.
7. N. Adam, B. Bhargava, and Y. Yesha. "Knowledge and Information Management," edited proceedings, ACM Press, 1994, 688 pages.

8. N. Adam and B. Bhargava. ``Advanced Database Concepts and Research Issues,`` edited proceedings, Springer Verlag, Lecture Notes in Computer Science No. 759, September 1993, 451 pages.
9. B. Bhargava. ``Parallel and Distributed Systems,`` edited proceedings, IEEE Press, 1993, 170 pages.
10. B. Bhargava, Y. Yesha, and T. Finin. ``Knowledge and Information Management,`` edited proceedings, ACM Press, 1993, 742 pages.

2. Books

11. Intelligent Security Solutions for Cyber-Physical Systems, edited by V. Sood, Y. Singh, B. Bhargava, S. Narang, CRC Press, 2024 - Hardback: 9781032521527 - Paperback: 9781032523194
12. B. Bhargava, S. Jain, A. Sharma, (April 2023) ``An Ethnolinguistic Research Agenda for Intelligent Autonomous Systems``, In: Jain, S., Groppe, S., Bhargava, B.K. (eds) Semantic Intelligence. Lecture Notes in Electrical Engineering (LNEE), vol. 964, pp. 105-117, Springer Cham. Print ISBN: 978-981-19-7125-9. Online ISBN: 978-981-19-7126-6. (Scopus Indexed)
13. Sarika Jain, Sven Groppe, Bharat Bhargava (eds.) 2023: Proceedings of the International Semantic Intelligence Conference ISIC 2022. Georgia Southern University, The United States, May 17-19, 2022, LNEE Series, vol 964, Springer.
14. Futuristic Trends in Network and Communication Technologies, Edited by P. Singh, M. Paprzycki, B. Bhargava, J. Chhabra, N. Kaushal, Y. Kumar , Springer, 2018, ISBN 978-981-13-3804-5
15. Handbook of Wireless Sensor Networks: Issues and Challenges, P. Singh, B. Bhargava, M. Paprzycki, N. Kaushal, W. Hong, Springer, 2020, Nature ISBN 978-3-030-40304-1
16. Managing Trust in Cyberspace (Hardback) Edited by S. Thampi, B. Bhargava, and P. Atrey, CRC Press Inc, December 2013, ISBN 13: 9781466568440 ISBN 10: 1466568445
17. A. Helal, B. Bhargava, and A. Heddaya. ``Advanced Replication Techniques for Distributed Systems,`` Kluwer Academic Publisher, 1996, 150 pages.
18. B. Bhargava (ed.). ``Concurrency Control and Reliability in Distributed Systems,`` Van Nostrand and Reinhold, 1987.
19. CODASYL Systems Committee. A Framework for Distributed Database Systems: Distribution Alternatives and Generic Architectures, September 1982. Published by ACM. 134 pages.

3. Book Chapters

1. A. Sharma, S. Jain, B. Bhargava, A research agenda towards Culturally aware Information Systems, 369- 378, Advances in IoT and Security with Computational Intelligence, edited by A Mishra, D. Gupta, G. Chetty, (Proceedings of ICAISA 2023) . Lecture Notes in Networks and

Systems, vol. 755, pp. 369-378, Springer Cham. Print ISBN: 978-981-99-5084-3. Online ISBN: 978-981-99-5085-0.

2. T Bonjour, M Haliem, V. Aggarwal, M. Kejriwal, B. Bhargava, Multi-agent Game Domain: Monopoly in A unified Framework for Formal Theories of Novelty, ISBN 978-3-031-33054-4, print 978-3-031-33052-7 (edited by Terry Boult and Walter Scheirer), August 2023, DOI:10.1007/978-3-031-33054-4_7
3. A. Zhang and B. Bhargava, "Flexible Transaction Models", book chapter in C. Panos (editor), Extended Transactions Models and Advanced Concurrency Control in Encyclopedia of Database Systems, C. Panos Editor, Springer Verlag, 2008
4. L. Lilien and B. Bhargava, "Privacy and Trust in Online Interactions," book chapter in: K. Chen and A. Fadlalla (eds.), "Online Consumer Protection: Theories of Human Relativism," Idea Group, 2007
5. G. Ding, X. Wu, and B. Bhargava. "Cross-Layer Algorithm for Video Transmission over Wireless Network," in Handbook of Algorithms for Mobile and Wireless Networking and Computing, (A. Boukerche, ed.), CRC Press, 2005.
6. I. Chung, B. Bhargava, and S. Madria. "Taxonomy of Data Management via Broadcasting in a Mobile Computing Environment." Book Chapter in Mobile Computing: Implementing Pervasive Information and Communication Technologies, Kluwer Academic Publishers, December 2002.
7. S. Madria, B. Bhargava, M. Mohania, and S. Bhowmick. "Data and Transaction Management in a Mobile Environment." Book Chapter in Mobile Computing: Implementing Pervasive Information and Communication Technologies, Kluwer Academic Publishers, December 2002.
8. B. Bhargava and A. Helal. "Configurable Distributed Database Systems: Living with Failures and Surviving Catastrophes," Tutorial Notes, IEEE Press, October 1993.
9. H. Tirri, J. Srinivasan, and B. Bhargava. "Integrating Distributed Data Sources Using Federated Objects," in Distributed Object Management, (T. Ozsu, U. Dayal, and P. Valduriez, eds.), Morgan Kaufmann Publisher, Inc., June 1993.
10. B. Bhargava and Y. Jiang. "Transition from Relational to Object Model Implementation," in Advanced Database Concepts and Research Issues, (N. Adam and B. Bhargava, eds.), Springer Verlag, Lecture Notes in Computer Science, No. 759, September 1993.
11. B. Bhargava, Y. Zhang, and E. Mafla. "Communication Facilities for Distributed Transaction Processing Systems," in Readings in Distributed Computing Systems, (T. Casavant and M. Singhal. eds.), IEEE Press, November 1992.
12. B. Bhargava and L. Lilien. "Expert Systems for Fault Tolerant Distributed Database Systems," Essays in Computer Vision and other topics, (Julious Tou, ed.), (dedicated to Professor K.S. Fu), pp. 41-182. June 1990. Published by Academic Sinica.
13. B. Bhargava. "Concurrency Control and Reliability in Distributed Database System," in Software Engineering Handbook, Van Nostrand Reinhold Company, 1983, pp. 331-358.
14. B. Bhargava. "Design of Intelligent Query Systems for Large Databases," in Pictorial Information Systems, Springer-Verlag, May 1980, pp. 431-445

4. Research Journals

Submitted

15. N. Wang, K. Zheng, J. Fu, Z. Liu, L. Deng, J. Liu, B. Bhargava, VMSKS: Verifiable Multi-Semantic Keyword Search for Electronic Medical Record, Submitted to IEEE Transactions on Services Computing, Jan 2025
16. Z. Liu, B. Bhargava, N. Aneja, S. Aneja, R. Oliviera, RDCollab: Reasoning and Detecting Collaborative Attacks in Autonomous UAV Networks, Under revision in IEEE Transactions on Dependable and Secure Computing.
17. N. Wang, J. Wang, J. Fu, W J. Liu, B. Bhargava, VLMS: Verifiable Lattice-based Encryption with Multi-keyword Search in Cloud Storage, Submitted to IEEE Transaction on Dependable and secure computing,
18. S. Feng B. Cui, J. Fu, B. Bhargava, CloTChecker: Security Analysis Framework for Differential Testing of CloT Devices, Submitted to IEEE Transactions on Forensics and Security
19. Z. Liu, B. Bhargava, N Aneja, STARFed: Link-Aware Defense Against Poisoning Attacks in Satellite-Terrestrial Federated Learning" for consideration for publication in IEEE transaction on dependable and secure computing.
20. T. Xu, R Jiang, B. Bhargava,
An Efficient Constant Round Dynamic Authentication Group Key Agreement Scheme Based o n LWE, Submitted to IEEE Transactions on Forensics and Security.
21. S. Zhang, R. Jiang, B. Bhargava, A Fine-grained Lattice Encryption Scheme with Multi-Authority in Cloud Storage Environment, Submitted to IEEE Transactions on Services
22. P. Bagchi, A. Bisht, B. Bera, A. Das, B. Bhargava, B. Sidkar, Quantum Secure Lattice-Based Aggregate Signature for IoT-Enabled Healthcare using Blockchain
23. B. Palaniswamy, A. Karati, T. Chen, A. Das, B. Bhargava, QPCASIN: A Quantum-Defended Privacy-Aware Continuous Authentication in Space Information Networks, Submitted to Transactions on Information Forensics & Security
24. A. Alsalem, B. Bhargava, BEREP: BEhavior-Based REPutation Scheme for Privacy Preservation in VANETs Using Blockchain Technology, Submitted to IEEE Transactions on Vehicular Technology
25. Q. Yang, R. Jiang, B. Bhargava, A Fine-grained Data Sharing Scheme Based on Lattice Encryption in Fog and Cloud Computing, Submitted to IEEE Transactions on Services Computing
26. M. Villars, B. Bhargava ConFoc: Content-Focus Protection Against Trojan Attacks on Neural Networks, Under revision in IEEE Transactions on Dependable and Secure Computing
27. M. Palash and B. Bhargava, DeFi: Deep Learning Based Emotion Recognition from Facial Expression in the Time of Covid-19, Submitted to IEEE Transactions on Pattern Analysis and Machine Intelligence
28. M. Palash and B. Bhargava, Unmasking the Maked: Novelty Detection for Robust Emotion Recognition, Submitted to IEEE Transactions on Neural Networks and Learning Systems and Machine Intelligence

29. N. Wang, S. Zhang, R. Wang, Z. Zhang, Q. Han, J. Fu, and B. Bhargava, Block-based Privacy-preserving Healthcare Data Ranked Retrieval in Encrypted Cloud File Systems, Submitted to Submitted to IEEE Journal of Biomedical science and Health Informatics
30. W. Wen, R. Jiang, B. Bhargava, Multi-Authority Data Sharing Scheme Based on Ring Learning with Errors in Cloud Storage, submitted to IEEE Transactions on Services Computing
31. X. Zhou, R. Jiang and B. Bhargava, A Novel Data Sharing Scheme in Fog and Cloud Computing Environment, Submitted to IEEE Transactions on Service Computing
32. H. Liu, R. Jiang, B. Bhargava, A Revocable Multi-Authority Attribute-Based Encryption Scheme Based on Ideal Lattices in Cloud Storage" submitted to IEEE Transactions on Cloud Computing.
33. J. Xu, R Jiang, B. Bhargava, "A Novel Dynamic Anti-Collusion Ciphertext Policy Attribute-Based Encryption Scheme in 5G D2D Environment" Submitted to IEEE Transactions on Dependable and Secure Computing

Published

1. J. Zhao, Q. Li, Z., Han, J. Fu, G. Nan, M. Shen, B. Bhargava, ReTrial: Robust Encrypted Malicious Traffic Detection via Discriminative Relation Incorporation and Misleading Relation correction , in IEEE Transactions on Information Forensics and Security, Print ISSN: 1556-6013, Online ISSN: 1556-6021, Vol. 20, 677-692, 2025, doi: 10.1109/TIFS.2024.3515821
2. S. Islam, M Chiu, T. Bonjour, R Oliviera, B. Bhargava, M. Kejriwal, A Q-learning Novelty Search Strategy for Evaluating Robustness of Deep Reinforcement Learning in Open-world Environments, to appear IEEE Intelligent Systems, doi: 10.1109/MIS.2024.3469574
3. B. Bora, A Bisht, A Kumar, B. Bhargava, D. Yau, BioKA-ASVN based key agreement scheme for Air smart vehicular network using Blockchain service, IEEE Transactions on Vehicular Technology, Vol. 73, Issue 7, 9478-9494, July 2024
4. M. Jiang, J. Jian, J. Chen, B. Cui, J. Fu, T. Wang, L. Yao, B. Bhargava, RUDOLF: An Efficient and Adaptive Defense Approach Against Website Fingerprinting Attacks Based on Soft Actor-Critic Algorithm, ACCEPTED for publication as a REGULAR paper in the IEEE Transactions on Information Forensics & Security, June 2024
5. M. Palash and B. Bhargava, EMERSK -Explainable Multimodal Emotion Recognition with Situational Knowledge, in IEEE Transactions on Multimedia 26: 2785-2794 (2024)
6. C. Chen, B. Bhargava, V. Aggarwal, B. Tonshal, A. Gopal, A Hybrid Deep Reinforcement Learning Approach for Jointly Optimizing Offloading and Resource Management in Vehicular Networks, in IEEE Transactions on Vehicular Technology, 73(2): 2456-2467 (2024), doi: 10.1109/TVT.2023.3312340
7. N. Wang, W. Zhou, J. Wang, Y. Guo, J. Fu, and J. Liu, "Secure and Efficient Similarity Retrieval in Cloud Computing Based on Homomorphic Encryption," in IEEE Transactions on Information Forensics and Security, Vol. 19, pp. 2454-2469, 2024, doi: 10.1109/TIFS.2024.3350909

8. U. Bansal, G. Sikka, L. Avasthi, B. Bhargava, Quantitative evaluation of extensive vulnerability set using cost benefit analysis, in *IEEE Transactions on Dependable and Secure Computing*, 21(1): 298-308 (2024)
9. A. Aslam, B. Bhargava, ABAUS: Active Bundle Authentication Solution based on SDN for Vehicular networks, Accepted for Publication in *IEEE Access*, March 2024, Print ISSN: 2169-3536
Online ISSN: 2169-3536, Digital Object Identifier: 10.1109/ACCESS.2024.3374216, doi:10.1109/ACCESS.2024.3374216
10. G. Mani, M. Kim, B. Bhargava, P. Angin, A. Deniz, V. Pasumarti, Malware Speaks! Deep Learning Based Assembly Code Processing for Detecting Evasive Cryptojacking, in *IEEE Transactions on Dependable and Secure Computing*, pp 1-17, August 2023, doi 10.1109/TDSC.2023.3307445
11. J. Fu, S Xiong, N. Wang, R. Ren, A. Zhou, B. Bhargava, A Framework of High-speed Network Protocol Fuzzing based on Shared Memory, in *IEEE Transactions on Dependable and Secure Computing*, pp 1-18, Sept. 2023, doi: 10.1109/TDSC.2023.3318571.
12. N. Wang, J. Fu, S. Zhang, Z. Zhang, J Qiao, J. Liu, B. Bhargava, Secure and Distributed IoT Data Storage in Clouds based on Secret Sharing and Collaborative Blockchain, in *IEEE/ACM Transactions on Networking*, vol. 31, no. 4, pp. 1550-1565, Aug. 2023, doi: 10.1109/TNET.2022.3218933
13. N. Wang, S. Zhang, Z. Zhang, J. Qiao, J. Fu, B. Bhargava, Lightweight and Secure Data Transmission Scheme Against Malicious Nodes in Heterogeneous Wireless Sensor Networks, in *IEEE Transactions on Information Forensics & Security*, Vol. 18, pp. 4652-4667, 2023, July 2023, doi: 10.1109/TIFS.2023.3297904
14. P Angin, M. Anisi, B. Bhargava, G. Mani, I. you, Special issue on AI-driven security in 5G and beyond, *ITU (International Telecommunication Union) Journal on Future and Evolving Technologies*, Vol. 4, No. 2, June 2023
15. G. Mani, M. Haliem, B. Bhargava, I. Manickam, K. Kochpatcharin, M. Kim, E. Vugrin, W. Wang, C. Jenkins, P Angin, M. Yu, "Machine Learning Based Resilience Testing of an Address Randomization Cyber Defense," in *IEEE Transactions on Dependable and Secure Computing*, vol. 20, no. 6, pp. 4853-4867, Nov.-Dec. 2023, doi: 10.1109/TDSC.2023.3234561
16. N. Aneja, S. Aneja, B. Bhargava, "AI-Enabled Learning Architecture Using Network Traffic Traces over IoT Network: A Comprehensive Review," *Wireless Communications and Mobile Computing*, vol. 2023, Article ID 8658278, 12 pages, 2023. <https://doi.org/10.1155/2023/8658278>.
17. Z. Cui, B. Cui, J. Fu and B. K. Bhargava, "An Attack to One-Tap Authentication Services in Cellular Networks," in *IEEE Transactions on Information Forensics and Security*, 18: 5082-5095 (2023), doi: 10.1109/TIFS.2023.3304840
18. J. Fu, S Xiong, N. Wang, R. Ren, A. Zhou, B. Bhargava, A Framework of High-speed Network Protocol Fuzzing based on Shared Memory, Submitted to *IEEE Transactions on Dependable and Secure Computing*, pp 1-18, Sept. 2023, doi: 10.1109/TDSC.2023.3318571.
19. M. Villars, G Modelo-Howard, S. Dube, B. Bhargava, "Hunting for Insider Threats Using LSTM-based Anomaly Detection", *IEEE Transactions on Dependable and Secure Computing*, Vol. 20, pp 451-462, 2023.
20. S. E. Palacios Interiano, J. Krogmeier, B. Bhargava, C. Brinton, A. Ault, "Trellis++: A Practical, Auditable, Privacy-Preserving Certification Framework with Oblivious Smart Contracts." in

IEEE Transaction on Secure and Dependable Computing (TSDC) 20(4), 3269-3286 (2023),
<http://arxiv.org/abs/2207.12482>

21. S. Aneja, N. Aneja, B. Bhargava, R. Chowdhary, Device Fingerprinting using Deep Convolutional Neural Networks, *International Journal of Communication Networks and Distributed Systems*, 28(2): 171-198 (2022)
22. K. Solaiman, T. Sun, A. Nesen, B. Bhargava, and M. Stonebraker, "Applying Machine Learning and Data Fusion to the "Missing Person" Problem," in *IEEE Computer*, vol. 55, no. 6, pp. 40-55, June 2022, doi: 10.1109/MC.2022.3145507.
23. J. Fu, N. Wang, L. Nie, B. Cui, B. Bhargava, "Defending Trace-back Attack in 3D Wireless Internet of Things" *IEEE/ACM Transactions on Networking*, Vol. 30, No. 4, 1765-1079, August 2022
24. K. Manchella, M. Haliem, V. Aggarwal, and B. Bhargava, "PassGoodPool: Joint Passengers and Goods Fleet Management with Reinforcement Learning aided Pricing, Matching, and Route Planning", *The IEEE Transactions on Intelligent Transportation Systems, (T-ITS)* 23 (4): 3866-3877 (2022)
25. M. Haliem, V. Aggarwal, and B. Bhargava, AdaPool: A Diurnal-Adaptive Fleet Management Framework using Model-Free Deep Reinforcement Learning and Change Point Detection, *IEEE Transactions on Intelligent Transportation Systems, (T-ITS)*, Vol. 23, pp. 2471-2481, 2022.
26. T. Bonjour, M. Haliem, A. Alsalem, Shilpa; L. Yu, V. Aggarwal, M. Kejriwal, B. Bhargava, Decision Making in Monopoly using a Hybrid Deep Reinforcement Learning Approach, in *IEEE Transactions on Emerging Topics in Computational Intelligence*, Vol. 6, No. 6, pp. 1335-1344 (2022), doi: 10.1109/TETCI.2022.3166555.
27. R. Jiang, Q. Zhao, B. Bhargava, RL-ABE: A Revocable Lattice Attribute Based Encryption Scheme Based on R-LWE Problem in Cloud Storage, *IEEE Transactions on Services Computing*, vol. 15, no. 2, pp. 1026-1035, 1 March-April 2022, DOI: 10.1109/TSC.2020.2973256
28. J. Fu, N. Wang, L. Yun, B. Bhargava, "A Practical Framework for Secure Document Retrieval in Encrypted Cloud File Systems", *IEEE Transactions on Parallel and Distributed Systems*, Vol. 33, No. 5, 1246-1261, May 2022
29. N. Ahmed and B. Bhargava, Bio-inspired Formal Model for Space/Time Virtual Machine Randomization and Diversification, *IEEE Transactions on Cloud Computing*, Vol. 10, No. 2, pp 1190-1200, April 2022, Online ISSN: 2168-7161 Digital Object Identifier: 10.1109/TCC.2020.2969353
30. M. Jedh, L. b. Othmane, N. Ahmed and B. Bhargava, "Detection of Message Injection Attacks onto the CAN Bus using Similarities of Successive Messages-Sequence Graphs," in *IEEE Transactions on Information Forensics and Security*, 16: 4133-4146 (2021), doi: 10.1109/TIFS.2021.3098162.
31. N. Ahmed and B. Bhargava, Bio-inspired Formal Model for Space/Time Virtual Machine Randomization and Diversification, *IEEE Transactions on Cloud Computing*, Vol. 10, No. 2, pp 1190-1200, April 2022, Online ISSN: 2168-7161 Digital Object Identifier: 10.1109/TCC.2020.2969353
32. M. Haliem, G. Mani, V. Aggarwal, and B. Bhargava, "A Distributed Model-Free Ride-Sharing Approach for Joint Matching, Pricing, and Dispatching using Deep Reinforcement Learning",

in IEEE Transactions on Intelligent Transportation Systems (T-ITS), 22(12), 7931–7942, June 2021

33. H. Chen, Y. Zhang, Y. Cao, B. Bhargava, Security Threats and Defensive Approaches in Machine Learning System Under Big Data Environment, Wireless personal Communication, Springer-US, pp 1-21, 2021, <https://doi.org/10.1007/s11277-021-08284-8>
34. A. Hu, R. Jiang, and B. Bhargava, "Identity-Preserving Public Integrity Checking with Dynamic Groups for Cloud Storage," IEEE Transactions on Services Computing, Vol. 14, No. 4, 1097-1110, 1 July-Aug. 2021, doi: 10.1109/TSC.2018.2859999
35. N. Ahmed, B. Bhargava, From Byzantine Fault-Tolerance to Fault-Avoidance: An Architectural Transformation to Attack and Failure Resilience. IEEE Transactions on Cloud Computing, Volume 8, No. 3, pp 847-860, September 2020.
36. I. You, C Choi, V Sharma, I. Woungang, B. Bhargava, Advances in In Security and Privacy Technologies for Forthcoming Smart Systems, Services, Computing, and Networks, Guest Editorial, Intelligent Automation and Soft Computing, 25 (1), 117-119, 2019
37. J. Xu, S. Wang, B. Bhargava and F. Yang "A Blockchain-enabled Trustless Crowd-Intelligence Ecosystem on Mobile Edge Computing", IEEE Transactions on Industrial Informatics 15(6): 3538-3547 (2019)
38. J. Fu, L. Yun, B. Bhargava, "Source-Location Privacy Protection based on Anonymity Cloud in Wireless Sensor Networks", IEEE Transactions on Information Forensics and Security, Vol. 15, 100-114, May, (2020)
39. H. Chen, C. Meng, Z. Shan, Z. Fu, B. Bhargava, "A novel Low-rate Denial of Service attack detection approach in ZigBee wireless sensor network by combining Hilbert-Huang Transformation and Trust Evaluation" IEEE Access 7: 32853-32866 (2019)
40. R. Ranchal, B. Bhargava, P. Angin and L. Ben Othmane, "EPICS: A Framework for Enforcing Security Policies in Composite Web Services," in IEEE Transactions on Services Computing, 12(3): 415-428 (2019)
41. S. Palacios, V. Santos, E. Barsallo, B. Bhargava, MioStream: a peer-to-peer distributed live media streaming on the edge, Multimedia: Tools and Applications, (2019). Springer
42. M. Javed, E. Hamida, A. Al-Fuqaha and B. Bhargava, Adaptive Security for Internet of Vehicle of Smart Cities, IEEE Intelligent Transportation Systems Magazine, 10(2): 110-120 (2018)
43. J. Fu, L. Yun, J. Jiang, B. Bhargava, "Secure Data Storage and Searching for Industrial IoT by Integrating Fog Computing and Cloud Computing", IEEE Transactions on Industrial Informatics (A special on Fog Computing for Industrial Applications submission). 14(10): 4519-4528 (2018)
44. X. Wu, R. Jiang, B. Bhargava, "On the Security of Data Access Control for Multiauthority Cloud Storage Systems", IEEE Transactions on Services Computing, No. 10, Vol. 2, pp. 258-272, 2017
45. N. Wang, J. Fu, B. Bhargava, J. Zeng, Efficient Retrieval Over Documents Encrypted by Attributes in Cloud Computing. IEEE Trans. Information Forensics and Security 13(10): 2653-2667 (2018)
46. N. Wang, J. Fu, J. Zeng, B. Bhargava, Source-location privacy full protection in wireless sensor networks. Information. Science. 444: 105-121 (2018)

47. A. Hu, R. Jiang, and B. Bhargava, "Identity-Preserving Public Integrity Checking with Dynamic Groups for Cloud Storage," in *IEEE Transactions on Services Computing*, 2018
doi:10.1109/TSC.2018.2859999
48. P Angin, B Bhargava, R Ranchal, A self-protecting agents based model for high-performance mobile-cloud computing, *Computers & Security*, 77: 380-396 (2018)
49. A. Bijarano, A. Jindal, and B. Bhargava, "Measuring user's influence in the Yelp recommender system", *PSU Research Journal Review*, Vol. 1 Issue: 2, pp.91-104, 2017,
<https://doi.org/10.1108/PRR-02-2017-0016>
50. R. Jiang, X. Wu, B. Bhargava, SDSS-MAC: Secure data sharing scheme in multi authority cloud storage systems, *Computers & Security* Vol. 62, pp 193–212, 2016
51. B. Bhargava, A. Johnson, G. Munyengabe, and P. Angin, A Systematic Approach for Attack Analysis and Mitigation in V2V Networks, *Journal of Wireless Mobile Networks, Ubiquitous Computing, and Dependable Applications (JoWUA)* Vol. 7, No. 1, pp. 79-96, 2016
52. R. Ranchal, A. Mohindra, J. Manweiler, B. Bhargava, RADical Strategies for Engineering Web-Scale Cloud Solutions. *IEEE Cloud Computing* 2(5): 20-29 (2015)
53. L. Othmane, R. Fernando, R. Ranchal, B. Bhargava, E. Bodden, Incorporating Attacker Capabilities in Risk Estimation and Mitigation, *Journal of Computers and Security*, Volume 51, pp. 41–61, June 2015
54. Y. Zhong, B. Bhargava, Y. Lu, P. Angin, A computational Dynamic Trust Model for User Authorization, *IEEE Transaction on Dependable and Secure Computing*, Vol. 12, No. 1, pp. 1-15, 2015
55. K. Xu, Y. Sun, B. Bhargava: An Introduction to the Enterprise-Participant (EP) Data Model. *International Journal of Next Generation Computing (IJNGC)*, Vol. 5, No. 3, pp. 304-317, 2014
56. L. Othmane, R. Fernando, R. Ranchal, B. Bhargava, E. Bodden, Likelihood of Threats to Connected Vehicles. *International Journal of Next Generation Computing (IJNGC)*, Vol. 5, No. 3, pp. 290-303, 2014
57. R. Jiang, B. Bhargava: Formal Theory for Security Protocol Analysis of Distributed Denial of Service. *International Journal of Next Generation Computing (IJNGC)*, Vol. 5, No. 3, pp. 233-248, 2014
58. A. Can, B. Bhargava: k-anonymity Chord for Anonymous Query Response. *International Journal of Next Generation Computing (IJNGC)*, Vol. 5, No. 3, pp. 274-289, 2014
59. L. Othmane, P. Angin, H., Weffers, B. Bhargava, Extending the Agile Development Approach to Develop Acceptable Secure Software, *IEEE Transaction on Dependable and Secure Computing* Vol.11, No. 6, pp. 497-509, 2014.
60. B. Panja, D. Morrison, P. Meharia, B. Bhargava, A. Prakash, Group Security of V2V using Cloud Computing Processing and 4G Wireless Services, *International Journal of Next Generation Computing (IJNGC)*, Vol. 5, No. 3, pp. 218-232, 2014
61. B. Bhargava, I Khalil, R. Sandhu, "Securing Big Data Applications in the Cloud", Guest Editors' Introduction, *IEEE Cloud Computing* 1(3): 24-26, 2014
62. H. Chen, B. Bhargava, Z. Fu, Multilabels-Based Scalable Access Control for Big Data Applications. *IEEE Cloud Computing* 1(3): 65-71, 2014
63. L. Lilien, L.B. Othmane, P. Angin, A. DeCarlo, R. Salih, B. Bhargava. , A Simulation Study of Ad Hoc Networking of UAVs with Opportunistic Resource Utilization Networks. *Journal of*

Network and Computer Applications, Special Issue on Advanced Technologies for Homeland Defense and Security, Vol. 38, pp. 3-15, 2014.

64. B. Panja, B. Bhargava, S. Pati, D. Paul, L. Lilien, P. Meharia, Monitoring and Managing Cloud Computing Security using Denial of Service Bandwidth Allowance, *Recent Patents on Computer Science*, Vol. 6, No. 1, pp. 73-81, 2013.
65. H. Kim, R. Oliveira, B. Bhargava, J. Song, A Novel Robust Routing Scheme against Rushing Attacks in Wireless Ad Hoc Networks, *Wireless Personal Communications*, Volume 70, Issue 4, pp 1339-1351, ISSN: 0929-6212, 2013.
66. L.B. Othmane, H. Weffers, P. Angin, B. Bhargava, A Time-Evolution Model for the Privacy Degree of Information Disseminated in Online Social Networks, *International Journal of Communication Networks and Distributed Systems*, Vol. 11, No. 4, pp. 412-430, 2013.
67. T. Gong, B. Bhargava, "Immunizing mobile ad hoc networks against collaborative attacks using cooperative immune model", *Security and Communication Networks* Vol. 6: pp. 58-68, 2013.
68. P. Angin, B. Bhargava, "A Confidence Ranked Co-occurrence Approach for Accurate Object Recognition in Highly Complex Scenes" *Journal of Internet Technology*, Vol. 14, No. 1, pp. 13-19, 2013.
69. P. Angin and B. Bhargava, "An Agent-based Optimization Framework for Mobile-Cloud Computing" *Journal of Wireless Mobile Networks, Ubiquitous Computing, and Dependable Applications (JoWUA)* Vol. 4, No. 2, pp. 1-17, 2013.
70. L. Yao, T. Gong, J. Fan, B. Bhargava, Research on ARM9-Based Intelligent Immune System for Avoiding Rear-End Collision, *International Journal of Immune Computation (IC)* Vol. 1, No. 1, pp. 4-8, 2013
71. A. Can, B. Bhargava: SORT: A Self-ORganizing Trust Model for Peer-to-Peer Systems. *IEEE Trans. Dependable and Secure Computing*. 10(1): 14-27, 2013
72. T. Shon, A. Vasilakos, B. Bhargava, I. Stojmenovic, H. Jin, A. Zomaya: Editorial for Special Issue on "New Technologies and Applications for Wireless Communications & Mobile Cloud Computing". *MONET* 18(1): 98-102, 2013
73. K. Kumar, J. Liu, Y Lu, B. Bhargava, A Survey of Computation Offloading for Mobile Systems, *ACM Springer Mobile Networks and Applications (MONET) Journal*, special issue on ACM Mobile computing, Vol. 18, No. 1, 129-140, Feb. 2013
74. B. Bhargava, P. Angin, R. Ranchal, R. Sivakumar, A. Sinclair, M. Linderman, A Trust based approach for Secure Data Dissemination in Mobile Peer to Peer Network of AVs, *International Journal of Next Generation Computing*, Vol 3, No. 1, 2012
75. N. Idika, B. Bhargava. Extending Attack Graph-Based Security Metrics and Aggregating Their Application. *IEEE Transaction on Dependable and Secure Computing* 9(1): 75-85 2012
76. R. Jiang, M. Azarmi, T. Gong, B. Bhargava. Novel Secure and Dynamic Clustering Protocols in Wireless Sensor Networks. *Elsevier Computers & Security*, 2011
77. P. Angin, B. Bhargava. Real-time Mobile-Cloud Computing for Context-Aware Blind Navigation. *International Journal of Next Generation Computing*, Vol 2, No 2, 2011
78. Y. Zhang and B. Bhargava. Allocation schemes, Architectures, and Policies for Collaborative Port Scanning Attack. *Journal of Emerging Technologies in Web Intelligence*, Vol 3, No 2, 154-167, May 2011 doi:10.4304/jetwi.3.2.154-167, 2011

79. A. Shirsat and B. Bhargava. Local geometric algorithm for whole boundary. *Security and Communication Networks*, Wiley Online Library. DOI: 10.1002/sec.271; 3:1–10, 2010
80. Y. Lu and B. Bhargava. "SAGA: Self-Adjusting Congestion Avoidance Routing Protocol for Ad Hoc Networks", In *International Journal of Next-Generation Computing (IJNGC)*, Vol. 1, No 1, 124-144, 2010
81. L. Lilien, A. Bhargava, and B. Bhargava, "A Road from Fraud Vulnerabilities and Threats to Fraud Avoidance and Tolerance", *IPSI internal Journal on Emerging Technologies*, 2009
82. B. Bhargava, Y. Zhang, N. Idika, L. Lilien, M. Azarmi, "Collaborative Attacks in WiMAX Networks", *Wiley Journal on Security and Communication Networks*, 2(5): 373-391, 2009
83. Y. Zhang and B. Bhargava, Self-Learning Disk Scheduling, *IEEE Transactions on Knowledge and Data Engineering*, Vol. 21, No. 1, 50-65, 2009
84. S. Mohanty and B. Bhargava, Invisible Watermarking Based on Creation and Robust Insertion-Extraction of Image Adaptive Watermarks, *ACM Transaction on Multimedia Computing, Communication and Applications (ACM TOMCCAP)*, Vol. 5, No. 2, 1-24, 2008
85. W. Wang, J. Kong, B. Bhargava, and M. Gerla, Visualization of Wormholes in Underwater Sensor Networks: A Distributed Approach, *Int. Journal of Security and Networks*, Vol. 3, No. 1, 10-23, 2008
86. B. Panja, S. Madria, B. Bhargava, "Energy and Communication Efficient Group Key Management Protocol for Hierarchical Sensor Networks", *International Journal of Distributed Sensor Networks*, Vol. 3, No. 2, 201-223, 2007
87. B. Panja, S. Madria, B. Bhargava: A Role-based Access in a Hierarchical Sensor Network Architecture to provide Multilevel Security. *Computer Communications* 31(4): 793-806 (2008)
88. M. Jenamani, Y. Zhong, and B. Bhargava. "Cheating in Online Auction: Towards Explaining the Popularity of English Auction," *Journal of Electronic Commerce Research and Applications (ECRA)*, Vol. 6, No. 1, pp. 53-62, 2007.
89. S. Li, G. Chen, A. Cheung, B. Bhargava, "On the Design of Perceptual MPEG-Video Encryption Algorithms", in *IEEE Transactions on Circuits and System for Video Technology*, Vol. 17, No. 2, pp 214-223, 2007
90. Y. Lu, W. Wang, D. Xu, and B. Bhargava. "Trust based Privacy Preservation in Peer-to-Peer Data Sharing," *IEEE Transaction on Systems Man and Cybernetics (Special issues based on best papers in Secure Knowledge Management Conference)*, Vol. 36, No. 3, pp. 498-502, 2006
91. L. Lilien and B. Bhargava. "A Scheme for Privacy Preserving Data Dissemination," *IEEE Transaction on Systems Man and Cybernetics (Special issues based on best papers in Secure Knowledge Management Conference)*, Vol. 36, No.3, pp. 502-506, 2006
92. G. Ding, Z Sahinoglu, P Orlik, J Zhang, and B Bhargava, "Tree-Based Data Broadcast in IEEE 802.15.4 and ZigBee Networks" *IEEE Transactions on Mobile Computing*, 5(11):1561-1574, November 2006.
93. W. Wang, B. Bhargava, Y. Lu, and X. Wu. "Defending against Wormhole Attacks in Mobile Ad Hoc Networks", *Wiley Journal on Wireless Communications and Mobile Computing*, pp. 483-503, 2006.
94. X. Wu, B. Mukherjee, and B. Bhargava. "A Crossing-tier Location Update/Paging Scheme in Hierarchical Cellular Networks," *IEEE Transactions on Wireless Communications*, Vol. 4, No. 5, pp. 839-848, 2006.

95. G. Ding, X Wu, and B. Bhargava ``Performance Evaluation of Multi-Rate Mobile Ad Hoc Networks” *International Journal of Performance Evaluation*, 63 (11): 1110-1126, 2006
96. B. Bhargava, M. Jenamani, and Y. Zhong, "Counteracting Shill Bidding in online English Auction", *International Journal of Cooperative Information Systems*, Vol. 14, pp. 245-263, 2005
97. M. Hefeeda, A. Habib, D. Xu, B. Bhargava, and B. Botev. ``CollectCast: A Peer-to-Peer Service for Media Streaming,” *ACM/Springer Multimedia Systems Journal*, Vol. 11(1) pp. 68-81 (2005)
98. A. Habib, D. Xu, M. Atallah, and B. Bhargava. ``A Tree-Based Forward Digest Protocol to Verify Data Integrity in Distributed Media Streaming,” *IEEE Transactions on Knowledge & Data Engineering (TKDE)*, Vol. 17(7), pp.1010-1014, July 2005.
99. X. Wu and B. Bhargava. ``AO2P: Ad hoc On-demand Position-based Private Routing Protocol,” *IEEE Transactions on Mobile Computing*, 4(4), pp. 335-348, July 2005.
100. B. Bhargava, S. Wang, M. Khan, and A. Habib. ``Multimedia Data Transmission and Control using Active Networks,” *Journal of Computer Communications (Special Issue on Activated and Programmable Internet)*, 28(6):623-639, 2005.
101. A. Habib, S. Fahmy, and B. Bhargava. ``On Monitoring and Controlling QoS Network Domains,” *ACM/Wiley International Journal of Network Management*, (15)1, January-February 2005.
102. B. Bhargava, L. Lilien, A. Rosenthal, and M. Winslett. ``Pervasive Trust,” *IEEE Intelligent Systems*, Vol. 19, No. 5, pp. 74-78, September/October 2004.
103. X. Wu, G.-H. Gary Chan, B. Mukherjee, and B. Bhargava. ``Mobile-assisted Data Forwarding for Wireless Networks,” *Journal of Communications and Networks*, Vol. 6, No. 3, pp. 216-225, September 2004.
104. B. Bhargava, X. Wu, Y. Lu, and W. Wang. ``Integrating Heterogeneous Wireless Technologies: A Cellular Aided Mobile Ad Hoc Network (CAMA),” in *Kluwer Mobile Network and Applications (MONET), Special Issue on Integration of Heterogeneous Wireless Technologies*, Vol. 9, pp. 393-408, 2004.
105. B. Bhargava, C. Shi, and S. Wang. ``MPEG Video Encryption Algorithms,” *Multimedia Tools and Applications*, Vol 24, No. 3, 57-79, April 2004.
106. M. Hefeeda, B. Bhargava, and D. Yau. ``A Cost-Effective Architecture for On-Demand Media Streaming,” *Journal of Computer Networks*, Vol. 44, Issue 3, pp. 353-382, March 2004.
107. A. Habib, M. Khan, and B. Bhargava. ``Edge-to-Edge Measurement-based Distributed Network Monitoring,” *Computer Networks*, Vol. 44, Issue 2, pp. 211-233, February 2004.
108. X. Wu, B. Mukherjee, G.-H. Chan, and B. Bhargava. ``Assuring Communications by Balancing Load in Cellular Networks,” *IEICE Transaction on Communications, IEICE/IEEE Joint Special Issue on Assurance Systems and Networks*, Vol. E86-B, No. 10, pp. 2912-2921, October 2003.
109. Y. Lu, B. Bhargava, W. Wang, Y. Zhong, and X. Wu. ``Secure Wireless Network with Movable Base Stations,” *IEICE Transaction on Communications, IEICE/IEEE Joint Special Issue on Assurance Systems and Networks*, Vol. E86-B, No. 10, pp. 2922-2930, October 2003.

111. A. Habib, S. Fahmy, S. Avasarada, V. Prabhakar, and B. Bhargava. "On Detecting Service Violations and Bandwidth Theft in QoS Network Domains," *Computer Communications*, Vol. 26, Issue 8, May 2003, pp. 861-871.
112. S. Madria, M. Tubaishat, and B. Bhargava. "Performance Evaluation of Linear Hash Structures in a Nested Transaction Environment," *Journal of Systems and Software*, Vol. 63, No. 3, May 2002, pp. 59-79.
113. D. Yau and B. Bhargava. "Heterogeneous CPU Services Using Differentiated Admission Control," *Journal of Multimedia Tools and Applications*, Special issue on QoS in Multi-media Networks, Vol. 17, July 2002, pp. 213-232.
114. S. Madria, M. Mohania, B. Bhargava, and S. Bhowmick. "Mobile Data and Transactions," *Information Science Journal*, Vol. 141, No. 3-4, April 2002, pp. 279-309.
115. B. Bhargava. "A study of Communication Delays for Web Transactions," *Cluster Computing Journal*, 4(4), 2001, pp. 319-333.
116. S. Madria, S. Maheshwari, B. Chandra, and B. Bhargava. "Crash Recovery in an Open and Safe Nested Transaction Model: Formalization and Correctness," *International Journal of Cooperative Information Systems*, Vol. 10(1-2): 2001, pp. 1-50.
117. S. Madria and B. Bhargava. "A Transaction Model for Improving Data Availability in Mobile Computing," *Distributed and Parallel Databases: An International Journal*, 2001, pp. 127-160.
118. A. Zhang, M. Nodine, and B. Bhargava. "On Semi-Atomicity for Flexible Transactions in Distributed Database Systems," *IEEE Transactions on Knowledge and Database Engineering*, Vol. 13, No. 3, 2001, pp. 426-439.
119. S. Madria, S. Goel, and B. Bhargava. "Adaptive Constrained Locking Protocol for High Data Contention Environments: Correctness and Performance," *Information and Software Technology Journal*, Vol. 42(9), 2001, pp. 599-608
120. S. Madria, T. Malik, and B. Bhargava. "Multilevel Transactions and Semantic Concurrency Control in Linear Hash Structure Environment," *Information and Software Technology Journal*, Vol. 42(7), 2000, pp. 445-464.
121. S. Madria, M. Mohania, and B. Bhargava. "Guest Editorial: World Wide Web Data Management," *WWW Journal*, Vol. 3, No. 2, 2000, pp. 1-3.
122. S. Madria, S. Maheshwari, B. Chandra, and B. Bhargava. "An Open and Safe Nested Transaction Model: Concurrency and Recovery," *Journal of Systems Software*, 55 (2) 2000, pp. 151-165.
123. B. Ramamurthy, S. Upadhyaya, and B. Bhargava. "Design and Analysis of an Integrated Check Pointing and Recovery Scheme for Distributed Applications," *IEEE Transactions on Knowledge and Data Engineering*, Vol. 12, .2, April 2000, pp.174-186.
124. S. Goel, B. Bhargava, and S. Madria. "Adaptive Constrained Locking Protocol for High Data Contention Environments," *Information and Software Technology*, Vol. 42, Issue 9, June 2000, pp. 612-635.
125. B. Bhargava. "Guest Editorial: Digital Libraries and Multimedia," *International Journal of Multi-media Systems*, Vol. 10, January 2000, pp. 107-112.
126. B. Bhargava and M. Annamalai. "A Framework for Communication Software and Measurements for Digital Libraries," *International Journal of Multi-media Systems*, Vol. 10, January 2000, pp. 205-235.

127. E. Pitoura and B. Bhargava. "Data Consistency in Intermittently Connected Distributed Systems," *IEEE Transactions on Knowledge and Database Engineering*, Vol. 11, No. 6, December 1999, pp. 896-915.
128. B. Bhargava. "Concurrency Control in Distributed Database Systems," in *IEEE Transactions on Knowledge and Data Engineering*, Vol. 11, No. 1, January 1999, pp. 3-17.
129. B. Bhargava and S. Goel. "Object Request Based Clustering for Method Processing in Object-Oriented Database System," *Journal of Integrated Design and Process Science*, Vol. 2, No. 2, June 1998, pp. 62-77.
130. E. Pitoura, A. Zhang, and B. Bhargava. "On Relaxing Serializability By Constraining Transaction Readsets," *Information Systems*, Vol. 22, No. 6, 1997, pp. 387-400.
131. M. Kang, H. Dietz, and B. Bhargava. "Dependence Analysis for Detection of Database Query Parallelism," *International Journal of Knowledge and Database Systems*, Vol. 14, 1994, pp. 57-75.
132. B. Bhargava, Y. Jiang, and S. Srinivasan. "Performance Study of Supporting Objects in the O-Raid Distributed Database System," *International Journal of Intelligent and Cooperative Information Systems*, Vol. 2, No. 2, 1993, pp. 225-247.
133. B. Bhargava, E. Mafla, and J. Riedl. "Experimental Facility for Kernel Extensions to Support Distributed Database Systems," *International Journal of System Integration*, Vol. 3, 1993, pp. 5-21.
134. D. Veeramani, B. Bhargava, and M.M. Barash. "Information System Architecture for Heterarchical Control of Large Flexible Manufacturing Systems," *International Journal of Computer-Integrated Manufacturing Systems*, Vol. 6, No. 2, 1993, pp. 76-93.
135. B. Bhargava and Y. Jiang. "Parallelism and Non-Parallelism in Raid Distributed Database System," *Journal of Computer and Software Engineering*, No. 3, 1993, pp. 173-194.
136. D. Rine and B. Bhargava. "Object-Oriented Computing," *IEEE Computer*, Vol. 25, No. 10, 1992, pp. 6-10.
137. B. Bhargava, Y. Zhang, and E. Mafla. "Evolution of a Communication System for Distributed Transaction Processing in Raid," *Journal Computing Systems*, Vol. 4, No. 3, 1991, pp. 277-314.
138. E. Mafla and B. Bhargava. "Communication Facilities for Distributed Transaction Processing Systems.," Special Issue (On Distributed Computing Systems) of the *IEEE Computer*, Vol. 24, No. 8, 1991, pp. 61-66.
139. B. Bhargava, A. Helal, and K. Friesen. "Analyzing Availability of Fault-Tolerant Distributed Database Systems," *International Journal in Computer Simulation*, Vol. 1, No. 4, 1991, pp. 393-418.
140. B. Bhargava, E. Mafla, and J. Riedl. "Communication in the Raid Distributed Database System," *International Journal on Computers and ISDN Systems*, 21, 1991, pp. 81-92.
141. B. Bhargava and J. Riedl. "A Formal Model for Adaptable Systems for Transaction Processing," *IEEE Transactions on Knowledge and Data Engineering*, Vol. 4, No. 1, 1989, pp. 433-449.
142. B. Bhargava and J. Riedl. "RAID Distributed Database System," *IEEE Transactions on Software Engineering*, Vol. 15, No. 6, 1989, pp. 726-736.

143. B. Bhargava. "Design Principles in Experimental Distributed Systems," *IEEE Transactions on Software Engineering*, (Guest Editorial), Vol. 15, No. 6, 1989, pp. 661-662.
144. B. Bhargava and P. Ng. "A Dynamic Majority Determination Algorithm for Reconfiguration of Network Partitions," in *International Journal of Information Science*, Vol. 46, No. 3, 1988, pp. 27-45.
145. P. Leu and B. Bhargava. "Clarification of Two-Phase Locking in Concurrent Transaction Processing," *IEEE Transactions on Software Engineering*, SE-14, No. 1, 1988, pp. 120-123.
146. B. Bhargava. "Transaction Processing and Consistency Control of Replicated Copies during Failures," *Journal of Management Information Systems*, Vol. 4, No. 2, 1987, pp. 93-112.
147. B. Bhargava and L. Lilien. "Enforcement of Data Consistency in Database Systems," *SADHANA*, Vol. 1 and 2, 1987, pp. 1149-1180, in *Proceedings of Indian Academy of Science*, (special issue on Reliability and Safety Issues in Real-time Systems).
148. P. Leu and B. Bhargava. "Multidimensional Timestamp Protocols for Concurrency Control," *IEEE Transactions on Software Engineering*, SE-13, No. 12, 1987, pp. 1238-1253.
149. L. Lilien and B. Bhargava. "Database Integrity Block Construct: Concepts and Design Issues," *IEEE Transactions on Software Engineering*, SE-11, No. 9, 1985, pp. 865-885.
150. L. Lilien and B. Bhargava. "A Scheme for Verification of Database Integrity," *IEEE Transactions on Software Engineering*, SE-10, No. 11, 1984, pp. 664-680.
151. B. Bhargava. "Performance Evaluation of Reliability Control Algorithms for Distributed Database Systems," *Journal of Systems and Software*, 3, 1984, pp. 39-264.
152. B. Bhargava. "Resilient Concurrency Control in Distributed Database Systems," *IEEE Transactions on Reliability*, Vol. R-31, No. 5, 1984, pp. 437-443.
153. B. Bhargava. "A Non-Coded Computerized Micro-Biology System," *Journal of Laboratory Medicine*, Vol. 15, No. 5, 1984, pp. 334-337.
154. B. Bhargava and C. Hua. "A Causal Model for Analyzing Distributed Concurrency Control Algorithms," *IEEE Transactions on Software Engineering*, SE-9, 1983, pp. 470-486.
155. B. Bhargava. "Reliability Issues in Distributed Systems," *IEEE Transactions on Software Engineering*, SE-8, 1982, pp.165-166. (Guest Editorial).
156. B. Bhargava and L. Lilien. "On Optimal Placement of Integrity Assertions in a Transaction Processing System," *International Journal of Computer and Information Science*, Vol. 10, No. 5, 1981, pp. 315-330.
157. B. Bhargava and C. Hua. "Cost Analysis of Recovery Block Scheme and Selection Criterion for Alternates," *International Journal of Computer and Information Science*, Vol. 10, No. 5, 1981, pp. 359-382.
158. C. McDonald, R. Murray, D. Jeris, B. Bhargava, J. Seeger, and L. Blevins. "A Computer Record and Clinical Monitoring System for Ambulatory Care," *American Journal of Public Health*, Vol. 67, No. 3, 1977, pp. 240-245.
159. B. Bhargava, C. McDonald, H. Rivera, L. McCarthy, and L. Blevins. "Development and Implementation of a Computerized Clinical Laboratory System," *Journal of Laboratory Medicine*, Vol. 7, No. 12, 1976, pp. 28-37.
160. K. Fu and B. Bhargava. "Tree Systems for Syntactic Pattern Recognition," *IEEE Transactions on Computers*, C-22, No. 12, 1973, pp. 1087-1099.

5. Refereed Conference Proceedings

161. T. Bonjour, V. Aggarwal and B. Bhargava. Dabler: Deep adaptive broad learning agent with environment recognition. (preprint), 2024
162. S. Islam, M. Chiu, T. Bonjour, R. Oliveira, B. Bhargava and M. Kejriwal. A q-learning novelty search strategy for evaluating robustness of deep reinforcement learning in open-world environments. (Under Review), 2024.
163. P. Calyam, M. Kejriwal, K. Palaniappan, V. Ananad, B. Bhargava, and twelve authors, Towards a Domain-Agnostic Knowledge Graph-as-a-Service Infrastructure for Active Cyber Defense with Intelligent Agents, In IEEE Applied Imagery Pattern Recognition Workshop 2023 (AIPR)
164. L. Li · N. Aneja · A. Nesen · B. Bhargava, SentimentPulse: Temporal-Aware Custom Language Models vs. GPT-3.5 for Consumer Sentiment NeurIPS 2023 Workshop ICBINB, Dec 2023
165. I. Shafkat, N. Aneja, R. Olivier, B. Bhargava, J. Hamlet, C. Jenkins, Detect Adapt: A Resiliency Enhancement Mechanism for Space Computing Platforms”, 10th IEEE Annual Conf. on Computational Science & Computational Intelligence (CSCI'23), 2023
166. I Shafkat and B. Bhargava, Discovering Novelty via Transfer Learning, Springer Semantic Intelligence conference, 2022, New Delhi, India
167. A. Aslam, B. Bhargava, Privacy-Preserving Authentication Scheme for SDN-based Vehicular Ad-hoc Networks, Submitted to 22nd IEEE International Conference on Trust, Security and Privacy in Computing and Communications (TrustCom), Exeter, UK, November 2023
168. T. Bonjour, B. Bhargava, Information-Theoretic Approach to Detect Collusion in Multi-Agent Games, 38th Conference on Uncertainty in Artificial Intelligence (UAI 2022)
169. A. Nesen, B. Bhargava, Reducing Bias in the Dataset with Synthetically Generated Novelties, to be Submitted to neuRips workshop, 2022.
170. KMA Solaiman, B. Bhargava, Open-Learning Framework for Multi-modal Information Retrieval with Weakly Supervised Joint Embedding. in AAAI Spring Symposium, March 2022, Palo Alto, Ca
171. KMA Solaiman, B. Bhargava, Measurement of Novelty Difficulty in Monopoly, in AAAI Spring Symposium, March 2022, Palo Alto, Ca
172. B. Ganguly, M. Haliem, M. Agarwal, T. Bonjour, V. Aggarwal, and B., Decision making without prior knowledge in dynamic environments using Bootstrapped DQN, in AAAI Spring Symposium, March 2022, Palo Alto, Ca
173. M. Palash, B Bhargava, Continuous Learning Based Novelty Aware Emotion Recognition System, in AAAI Spring Symposium, March 2022, Palo Alto, Ca
174. T. Bonjour, V. Aggarwal, B. Bhargava, Information-Theoretic Approach to Detect Collusion in Multi-Agent Games, in AAAI Spring Symposium, March 2022, Palo Alto, Ca
175. M. Villarreal-Vasquez, B. Bhargava, J. Macdonald, ConFoc: Content-Focus Protection Against Trojan Attacks on Neural Nets, Submitted (In review)

176. T. Bonjour, V. Aggarwal and B. Bhargava, "Information-Theoretic Approach to Detect Collusion in Multi-Agent Games", Submitted to International Conference on Autonomous Agents and Multi-Agent Systems) AAMAS, 2022 (In review)
177. M Haliem, V. Aggrawal, B. Bhargava, "Diurnal-Adaptive Fleet Management Framework using Model-Free Deep Reinforcement Learning and Change Point Detection" Submitted (In review)
178. A. Nesen, K. Solaiman, B. Bhargava, Dataset Augmentation with Generated Novelities, 3rd IEEE Transdisciplinary Artificial Intelligence Conference (TransAI) 2021
179. A Nesen, B. Bhargava, Situational Awareness with Multimodal Streaming Data Fusion: Serverless Computing Approach, ACM SIGMOD workshop on Big Data in Emergent Distributed Environments (BiDEDE 2021), June 2021
180. S. Palacios, D. Zabrocki, B. Bhargava, V. Aggrawal, Auditable Serverless Computing for Farm Management, ACM SIGMOD workshop on Big Data in Emergent Distributed Environments (BiDEDE 2021), June 2021
181. M. Haliem, T. Bonjour, A. Alsalem, S. Thomas, H. Li, V. Aggarwal, B. Bhargava, M. Kejriwal: Learning Monopoly Gameplay: A Hybrid Model-Free Deep Reinforcement Learning and Imitation Learning Approach. CoRR abs/2103.00683 (2021)
182. M. Haliem, V. Aggarwal, and B. Bhargava, "Novelty Detection and Adaptation: A Domain Agnostic Approach", in Proceedings of the International Semantic Intelligence Conference (ISIC 2021), Feb. 2021
183. G. Mani, B. Bhargava, J. Kobes, J. King, J. MacDonald, Securing Intelligent Autonomous Systems through Artificial Intelligence, in Proceedings of the International Semantic Intelligence Conference (ISIC 2021), Feb. 2021
184. R. Ranchal, P. Angin, B. Bhargava, Privacy-Preserving Data Dissemination and Adaptable Service Compositions in Mission-Critical Clouds, in Proceedings of the International Semantic Intelligence Conference (ISIC 2021), Feb. 2021
185. M. Haliem, V. Aggarwal, B. Bhargava, AdaPool: An Adaptive Model-Free Ride-Sharing Approach for Vehicle Dispatching using Deep Reinforcement Learning, 7th ACM International Conference on Systems for Energy-Efficient Built Environments, 2020
186. M. Haliem, V. Aggarwal, B. Bhargava, A Distributed Delivery-Fleet Management Framework using Deep Reinforcement Learning and Dynamic Multi-Hop Routing, NeurIPS Machine Learning for Autonomous Driving Workshop, 2020
187. M. Haliem, G. Mani, V. Aggarwal, B. Bhargava, A Distributed Model-Free Ride-Sharing Algorithm with Pricing using Deep Reinforcement Learning. CSCS 2020: 5:1-5:10
188. M. Haliem, G. Mani, V. Aggarwal, B. Bhargava: A Distributed Model-Free Ride-Sharing Approach for Joint Matching, Pricing, and Dispatching using Deep Reinforcement Learning. CoRR abs/2010.01755 (2020)
189. G. Mani, V. Pasumarti, B. Bhargava, F. Vora, James MacDonald, J. King, J. Kobes: DeCrypto Pro: Deep Learning Based Cryptomining Malware Detection Using Performance Counters. IEEE International Conference on Autonomic Computing and Self-Organizing Systems (ACSOS) 2020: 109-118
190. K. Manchella, M. Haliem, V. Aggarwal, B. Bhargava, PassGoodPool: Joint Passengers and Goods Fleet Management with Reinforcement Learning aided Pricing, Matching, and Route Planning. CoRR abs/2011.08999 (2020)

191. M. Stonebraker, B. Bhargava, M. Cafarella, Z. Collins, A. Sipser, T. Sun, J. McClellan, A. Nesen, K. Solaiman, G. Mani, K. Kochpatcharin and P. Angin, J. MacDonald, Surveillance Video Querying With A Human-in-the-Loop, HILDA 2020 (HILDA 2020: Workshop on Human-In-the-Loop Data Analytics) with SIGMOD conference, 2020
192. M. Abdelkhalek, S. Veeraraghava, A. Muhsinah Jamil, L. Othmane and B. Bhargava, Security Analysis of Vehicle to Vehicle Arada Locomate On Board Unit, IEEE Computers, Software, and Applications Conference (COMPSAC 2020), Madrid, May 2020
193. M. Haliem, G. Mani, B. Bhargava, V. Aggarwal, J. MacDonald. "Distributed Pricing and Negotiation in Multi-Agent Ride-sharing Environment using Deep Reinforcement learning", The European Conference on Machine Learning and Principles and Practice of Knowledge Discovery in Databases (ECML PKDD) 2020.
194. S. Palacios, A. Ault, A. Layton, S. Noel, Y. Wang, A. Balmos, J. Krogmeier, D. Buckmaster, B. Bhargava, A. Raturi. "Trellis++ – A Practical, Auditable, Privacy-Preserving Certification Framework". ASABE (American Society of Agricultural and Biological Engineers) International Meeting. 2019.
195. S. Palacios, K. Solaiman, P. Angin, A. Nesen, B. Bhargava, Z. Collins, A. Sipser, M. Stonebraker, J. MacDonald, SKOD: Situational Knowledge on Demand, VLDB POLY'19, Los Angeles, August 2019
196. G. Mani, D. Ulybyshev, B. Bhargava, J. Kobes, P. Goyal, "Autonomous Aggregate Data Analytics in Untrusted Cloud ", IEEE Artificial Intelligence and Knowledge Conference (AIKE) , Laguna Hills, Sept., 2018
197. G. Mani, B. Bhargava, J. Kobes, "Scalable Deep Learning Through Fuzzy-based Clustering in Autonomous Systems ", IEEE Artificial Intelligence and Knowledge Conference (AIKE) , Laguna Hills, Sept., 2018
198. G. Mani, B. Bhargava, P. Angin, J. Kobes, "Machine Models to Enhance the Science of Cognitive Autonomy ", IEEE Artificial Intelligence and Knowledge Conference (AIKE) , Laguna Hills, Sept., 2018
199. D. Ulybyshev, A. Alsalem, B. Bhargava, S. Savvides, G. Mani, L. Ben-Othmane "Secure Data Communication in Autonomous V2X Systems", IEEE International Conference on Internet of Things (ICIOT), July 2018
200. G. Mani, B. Bhargava, B. Shivakumar, J. Kobes "Incremental Learning Through Graceful Degradations in Autonomous Systems", IEEE International Conference on Cognitive Computing (ICCC), July 2018
201. D. Ulybyshev, S. Palacios, G. Mani, B. Bhargava, A. Alsalem, P. Goyal "On-the-fly Analytics over Encrypted Records in Untrusted V2X Environments", 4-th ICACEEE, May 2018
202. D. Ulybyshev, M. Villarreal-Vasquez, B. Bhargava, G. Mani, S. Seaberg, P. Conoval, D. Steiner, J. Kobes "Blockhub: Blockchain-based Software Development System for Untrusted Environments", IEEE CLOUD July 2018
203. D.Sardesai. Ulybyshev, L. Ben-Othmane, B. Bhargava, "Impacts of Security Attacks on The Effectiveness of Collaborative Adaptive Cruise Control Mechanism", IEEE International Smart Cities Conference (ISC2) 2018
204. D. Ulybyshev, B. Bhargava, A. Alsalem "Secure Data Exchange and Data Leakage Detection in Untrusted Cloud", ICACCT 2018

205. R. Fernando, B. Bhargava, R Ranchal, P. Angin. A Monitoring Approach for Policy Enforcement In Cloud Services, Proceedings of IEEE Cloud Conference, Honolulu, June, 2017 (14% acceptance IEEE Cloud conference)
<http://www.thecloudcomputing.org/2017/about.html>
206. R. Ranchal, S Singh, P. Angin, A. Mohindra, H. Lei, B. Bhargava, Raas and Hierarchical Aggregation Revisited, Proceedings of IEEE Cloud Conference, Honolulu, June, 2017
207. M. Villarreal-Vasquez, B. Bhargava, P. Angin, Adaptable Safety And Security In V2X Systems, Proceedings of IEEE Internet of Things (IoT) Conference, Honolulu, June, 2017
208. S. Kumar, B. Bhargava, R. Macêdo, G. Mani, Securing IoT -Based Cyber Physical Human Systems Against Collaborative Attacks, Proceedings of IEEE Internet of Things (IoT) Conference, Honolulu, June, 2017
209. M. Azarmi and B. Bhargava, An End-to-End Dynamic Trust Framework for Service-Oriented Architecture, Proceedings of IEEE Cloud Conference, Honolulu, June 2017
210. M. Azarmi and B. Bhargava, End -To -End Policy Monitoring And Enforcement For Service - Oriented Architecture, Proceedings of IEEE Cloud Conference, Honolulu, June 2017
211. M. Villarreal-Vasquez, B. Bhargava, N. Ahmed, P. Angin, D. Goodwin, J. Kobes, K. Brin, An MTD-based Self-Adaptive Resilience Approach for Cloud Systems, Proceedings of IEEE Cloud Conference, Honolulu, June 2017
212. D. Ulybyshev, B. Bhargava, D. Steiner, L. Li, J. Kobes, H. Halpin, M. Villarreal –Vasquez, A. Alsalem, R. Ranchal, Privacy – Preserving Data Dissemination in Untrusted Cloud, Proceedings of IEEE Cloud Conference, Honolulu, June 2017
213. R. Ranchal, B. Bhargava, R. Fernando, Z. Jin and H. Lei, Privacy Preserving Access Control in Service-Oriented Architecture, Proceedings of IEEE CLOUD Conference, San Francisco, June. 2016.
214. R. Fernando, R. Ranchal. B. An, L. Ben Othmane, B. Bhargava, Consumer Oriented Privacy Preserving Access Control for Electronic Health Records in the Cloud, Proceedings of IEEE CLOUD conference, San Francisco, June. 2016.
215. N. Ahmed, B. Bhargava: Mayflies: A Moving Target Defense Framework for Distributed Systems. Proceedings of ACM Conference on Computers and Communications Security (CCS) workshop on Moving Target Defense: 59-64, Vienna, October 2016
216. N. Ahmed and B. Bhargava, Disruption-Resilient Publish and Subscribe, 6th International Conference on Cloud Computing and Services Science, Rome, April 2016 (Best paper award)
217. P. Angin, B. Bhargava, and R. Ranchal, Temper Resistance Autonomous Agent-based Mobile Computing, Proceedings of IEEE/IFIP Network Operations and Management Symposium (NOMS 2016), Istanbul, Turkey, April 2016
218. L. Lilien, L. Othmane, P. Angin, B. Bhargava, R. Salih, A. DeCarlo, Impact of Initial Target Position on Performance of UAV Surveillance Using Opportunistic Resource Utilization Networks, Proceedings of 34th IEEE Symposium on Reliable Distributed Systems (SRDS) 2015
219. C. Qu, D. Ulybyshev, B. Bhargava, L. Lilien, Secure Dissemination of Video Data in Vehicle-to-Vehicle Systems, Proceedings of 34th IEEE Symposium on Reliable Distributed Systems (SRDS) 2015

220. B. Bhargava, P. Angin, R. Ranchal, Sunil Lingayat, "A Distributed Monitoring and Reconfiguration Approach for Adaptive Network Computing", Proceedings of 34th IEEE Symposium on Reliable Distributed Systems (SRDS) (Best paper award), 2015
221. P. Angin and B. Bhargava, "A Self-Cloning Agents Based Model for High-Performance Mobile-Cloud Computing", 8th IEEE International Conference on Cloud Computing (IEEE CLOUD 2015), New York, June 2015
222. A. Mohindra, R. Ranchal, N. Zhou, S. Kapoor, B. Bhargava, "Hierarchical Aggregation of Consumer Ratings for Service Ecosystem", 22nd IEEE International Conference on Web Services (IEEE ICWS 2015), New York, June 2015.
223. N. Ahmed, B. Bhargava. "Towards Targeted Anomaly Detection Deployments in Cloud Computing". IEEE International Conference on Cloud Computing and Services Science. Lisbon, Portugal, May 2015.
224. N. Ahmed, B. Bhargava. "Towards Dynamic QoS Monitoring in Service Oriented Architectures", IEEE International Conference on Cloud Computing and Services Science. Lisbon, Portugal, May 2015.
225. L Othmane, P. Angin, B. Bhargava: Using Assurance Cases to Develop Iteratively Security Features Using Scrum, in Proceedings of Ninth IEEE International Conference on Availability, Reliability and Security (ARES), pp. 490-497, Fribourg, Switzerland, 2014
226. A. Miles, Y. Bai, D. Chinn, and B. Bhargava, "An Experimental Study of Hybrid Energy-Aware Scheduling in a Cloud Testbed", in the Proceedings of the 6th Global Information Infrastructure and Networking Symposium, Montreal, Canada, September 2014
227. L. Othmane, H. Weffers, R. Ranchal, P. Angin, B. Bhargava and M. Mohamad, A Case for Societal Digital Security Culture, 28th IFIP International Information and Security and Privacy conference (SEC), Auckland, July 2013
228. N. Arajo, R. Oliveira, A. Shinoda, B. Bhargava., Kappa Fuzzy ARTMAP: A Feature Selection Based Methodology to Intrusion Detection in Computer Networks, In Proceedings of IEEE International Conference on Trust, Security, and Privacy, in computing and Communications, (TrustCom), Melbourne, pp. 271-276, July 2013
229. N. Ahmed, M. Linderman, R. Gamble and B. Bhargava, Analysis of end-to-end SOA security protocols with mobile devices, IEEE MDM conference and workshop, Milan, June, 2013
230. R. Ranchal, B. Bhargava Protecting PLM Data throughout their lifecycle. In Proceedings of QSHINE 2013, New Delhi, India, January 2013
231. B. Bhargava, R. Ranchal, L. B. Othmane., Secure Information Sharing in Digital Supply Chains. In Proceedings of IEEE IACC 2013, New Delhi, India, February 2013
232. R. Fernando, B. Bhargava, M. Linderman, "Private Anonymous Messaging", IEEE International Symposium on Reliable Distributed Systems (SRDS), 2012
233. M. Azarmi, B. Bhargava, P. Angin, R. Ranchal, N. Ahmed, A. Sinclair, M. Linderman, L.B. Othmane, "An End-to-End Security Auditing Approach for Service Oriented Architectures" IEEE International Symposium on Reliable Distributed Systems (SRDS), 2012.
234. N. Arajo, R. Oliveira, E. Ferreira, V Nascimento, A. Akira, B. Bhargava, Performance Evaluation of the Fuzzy ARTMAP for Network Intrusion Detection. Chennai, International Conference on Security in Computer Networks and Distributed Systems (SNDS), pp 23-34, India 2012.

235. S. Dhurandher, I. Woungang, A. Gupta, B. Bhargava, E2SIW: An Energy Efficient Scheme Immune to Wormhole Attacks in Wireless Ad Hoc Networks, 26th IEEE International Conference on Advanced Information Networking and Applications (AINA-2012), Fukuoka, Japan, March 2012
236. B. Bhargava, P. Angin, L. Duan. A Mobile-Cloud Pedestrian Crossing Guide for the Blind. In Proceedings of International Conference on Advances in Computing & Communication, 2011
237. N. Idika, B. Bhargava. A Kolmogorov Complexity Approach for Measuring Attack Path Complexity, in Proceedings of IFIP International Information Security (SEC 2011) conference, June 2011, Lucerne, Switzerland
238. B. Bhargava, P. Angin, L. Duan. A Mobile-Cloud Pedestrian Crossing Guide for the Blind, In Proceedings of International Conference on Advances in Computing and Communication ICACC-11, April,2011, India
239. P. Guturu, B. Bhargava. Cyber-Physical Systems: A confluence of Cutting-Edge Technology Streams, In Proceedings of International Conference on Advances in Computing and Communication ICACC-11, April 2011, India
240. B. Bhargava, N. Singh, A. Sinclair. Privacy in Cloud Computing Through Identity Management, In Proceedings of International Conference on Advances in Computing and Communication ICACC-11, April 2011, India
241. S. K. Dhurandher, I. Woungang, A. Gupta, B. K. Bhargava. E2SIW: An Energy Efficient Scheme Immune to Wormhole Attacks in Wireless Ad Hoc Networks. In Proceedings of the 26th IEEE International Conference on Advanced Information Networking and Applications (AINA-2012), Fukuoka, Japan, March 26-29, 2012
242. N. C. Idika, B. H. Marshall, B. K. Bhargava. Maximizing network security given a limited budget. Richard Tapia Celebration of Diversity in Computing Conference 2009: 12-17
243. N. Araújo, R. Oliveira, E. Ferreira, A. A. Shinoda, B. Bhargava, "Identifying Important Characteristics in the KDD99 Intrusion Detection Dataset by Feature Selection using a Hybrid Approach," In proceedings of the 17th IEEE International Conference on Telecommunications – ICT 2010, Doha, Qatar, 2010
244. P. Angin, B. Bhargava, S. Helal. A Mobile Cloud Collaborative Traffic Lights Detector for Blind Navigation. 1st MDM International Workshop on Mobile Cloud. 2010
245. P. Angin, B. Bhargava, R. Ranchal, N. Singh, L. Lilien, L. Othmane, M. Linderman. A User-Centric Approach for Privacy and Identity Management in Cloud Computing, in Proceedings of 29th IEEE Symposium on Reliable Distributed System (SRDS), Nov 2010
246. R. Ranchal, B. Bhargava, L. Othmane, L. Lilien, A. Kim, M. Kang, M. Linderman. Protection of Identity Information in Cloud Computing without Trusted Third Party, in Proceedings of Third International Workshop on Dependable Network Computing and Mobile Systems (DNCMS 2010) in conjunction with 29th IEEE Symposium on Reliable Distributed System (SRDS), Oct 2010
247. P. Angin, B. Bhargava, S. Helal. A Mobile-Cloud Collaborative Approach for Context-Aware Blind Navigation. Grace Hopper Celebration of Women in Computing, 2010
248. A. Burak Can and Bharat Bhargava. Anonymous access to trust information using k-anonymity chord. In Proceedings of the Second International Conference on Advances in P2P Systems (AP2PS), 2010

249. E. Ferreira, R. Olivier, G. Carrijo, B. Bhargava, "Intrusion Detection in Wireless Mesh Networks Using a Hybrid Approach", IEEE International Conference on Distributed Computing Systems workshop SAHN, May 2009, Montreal
250. B. Bhargava, R. Olivier, Y. Zhang, N. Idika, "Addressing Collaborative Attacks and Defense in Ad Hoc Wireless Networks", IEEE International Conference on Distributed Computing Systems workshop SAHN, May 2009, Montreal
251. W. Wang, B. Bhargava, "Defending against Collaborative Packet Drop Attacks on MANET", in Proceedings of IEEE Symposium on Reliable Distributed System (SRDS) workshop on Dependable Network Computing and Mobile Systems, Sept., 2009, Buffalo, NY
252. R. Olivier, B. Bhargava, M Azarmi, W. Ferreira, W. Wang, and M. Lindermann, "Developing Attack Defense Ideas for Ad Hoc Wireless Networks" in Proceedings of IEEE Symposium on Reliable Distributed System (SRDS) workshop on Dependable Network Computing and Mobile Systems, Sept. 2009, Buffalo, NY
253. W. Wang, Z. Li, R Owens, B. Bhargava, "Secure and Efficient Access to Outsourced Data", ACM Cloud Computing Security workshop, CCSW2009 in conjunction with the 16th ACM Conference on Computer and Communications Security (CCS) , November 2009, Chicago, IL
254. Y. Bai, X. Su, B. Bhargava, Detection and Filtering Spam over Internet Telephony: A User-behavior-aware Intermediate-network-based Approach, International Conference on Multimedia and Expo, July, 2009, Mexico
255. Y. Bai, X. Su, B. Bhargava, Adaptive Voice Spam Control with User Behavior, 11th IEEE International Conference on High Performance Computing and Communications, HPCC-09, June 2009, Korea.
256. N. Idika, B. Marshall, and B. Bhargava "Maximizing Network Security Given a Limited Budget," Tapia '09, April 2009.
257. P. Hurni, T Braun, B. Bhargava, and Y. Zhang, Multi-Hop Cross-Layer Design in Wireless Sensor Networks: A Case Study, 4th IEEE International Conference on Wireless and Mobile Computing: Networking and Communications (WiMob 2008), Avignon, France, Oct. 2008
258. C. Liu, X. Zhang, J. Han, Y. Zhang, B. Bhargava, Noncrashing Failures Indexing: A Dynamic Program Slicing-based Approach, International Symposium on Software Testing and Analysis, London, 2007
259. B. Bhargava "Innovative Ideas in Privacy Research (Keynote Talk)" in Proceedings of Dexa workshops and conference, pp. 677-681, 2006
260. B. Panja, S. Madria, B. Bhargava "Energy and Communication Efficient Group Key Management Protocol for Hierarchical Sensor Networks", in Proceedings of IEEE International Conference on Sensor Networks, Ubiquitous, and Trustworthy Computing. (SUTC), pp 384-393, 2006.
261. J. Kong, Z. Ji, W. Wang, M. Gerla, R. Bagrodia, and B. Bhargava, Low-cost Attacks against Packet Delivery, Localization and Time Synchronization Services in Under-Water Sensor Networks in Proceedings of ACM Workshop on Wireless Security (WiSe), in conjunction with MobiCom, 2005.
262. W. Wang and B. Bhargava. "Key Distribution and Update for Secure Inter-group Multicast Communication" in Proceedings of ACM Workshop on Security of Ad Hoc and Sensor Networks (SASN), in conjunction with ACM CCS, pp. 43-52, 2005.

263. A. Kumar, A. Bhargava, B. Bhargava, S. Madria, "Adaptable Web Browsing of Images in Mobile Computing Environment: Experiments and Observations", Proceedings of ICDCIT, pp 314-320, 2005
264. J. Kong, Z. Ji, W. Wang, M. Gerla, R. Bagrodia, and B. Bhargava, "Low-cost Attacks against Packet Delivery, Localization and Time Synchronization Services in Under-Water Sensor Networks" in Proceedings of ACM Workshop on Wireless Security (WiSe), in conjunction with MobiCom, 2005
265. G Ding, Z. Sahinoglu, B. Bhargava, P.Orlik, and J Zhang. "Reliable Broadcast in ZigBee Networks, in Proceedings of Second Annual International Conference on Sensors and Ad hoc Communication and Networks", September 2005.
266. A. Habib, D. Xu, M. Atallah, B. Bhargava. "Verifying Data Integrity in Peer-to-Peer Video Streaming," in Proceedings of Multimedia SPIE/ACM Twelve Conference on Computing and Network (MMCN), January 2005.
267. Y. Zhong and B. Bhargava. "Using Entropy to Trade Privacy for Trust," in Proceedings ovens/NSA/AFRL Workshop on Secure Knowledge Management (SKM'04), NY, September 2004.
268. Y. Lu, W. Wang, D. Xu, and B. Bhargava. "Trust-Based Privacy Preservation for Peer-to-peer Media Streaming, in Proceedings of NSF/NSA/AFRL Workshop on Secure Knowledge Management (SKM'04), NY, September 2004.
269. W. Wang and B. Bhargava. "Visualization of Wormholes in Sensor Networks, in Proceedings of ACM Workshop on Wireless Security (WiSe), October 2004.
270. M. Jenamani, L. Lilien, and B. Bhargava. "Anonymizing Web Services Through a Club Mechanism with Economic Incentives," in Proceedings International Conference on Web Services (ICWS'04), pp. 792-795, CA, July 2004.
271. B. Bhargava and L. Lilien. "Private and Trusted Collaborations," in Proceedings of NSF/NSA/AFRL Workshop on Secure Knowledge Management (SKM'04), NY, September 2004. (Invited Paper).
272. B. Bhargava and L. Lilien. "Vulnerabilities and Threats in Distributed Systems," in Proceedings International Conference on Distributed Computing & Internet Technology (ICDCIT'04), Bhuvneshwar, India, December 2004. (Keynote paper).
273. G. Ding, X. Wu, and B. Bhargava. "A Simulation Study on Multi-Rate Mobile Ad Hoc Networks," in ACM Workshop on Performance Evaluation of Wireless Ad hoc, Sensor. Ubiquitous Networks, Venice, Italy, October 2004.
274. G. Ding and B. Bhargava. "Peer-to-Peer File-Sharing over Mobile Ad Hoc Networks," in First International Workshop on Mobile Peer-to-Peer Computing, pp. 104-108, FL, March 2004.
275. P. Ruth, D. Xu, B. Bhargava, and F. Regnier. "E-notebook Middleware for Accountability and Reputation Based Trust in Distributed Data Sharing Communities, in Proceedings of the 2nd International Conference on Trust Management, (Springer Verlag), pp. 161-175, London, UK, March 2004.
276. G. R. Murthy, M.S. Arunachalam, B. Bhargava, and E.G. Rajan. "System Identification Approach to Echo Cancellation," in Proceedings of International Conference on Systemic, Cybernetics and Informatics (ICSCI), Hyderabad, India, February 2004.

277. G. R. Murthy, M.S. Arunachalam, B. Bhargava, and E.G. Rajan. "Random Fading Channels," in Proceedings of International Conference on Systemic, Cybernetics and Informatics (ICSCI), Hyderabad, India, February 2004.
278. M. Hefeeda, A. Habib, B. Botev, D. Xu, and B. Bhargava. "PROMISE: A Peer-to-Peer Media Streaming System," in Proceedings of ACM Multimedia, November 2003.
279. B. Bhargava. "Vulnerabilities and Fraud in Computer Systems," in Proceedings of the International Conference on Internet, Processing, Systems, and Interdisciplinary Research (IPSI), VIP Scientific Forum, Sv. Stefan, Serbia and Montenegro, October 2003.
280. X. Wu, B. Mukherjee, and B. Bhargava. "A Low-Cost, Low-Delay Location Update/Paging Scheme in Hierarchical Cellular Networks," in Proceedings of ACM International Workshop on Data Engineering for Wireless and Mobile Access, San Diego, September 2003.
281. B. Bhargava, Y. Zhong, and Y. Lu. "Fraud Formalization and Detection," in Proceedings of DaWak 2003, September 2003.
282. X. Jiang, Y. Dong, D. Xu, and B. Bhargava. "Gnu Stream: A P2P Streaming System Prototype," in Proceedings of IEEE International Conference on Multimedia & Expo (ICME), Baltimore, July, 2003.
283. W. Wang, B. Bhargava, Y. Lu, and X. Wu, "Detecting Wormhole Attacks in Ad Hoc Networks without Clock Synchronization Assumption" in ACM Workshop on Wireless Security (WiSe), Poster Session, in conjunction with MobiCom, September 2003.
284. G. Ding, H. Ghafoor, and B. Bhargava. "Error Resilient Video Transmission over Wireless Networks," in Proceedings of the 6th IEEE International Symposium on Object-oriented Real-time Distributed Computing, Hakodate, Japan, May 2003.
285. A. Habib, B. Bhargava. "Network Tomography-based Unresponsive Flow Control," in Proceedings of International Workshop on Future Trends of Distributed Computing Systems (FTDCS '03), San Juan, Puerto Rico, May 2003.
286. M. Hefeeda and B. Bhargava. "On-Demand Media Streaming Over the Internet," in Proceedings of International Workshop on Future Trends of Distributed Computing Systems (FTDCS '03), San Juan, Puerto Rico, May 2003.
287. Y. Chung, L. Lilien, B. Bhargava, and M. Mahoui. "Autonomous Transaction Processing Using Data Dependency in Mobile Environments," in Proceedings of International Workshop on Future Trends of Distributed Computing Systems (FTDCS '03), San Juan, Puerto Rico, May 2003.
288. W. Wang, Y. Lu, and B. Bhargava. "On Security Study of Two Distance Vector Routing Protocols for Mobile Ad Hoc Networks," in Proceedings of IEEE International Conference on Pervasive Computing and Communications, Dallas, March 2003.
289. Y. Lu, W. Wang, Y. Zhong, and B. Bhargava. "Study of Distance Vector Routing Protocols for Mobile Ad Hoc Networks," in Proceedings of IEEE International Conference on Pervasive Computing and Communications, Dallas, March, 2003.
290. A. Habib, M. Hefeeda, B. Bhargava. "Detecting Service Violations and DoS Attacks," in Proceedings of Network and Distributed System Software (NDSS 2003), San Diego, February 2003.
291. Y. Lu, W. Wang, and B. Bhargava. "Hierarchical Structure for Supporting Movable Base Stations in Wireless Networks," in Proceedings of IEEE International Conference on Telecommunications, Tahiti, February 2003.

292. W. Wang, Y. Lu, and B. Bhargava. "On Vulnerability and Protection of Ad Hoc On-Demand Distant Vector Protocol," in Proceedings of IEEE International Conference on Telecommunications, Tahiti, February 2003.
293. F. Baumgartner, T. Braun, and B. Bhargava. "Design and Implementation of a Python-Based Active Network Platform for Network Management and Control," in Proceedings of IFIP-TC6 4th International Working Conference (IWAN2002), Zürich, Switzerland, December 2002.
294. F. Baumgartner, T. Braun, and B. Bhargava. "Virtual Routers: A Tool for Emulating IP Routers," in Proceedings of The 27th Annual IEEE Conference on Local Computer Networks (LCN 2002), Tampa, USA, November, 2002.
295. E. Maria, Y. Zhong, B. Bhargava, Pankaj, and S. Madria. "Building User Role Profiles using a Clustering Algorithm," in Proceedings of DaWak-2002 Conference, Aix en Provence, September 2002.
296. L. Bellatreche, L. Schneider, M. Mohania, and B. Bhargava. "Part Join: An Efficient Storage and Query Execution for Data Warehouses," in Proceedings of DaWak-2002 Conference, Aix en Provence, September 2002.
297. B. Bhargava and Y. Zhang. "Authorization Based on Evidence and Trust," in Proceedings of DaWak-2002 Conference, Aix en Provence, September 2002.
298. A. Habib, B. Bhargava, and S. Fahmy. "A Round-Trip Time and Timeout Aware Traffic Conditioner for Differentiated Services Networks," in Proceedings of IEEE International Conference on Communications, NY, April 2002.
299. D. Xu, M. Hefeeda, S. Hambruch, and B. Bhargava. "On Peer-to-Peer Media Streaming," in Proceedings of IEEE International Conference on Distributed Computing Systems, Vienna, June, 2002
300. A. Habib, S. Fahmy, and B. Bhargava. "Design and Evaluation of an Adaptive Traffic Conditioner for Differentiated Services Network," in Proceedings of IEEE International Conference on Computer Networks, Scottsdale, October 2001.
301. A. Habib and B. Bhargava. "Unresponsive Flow Detection and Control using Differentiated Framework," in Proceedings of 13th International IASTED conference on Parallel and Distributed Computing, Los Angeles, August 2001.
302. M. Mahoui, B. Bhargava, and Y. Zhong. "Separating Between Trust and Access Control Policies: A Necessity for Web Applications," in Proceedings of IEEE Workshop on Security in Distributed Data Warehousing, New Orleans, October 2001.
303. Y. Zhong, B. Bhargava, and M. Mahoui. "Trustworthiness Based Role Assignment in Dynamic Web Environment," in Proceedings of IEEE Workshop on Security in Distributed Data Warehousing, New Orleans, October 2001.
304. Y. Lu, B. Bhargava, and M. Hefeeda. "An Architecture for Secure Wireless Networking," in Proceedings of IEEE Workshop on Reliable and Secure Application in Mobile Environment, New Orleans, October 2001.
305. D. McClure and B. Bhargava. "On Assigning Priorities of Keying Parameters in a Secure Mobile Network," in Proceedings of IEEE Workshop on Reliable and Secure Applications in Mobile Environment, New Orleans, October 2001.

306. K. Xu and B. Bhargava. "A Functional Approach for Advanced Database Applications," in Third International Conference on Information Integration and Web-based Applications & Services (IIWAS 2001), Linz, Austria, September 2001.
307. Y. Lu and B. Bhargava. "Achieving Flexibility and Scalability: A New Architecture for Wireless Networks," in Proceedings of International Conference on Internet Computing (IC 2001), Las Vegas, June 2001.
308. M. Mohoui, B. Bhargava, and M. Mohania. "Data Mining for Web Security," in Proceedings of International Conference on Internet Computing (IC 2001), Las Vegas, June 2001.
309. Y. Zhong and B. Bhargava. "Authentication-Driven Authorization on Web Access," in Proceedings of International Conference on Internet Computing (IC 2001), Las Vegas, June 2001.
310. M. Mohania, V. Kumar, Y. Kambayashi, and B. Bhargava. "Secured Web Access," in Proceedings of International Conference on Digital Libraries: Research and Practice, November 13-16, Kyoto, Japan, 2000, pp. 132-146.
311. S. Madria, B. Bhargava, E. Pitoura, and V. Kumar. "Data Organization Issues in Location-dependent Query Processing in Mobile Computing," in Proceedings of ADBIS-DASFAA 2000, Prague, September 2000, LNCS 1884, pp. 142-156.
312. B. Bhargava. "Security in Data Warehousing," in Proceedings of International Conference on Data Warehousing and Knowledge Discovery (DaWak-2000), London, September 2000, LNCS 1874, pp. 287-289.
313. B. Bhargava. "Secure Mobile Systems," in Proceedings of International Conference on Mobility in Databases and Distributed Systems, London, September 2000, pp. 1-7. (Keynote talk)
314. B. Bhargava, S. Kamisetty, and S. Madria. "Fault Tolerant Authentication in Mobile Computing," in Proceedings of International Conference on Internet Computing (IC, 2000). Special Sessions on New Paradigms in Computer Security, June 2000, pp. 176-185.
315. S. Wang and B. Bhargava. "Experimental Evaluation of Design Tradeoff in Specialized Virtual Machine for Multimedia Traffic in Active Networks," in Proceedings of the IEEE International Conference on Multimedia System, New York, August 2000, pp. 412-418.
316. S. Wang and B. Bhargava. "An Adaptable Network Architecture for Multi-media Traffic Management and Control," in Proceedings of the IEEE International Conference on Multimedia System, New York, August 2000, pp. 670-675.
317. B. Bhargava. "Experiments in Adaptability and Security in Multi-Media Systems," in Proceedings of IEEE International Conference on Database and Expert Systems Application (DEXA 98), Florence, 1999, pp. 573-583.
318. B. Bhargava. "Degrees of Commitment in Transaction Processing," in IEEE Conference on Reliability and Quality in Design, August 1999, Las Vegas. (Invited presentation in a session organized by Rome Lab, Kevin-Keviat.)
319. C. Shi, S. Wang, and B. Bhargava. "MPEG Video Encryption in Real-time Using Secret Key Cryptography," in Proceedings of the International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'99), 1999, Las Vegas, Nevada, USA, pp. 2822-2829.

320. S. Goel, B. Bhargava, and S. Madria. "Adaptive Constrained Locking Protocol for High Data Contention Environments," in Proceedings of the 6th International Conference on Database Systems for Advanced Applications (DASFAA'99), Taiwan, 1999, pp. 97-107.
321. A. Bhargava and B. Bhargava. "Measurements and Quality of Service Issues in Electronic Commerce Software," in Proceedings of IEEE Conference on Application-Specific Software Engineering and Technology (ASSET-99), TX, 1999, pp. 28-37.
322. C. Shi and B. Bhargava. "An Efficient and Secure MPEG Video Encryption Algorithm," in Proceedings of the 18th IEEE Symposium on Reliable Distributed Systems, West Lafayette, 1998, pp. 387-392.
323. B. Ramamurthy, S. Upadhyaya, and B. Bhargava. "Design and Analysis of a Hardware-Assisted Check Pointing and Recovery Scheme for Distributed Applications," in Proceedings of the 18th IEEE Symposium on Reliable Distributed Systems, West Lafayette, 1998, pp. 84-90.
324. S. Madria and B. Bhargava. "On the Correctness of a Transaction Model for Mobile Computing," in Proceedings of IEEE International Conference on Database and Expert Systems Application (DEXA 98), Vienna, 1998, pp. 573-583.
325. S. Madria and B. Bhargava. "A Transaction Model for Mobile Computing," in Proceedings of IEEE International Database Engineering and Application Symposium (IDEAS'98), 1998, pp. 92-102.
326. S. Wang and B. Bhargava. "A Fragmentation Scheme for Multimedia Traffic Active Networks," in Proceedings of the 18th IEEE Symposium on Reliable Distributed Systems, West Lafayette, October 1998.
327. C. Shi and B. Bhargava. "An Efficient MPEG Video Conferencing Encryption Algorithm," in Proceedings of the 6th ACM International Multimedia Conference, September 1998, Bristol, UK, pp. 81-88.
328. S. Madria and B. Bhargava. "On the Correctness of a Transaction Model for Mobile Computing," in Proceedings of IEEE International Conference on Database and Expert Systems Application (DEXA 98), Vienna, August 1998, pp. 573-583.
329. B. Bhargava. "Network Behavior and Quality of Service in Emerging Applications," in Proceedings of KSEA (Korean American Scientists & Engineers Association)-AAAS Symposium, Chicago, April 1998.
330. S. Madria and B. Bhargava. "A Transaction Model for Mobile Computing," in Proceedings of IEEE International Database Engineering Application Symposium, (IDEAS'98), July 1998 UK, pp. 92-102.
331. B. Bhargava. "Adaptable Software for Communications in Video Conferencing," in Proceedings of the IEEE Symposium on Application-Specific Software Engineering and Technology, (ASSET-98), Dallas, March 1998.
332. C. Shi and B. Bhargava. "A light-weight MPEG Video Encryption Algorithm," in Proceedings of the International Conference on Multi-Media, McGraw Hill Press, January 1998, pp. 55-65.
333. S. Madria and B. Bhargava. "System Defined Prewrites to Increase Concurrency in Databases," in Proceedings of East-European Symposium on Advances in Databases and Information Systems, (in co-operation with ACM-SIGMOD), St. Petersburg, Russia, September 1997, pp. 18-26.

334. S. Madria, S. Maheshwari, B. Chandra, and B. Bhargava. "Crash Recovery Algorithm in an Open and Safe Nested Transaction Model," in Conference on Database and Expert System Applications (DEXA'97), 1997, France. Lecture Notes in Computer Science, Springer Verlag, Vol. 1308, pp. 440-451.
335. S. Wang and B. Bhargava. "Multi-pass Transmission Policy: An effective method for transmitting large Multimedia objects over Wide Area Networks," in Proceedings of 21st IEEE International COMPSAC Conference, August 1997, Washington DC, pp. 382-388.
336. S. Li and B. Bhargava. "Active Gateway: A facility for Video Conferencing Traffic Control," in Proceedings of 21st IEEE International COMPSAC Conference, August 1997, Washington DC, pp. 308-312.
337. M. Annamalai and B. Bhargava. "Defining Data Equivalence for Efficient Access of Images in a Distributed Environment," Proceedings of the Second World Conference on Integrated Design and Process Technology, December 1-4, 1996, Austin, pp. 11-18
338. S. Goel and B. Bhargava. "Object 'Request' Based Clustering for Method Processing in Object-Oriented Database System," Proceedings of the Second World Conference on Integrated Design and Process Technology, December 1-4, 1996, Zurich, pp. 1-10.
339. M. Annamalai, A. Sundaram, and B. Bhargava. "A Color-based Technique for Measuring Visible Loss for Use in Image Data Communication," Proceedings of the Seventh International Conference on Database and Expert Systems Applications (DEXA '96). Lecture Notes in Computer Science (LNCS 978), September 1996, Zurich, pp. 39-48.
340. K. Xu and B. Bhargava. "An Introduction to Enterprise-Participant Data Model," Proceedings of the Seventh International Conference on Database and Expert Systems Applications (DEXA '96). Lecture Notes in Computer Science (LNCS 978), September 1996, pp. 410-417.
341. B. Bhargava, S. Li, S. Goel, and J. Huai. "A Distributed Video-on Demand System for Videoconferencing," in Proceedings of the IETE International Conference on Multi-media Information Systems (MULTIMEDIA 96), February 1996, New Delhi, India. Published by McGraw Hill, pp. 83-93.
342. B. Bhargava, S. Li, S. Goel, C. Xie, and C. Xu. "Performance Studies for an Adaptable Videoconferencing System," in Proceedings of the IETE International Conference on Multi-Media Information Systems (MULTIMEDIA 96), February 1996, New Delhi, India, Published by McGraw Hill, pp. 106-116.
343. B. Bhargava, S. Li, S. Goel, P. Tang, and Y. Zhang. "Impact of the CODEC Schemes on Multimedia Communication," in Proceedings of the IETE International Conference on Multi-media Information Systems (MULTIMEDIA 96), January 1996, New Delhi, India, Published by McGraw Hill, pp. 94-105.
344. S. Goel and B. Bhargava. "Supporting Method Migration in a Distributed Object Database System: A Performance Study," Proceedings of 29th Hawaii International Conference on System Sciences (HICSS 29), IEEE, January 1996, pp. 31-40.
345. B. Bhargava and S. Goel and Y. Zhang. "A study of Distributed Transaction Processing in an Internet work," in Proceedings of the International Conference on Computer information Systems and Management of Databases (CISMOD). Lecture notes in Computer Science (LNCS 1006), November 1995, Bombay, India, pp. 135-152.

346. B. Bhargava, S. Li, S. Goel, J. Huai. "VC Secretary: A Mechanism for Video Conferencing Support," in Proceedings of the International Society of Optical Engineering International Conference on Multi-Media Systems, SPIE Proceedings, Vol. 2617, pp. 89-99, October 1995.
347. B. Bhargava and M. Annamalai. "Communication Costs in Digital Library Databases," in Proceedings of the Sixth International Conference on Database and Expert Systems and Application, Lecture Notes in Computer Science (LNCS 978), September 1995, London, pp. 1-13.
348. B. Bhargava, M. Anammalai, and E. Pitoura. "Digital Library Services in Mobile Computing," ACM SIGMOD Record, 24(4), Invited Paper, Special Issue on Mobile Computing, December 1995, pp. 34-39.
349. E. Pitoura and B. Bhargava. "A Framework for Providing Consistent and Recoverable Agent-Based Access to Mobile Heterogeneous Databases," ACM SIGMOD Record, 24(3), September 1995, pp. 44-49.
350. B. Bhargava, Y Jiang and S. Goel. "A Layered Architecture for Supporting Objects in a Relational System: A Performance Study," in Proceedings of the Sixth International Conference on Database and Expert Systems and Application, Springer Verlag Lecture Notes in Computer Science (LNCS 978), September 1995, London, pp. 323-333.
351. E. Pitoura, A. Zhang and B. Bhargava. "A View-based Approach to Relaxing Global Serializability in a Multidatabase System," in Proceedings of the 14th Annual ACM Symposium on the Principles of Distributed Computing PODC95), short paper, August 1995. Ottawa, Canada.
352. B. Bhargava, S. Li, and J. Huai. "Building High Performance Communication Services for Digital Libraries," in Proceedings of Advances in Digital Library, published by NASA, 1995, Mcleans, Virginia, pp. 232-240, 1995.
353. E. Pitoura and B. Bhargava. "Maintaining Consistency of Data in Mobile Distributed Environments, in Proceedings of the 15th IEEE International Conference on Distributed Computing Systems, (ICDCS95), pp. 404-413, May 1995.
354. A. Helal and B. Bhargava. "Performance Evaluation of the Quorum Consensus Replication Methods," Proceedings of the IEEE International Computer Performance and Dependability Symposium (IPDS'95), Erlangen, Germany, pp. 165-172, April 1995.
355. B. Bhargava, M. Annamalai, S. Goel, S. Li, E. Pitoura, A. Zhang, and Z. Zhang. "DL-Raid: An Environment for Supporting Digital Library Services," in Issues in Digital Libraries, (N. Adams, B. Bhargava, and Y. Yesha, eds.), Springer Verlag LNCS 916, 1995, pp. 281-300.
356. E. Pitoura and B. Bhargava. "Revising Transaction Concepts for Mobile Computing," in Proceedings of the First IEEE conference on Mobile Computing Systems and Applications (MCSA94), pp. 164-168, December 1994. A one-page abstract appears also in TCOS Bulletin, Spring 1995.
357. B. Bhargava and S. Li. "A Conceptual Model for Multi-Media Database Systems," in Proceedings of the INSDOC CISMODO Conference, October 1994, Madras, India. (Published by Indian National Scientific Documentation Center), pp. 115-134.
358. E. Pitoura and B. Bhargava. "Building Information Systems for Mobile Environments," in Proceedings of the Third ACM International Conference on Information and Knowledge Management (CIKM 1994), pp. 371-378, November 1994, Washington, DC.

359. Y. Jiang, X. Liu and B. Bhargava. "Re-Evaluating Indexing Schemes for Nested Objects," in Proceedings of the Third ACM International Conference on Information and Knowledge Management (CIKM 1994), pp. 612-619, November 1994, Washington, DC.
360. Bhargava and A. Zhang. "Scheduling with Compensation in Multi-database Systems," in Third IEEE International Conference on System Integration, August 1994, San Paulo, Brazil, (invited paper), pp. 699-707.
361. A. Zhang, M. Nordine, B. Bhargava, and O. Bukhres. "Ensuring Semi-Atomicity for Flexible Transactions in Multi-database System," in Proceedings of the ACM SIGMOD Conference, May 1994, Minneapolis, pp. 67-78.
362. A. Zhang and B. Bhargava. "Enforceable Inter-database Constraints in Integrating Multiple Autonomous Databases," in IEEE Proceedings of the Fourth International Conference on Data and Knowledge Systems for Manufacturing and Engineering, May 1994, Hong Kong, pp. 645-650.
363. B. Bhargava and A. Helal. "Availability Mechanisms in Raid Distributed Database System," in International Conference on Information and Knowledge Management (CIKM), November 1993, Washington DC.
364. Y. Zhang and B. Bhargava. "WANCE: Wide Area Network Communication Emulation Systems," in Proceedings of the IEEE Workshop on Parallel and Distributed Systems, Princeton, N.J., October 1993.
365. B. Bhargava, Y. Jiang. "O-Raid: Experiments and Experiences," in Proceedings of International Conference on Intelligent and Cooperative Information Systems, Rotterdam, Netherlands, May 1993, (invited paper).
366. J. Srinivasan, Y. Jiang, and B. Bhargava. "Experiments in O-Raid Distributed Object-Oriented Database System," in Proceedings of the International Conference on Information and Knowledge Management, Baltimore, November 1992.
367. B. Bhargava. "From Relational to Object Based Distributed Database System," in Baltimore, November 1992, (invited paper).
368. H. Tirri, J. Srinivasan, and B. Bhargava. "Federated Objects: A Pragmatic Approach to Data Integration," in Proceedings of International Workshop on Distributed Object Management, Edmonton, Canada, August 1992.
369. B. Bhargava, S. Browne, and J. Srinivasan. "Composite Object Replication in Distributed Database Systems," in Proceedings of the International Conference on Information System and Management of Data, Bangalore, Published by INSDOC, July 1992, pp. 115-134.
370. T. Nixon, K. Lubenow, J. Srinivasan, P. Dewan, and B. Bhargava. "Building a User-Interface for the O-Raid Database System using the Suite Systems," in Proceedings of the International Conference on System Integration, Newark, June 1992.
371. Helal, Y. Zhang, and B. Bhargava. "Surveillance for Controlled Performance Degradation during Failures," in Proceedings of the 25th Hawaii International Conference on Systems Sciences, Hawaii, January 1992.
372. B. Bhargava. "Experiments in Raid Distributed Systems," in Proceedings of the International Seminar on Directions of Future Database Research (Abstract), Dagshule, September 1991.
373. Auddino, E. Amiel, and B. Bhargava. "Experiences with SUPER, a Database Visual Environment," in Proceedings of the International Conference on Databases and Expert System Applications (DEXA), Berlin, August 1991.

374. E. Mafla and B. Bhargava. ``Implementation and Performance of a Communication Facility for Distributed Transaction Processing," in Proceedings of the Second Usenix Symposium on Experiences with Distributed and Multiprocessor Systems, Atlanta, March 1991.
375. B. Bhargava and S. Lian. ``Typed Token Approach for Database Processing During Network Partitioning," in Proceedings of International Conference on Management of Data (COMAD), New Delhi, India, December 1990.
376. B. Bhargava and A. Helal. ``Replication Experiments in Raid Distributed Database Systems, Indian Computer Congress," Hyderabad, India, November 1990. (keynote talk)
377. B. Bhargava and S. Browne. ``Communication-based Recovery in Replicated Databases," in Tenth International Conference on Computer Communications, New Delhi, India, November 1990.
378. J. Mullen, J. Srinivasan, P. Dewan, and B. Bhargava. ``Supporting Queries in the O-Raid Object-Oriented Database System," in Fourteenth IEEE Computer Software and Applications Conference, Chicago, Ill, October 1990.
379. B. Bhargava, K. Friesen, A. Helal, and J. Riedl. ``Adaptability Experiments in the Raid Distributed Database Systems," in Proceedings of Ninth IEEE Symposium on Reliability in Distributed Systems, Huntsville, AL, October 1990.
380. B. Bhargava, E. Mafla and J. Riedl. ``Communication in the Raid Distributed Database System," in Proceedings of Ninth IEEE International Phoenix Conference on Computers and Communications, Scottsdale, AZ, March 1990.
381. B. Bhargava, S. Browne. ``Adaptable recovery Using Dynamic Quorum Assignments," in Proceedings of the Sixteenth International Conference on Very Large Data Bases (VLDB), Brisbane, Australia, August 1990.
382. B. Bhargava, P. Dewan, J. Mullen and A. Vikram. ``Implementing Object Support in the RAID Distributed Database System," in Proceedings of First IEEE International Conference on System Integration, Morris Town, NJ, April 1990.
383. B. Bhargava, P. Leu, S. Lian. ``Experimental Evaluation of Concurrent Check-pointing and Rollback-Recovery Algorithms," Proceedings of 6th IEEE Data Engineering Conference, Los Angeles, February 1990.
384. C. Koelbel, F. Lamaa, B. Bhargava. ``Efficient Implementation of Modularity," in Proceedings of USENIX-IEEE Workshop on Experiences with Building Distributed (Multiprocessor) System, October 1989, Florida.
385. P. Dewan, B. Bhargava, A. Vikram. ``Engineering the Object-Relation Database Model in O-Raid," in Proceedings of the International Conference on Foundations of Data Organization and Theory, June 1989, Paris (Springer Verlag, Vol. 367).
386. Bhargava and P. Leu. ``A Model for Concurrent Check-pointing and Recovery Using Transactions," in Proceedings of the Ninth IEEE International Conference on Distributed Computing Systems, June 1989, Newport Beach, Ca.
387. Helal, J. Srinivasan, and B. Bhargava. ``SETH: A Quorum-Based Replicated Database for Experimentation with Failures," in Proceedings of the Fifth IEEE Data Engineering Conference, February 1989, Los Angeles.
388. B. Bhargava, E. Mafla, J. Riedl and B. Sauder. ``Implementation and Measurements of Efficient Communication Facilities for Distributed Database Systems," in Proceedings of the Fifth IEEE Data Engineering Conference, February 1989, Los Angeles.

389. B. Bhargava and S. Browne. "A Generic Algorithm for Transaction Processing During Network Partitioning," in Proceedings of the Eighth International Conference on Foundations of Software Technology and Theoretical Computer Science, December 1988, Pune, India (Springer Verlag, Vol. 338).
390. B. Bhargava and S. Browne. "Using Replication to Implement Reliable Storage," in Proceedings of the Twenty-sixth Annual Allerton Conference on Communication, Control, and Computing, September 1988, Monticello, IL.
391. B. Bhargava and S. Lian. "Independent Check-pointing and Concurrent Rollback for Recovery in Distributed Systems-An Optimistic Approach," in Proceedings of the Seventh IEEE Symposium on Reliability in Distributed Systems, October 1988, Columbus.
392. B. Bhargava and J. Riedl. "Implementation of RAID," in Proceedings of the Seventh IEEE Symposium on Reliability in Distributed Systems, October 1988, Columbus.
393. B. Bhargava, D. Sabo, and P. Noll. "An Experimental Analysis of Replicated Copy Control during Site Failure and Recovery," in Proceedings of the Fourth IEEE Data Engineering Conference, February 1988, Los Angeles.
394. B. Bhargava, T. Mueller, and J. Riedl. "Experimental Analysis of Layered Ethernet Software," in Proceedings of the ACM-IEEE Fall Joint Computer Conference, October 1987, Dallas.
395. B. Bhargava and J. Riedl. "Design on an Adaptable Distributed System," in Proceedings of the Tenth IEEE International Conference on Computer Software and Applications, Chicago, 1986, pp.114-122.
396. B. Bhargava and J. Riedl. "Implementation of Distributed Transactions in RAID," IEEE Computer Society's Workshop on Design Principles for Experimental Distributed Systems, Purdue University, 1986 (abstract only). (Extended version was invited for presentation at ACM SIGOP Workshop, Making Distributed Systems Work, Amsterdam, September 1986.)
397. P. Leu and B. Bhargava. "Multidimensional Timestamp Protocols for Concurrency Control," in Proceedings of the Second IEEE Data Engineering Conference, Los Angeles, 1986, pp. 482-489.
398. B. Bhargava and Z. Ruan. "Site Recovery in Distributed Database Systems with Replicated Data," in Proceedings of the Sixth IEEE International Conference on Distributed Computing Systems, Cambridge, 1986, pp. 621-627.
399. C. Hua, B. Bhargava: Analysis of the Majority Consensus Concurrency Control Algorithm for Correctness and Performance Using the Event Ordering Approach. INFOCOM 1983: 340-351
400. B. Bhargava and L. Lilien. "Cost Analysis of Selected Database Restoration Techniques," in Proceedings of the International Conference on Entity-Relationship Approach, Anaheim, 1983, pp. 783-805.
401. C. Hua and B. Bhargava. "Analysis of the Majority Consensus Concurrency Control Algorithm for Correctness and Performance Using the Event Ordering Approach," in Proceedings of the IEEE Conference on Information and Communication, San Diego, 1983.
402. B. Bhargava. "Evaluation of Network Merging based on Optimistic Concurrency Control and Rollback Semantics," in Proceedings of the Sixth IEEE International Conference on Computer Software and Applications, Chicago, 1982.

403. C. Hua and B. Bhargava. "Classes of Serializable Histories and Synchronization Algorithms in Distributed Database Systems," in Proceedings of the IEEE International Conference on Distributed Computing Systems, Miami, 1982, pp. 438-446.
404. B. Bhargava. "Performance Evaluation of the Optimistic Concurrency Control Approach to Distributed Database Systems and its Comparison with Locking," IEEE International Conference on Distributed Computing Systems, Miami, 1982, pp. 508-517.
405. B. Bhargava. "Resiliency features of the optimistic concurrency control approach for distributed database systems" Proceedings of 2nd IEEE Symposium on Reliability in Distributed Software and Database Systems, 1982
406. B. Bhargava. "Software Reliability in Real-Time Systems," in Proceedings of the National Computer Conference, 1981, pp. 297-309.
407. B. Bhargava and L. Lilien. "Feature Analysis of Selected Database Recovery Techniques," in Proceedings of the National Computer Conference, pp. 543-553, 1981.
408. B. Bhargava. "An Optimistic Concurrency Control Algorithm and its Performance Evaluation Against Locking," in Proceedings of the International Computer Symposium, Taiwan, 1980.
409. C. McDonald, B. Bhargava, and D. Jeris. "A Clinical Information System for Ambulatory Care," in Proceedings of the National Computer Conference, 1975, pp. 749-756.
410. B. Bhargava and C. McDonald. "Tree Systems for Medical Information Processing," Proceedings of Eleventh Annual Rocky Mountain Bio-engineering Symposium, 1974.
411. B. Bhargava and K. Fu. "Transformation and Inference of Tree Grammars for Syntactic Pattern Recognition," in Proceedings of the IEEE International Conference on System, Man, and Cybernetics, 1974, pp. 330-334.
412. B. Bhargava and K. Fu. "Stochastic Tree Systems for Syntactic Pattern Recognition," in Proceedings of the Twelfth Annual Allerton Conference on Circuit and System Theory, 1974, pp. 278-287.

Research Grants/Contracts

1. Digital Assurance for High Consequence Systems (DAX) with Sandia Laboratory in preparation.
2. CRRSP: Resiliency of Heterogeneous Computing Platforms for Space Systems, Sandia National Laboratory, \$160,000 per year, 2023-2025
3. MTD algorithm and adaptation on an ARINC-825/CAN bus and SpaceWire (SpW) bus, Sandia Laboratory, \$150,000 per year, (\$435,000 received) 2019-2023
4. Software Defined Networking in Automotive Environment, Ford Corporation, \$213,054 (2020-2022)
5. Real Applications of Learning Machines (REALM) Consortium, Northrop-Grumman Corporation, 2019-2022 (\$460K per year with MIT, CMU, Stanford), (\$200,000 per year Purdue share for last three years) (Ranked highest in nationwide competition), 2019-2022 (unrestricted research fund)

6. Microsoft Corporation \$19.5K (gift by alumni)
7. Countering Adversarial AI/ML for Protection and Threat Recognition in Intelligent Autonomous Systems, Northrop Grumman Corporation, \$125,000, 2020-2021
8. Generating Novelty in Open-world Multi-agent Environments (GNOME), Darpa (joint with USC-ISI), \$1,245,990 (Purdue share over 42 months) (Total approximately \$3.5 million) 2019-2023
9. Secure Intelligent Autonomous Systems with Cyber Attribution, Northrop-Grumman Corporation, \$125,000, 2018- 2019
10. Secure graph databases, JPL/NASA, \$24,500, 2018
11. Secure Intelligent Autonomous Systems with Cyber Attribution, Northrup Grumman Corporation, \$125,000, 2018-2019
12. Intelligent Autonomous Systems, Northrop-Grumman Corporation, \$150,000, 2017-2018
13. Privacy Preserving Data Dissemination and Data leakage, Purdue Computer Science Corporate Partner Award, Support of one graduate student and travel 2017-2018, \$50,000
14. Engineering Security and Performance Aware Vehicular Applications for Safe and Smarter Roads, funded by Qatar Foundation (with Ala Al-Fuqaha and Elyes Ben Hamida), \$1,000,000, 2015-2018 (Purdue share \$135,000)
15. Secure/Resilient Systems and Data Dissemination/Provenance, Northrop-Grumman Corporation, \$200,000, 2016-2017
16. Privacy-Preserving Data Dissemination and Adaptable Service Compositions in Trusted & Untrusted Cloud, Northrop-Grumman Corporation, \$210,000 (additional \$40,000 for MIT collaboration), 2015-2016
17. Monitoring-Based System for E2E Security Auditing and Enforcement in Trusted and Untrusted SOA, Northrop-Grumman Corporation, \$199,992, 2014-2015
18. End to End Security in Mobile Cloud, AFRL, \$11,000, 2013
19. End to End Security Policy Auditing and Enforcement in Service Oriented Architecture, Northrop-Grumman Corporation, \$200,000, 2013-2014
20. Planning Grant: I/UCRC for Net-Centric Software and Systems Center Research Center, NSF, \$24,123, 2013-2015
21. Protecting and Securing Supply Chain Data throughout its Lifecycle and CERIAS security center, \$15,000, 2012-2013
22. Protecting and Securing Supply Chain Data throughout its Lifecycle, PLM center of Excellence, \$30,000, 2012-2013
23. Opportunistic Resource Utilization Networks for UAV Ad-Hoc Networking, Navy STTR (with Andrew DeCarlo and Leszek Lilien), Amount: \$70,000, 2010-2011
24. Security in Service-Oriented Architecture, Air Force, Amount: \$295,000, 2010-2011
25. Context based Adaptable Defense against Collaborative Attacks in Service Oriented Architecture, Northrop-Grumman Corporation, Amount: \$105,000, 2009-2010

26. "ITR: Scalable Edge Router for Differentiated Services Networks," NSF, Amount: \$364,828, (2002-2008).
27. "Vulnerability Analysis and Threat Assessment," NSF REU grant, Amount \$5,000, (2008-2009)
28. "Workshop on Pervasive Systems", Funding obtained from CRA-W, Air Force, and proposal submitted to NSF (with Sanjay Madria), 2008
29. Event-order based model for Collaborative Attack, PRF, 2008-2010
30. "Collaborative Attacks on Wireless Networks", Institute for Information Infrastructure Protection (I3P) Through Homeland Security and Dartmouth College, Amount \$150,000 (2007-2009)
31. "Supplement to Secure Mobile Systems", NSF, Amount: \$52,000 (2006-2007).
32. "The Regenstrief Institute for Healthcare Engineering: Applying the Principles of Engineering and Management for the Improvement of Healthcare," Regenstrief Foundation, Amount: \$1,000,000 per year (with Joe Pekny and Charles Rutledge and others), (2004-2014).
33. "Secure Private Communication in Mobile Ad Hoc Networks," Institute for Information Infrastructure Protection (I3P) Through Homeland Security and Dartmouth College, Amount: \$149,081, (2004-2006).
34. "Supplement: ITR: Scalable Edge Router for Differentiated Services Networks," NSF, Amount: \$45,000, (2006-2008).
35. "REU Supplement: ITR: Scalable Edge Router for Differentiated Services Networks," NSF, Amount: \$15,000 (2006-2008).
36. "Cellular Assisted Mobile Ad hoc (CAMA) Networks," funded by Motorola, Amount: \$30,000, (2003).
37. "Vulnerability Analysis and Threat Assessment/Avoidance," NSF, Amount: \$212,473, (2003-2009).
38. "Trusted Routing and Intruder Identification in Mobile Ad Hoc Networks," CERIAS and Lilly Foundation, Amount: \$22,000, (2002-2003).
39. "Trusted Route Recovery in Ad Hoc networks," CISCO, Amount: \$85,000, (2002-).
40. "ITR: Scalable Edge Router for Differentiated Services Networks," NSF, Amount: \$364,828, (2002-2008).
41. "Formalizing Evidence and Trust for User Authorization," NSF, Amount: \$335,593, (2002-2007).
42. "Experiments in Security and QoS in Mobile Systems," NSF, Amount: \$109,000, (2001-2003).
43. "Behavior Based Artificial Agents for Information Security," CERIAS and Lilly Foundation, Amount: \$62,500, (with A. Chaturvedi and S. Mehta), (2001-2002).
44. "Secure, Survivable, Jam Resistant Communications and Network Management," CERIAS and Lilly Foundation, Amount: \$75,000, (with M. Zoltowski's), (2001-2002).
45. "Consortium for E-commerce Center," Indiana 21st Century Research and Technology Fund, Amount: \$1,000,000. (PI: Professor S. Mehta in Krannert), (2001-2003).

46. ``Time Based Coordination of Network Embedded Nodes,” DARPA, Amount: \$1,900,000. (PI: Professor Kim at UC Irvine), (2001-2004).
47. `` Secure Mobile Systems,” NSF, Amount: \$279,172 (2000-2006).
48. ``Static and Dynamic Security in Web Data warehouses,” CERIAS and Lilly Foundation, (with Madria and Mohania) Amount: \$70,000 (2000-2002).
49. ``MSI: A Research Infrastructure for Integrated Quality of Service in Multimedia Computing Environments,” NSF, (with seven Co-PIs), Infrastructure Grant, Amount: \$2,600,000 (1999-2004).
50. ``Distributed System Architecture and Services for Multimedia Systems,” IBM, Amount: \$35,000 (1999-2003).
51. ``Experiments in Adaptable Distributed Systems,” NSF, (1999-2003), Amount: \$251,500.
52. ``Experiments in Adaptable Communication Systems,” NS, (1999-2001), Amount: \$66,000.
53. ``Security Issues in Mobile Networks with Movable Base Stations,” CERIAS and Lilly Foundation, Amount: \$80,000, (1999-2001).
54. ``Multimedia Traffic Control using Active Networks,” PRF, Amount: \$23,332, (1999-2001).
55. ``Adaptable Video Conferencing,” (collaboration with EPFL, Lausanne), Purdue Office of International Programs, Amount: \$2,500.
56. ``Experiments in Adaptable Communication Services,” NSF, (1999-2001), Amount \$66,000.
57. ``Integrated Analysis & Testing of Distributed Software,” IBM, (1997-1998), Amount: \$49,998.
58. ``REU Supplement to Communication Experiments for Widely Distributed Environments,” NSF, (1996-1998), Amount: \$10,000.
59. ``Adaptable Video Conferencing,” AT&T Foundation, (October 1995-September 1996), Amount: \$23,000.
60. ``Distributed System Control,” Air Force Rome Laboratory (via Lockheed Martin), (1995-1996), Amount: \$75,000.
61. `` REU Supplement to Communication Experiments for Widely Distributed Environments,” NSF, (1997-1998), Amount: \$10,000.
62. ``Consistency and Transaction Management in Mobile Computing Environment,” Purdue Research Fellowship grants, (February 1994), Amount: \$20,400.
63. ``Communication Experiments for Widely Distributed Environments,” National Science Foundation, Amount: \$314,641, (July 1995-December 1999).
64. ``Characterization of Architecture Framework and Replication,” Defense Information System Agency (DISA), Amount \$75,000, (August 1994-January 1995). (Through Army Research Laboratory Contract).
65. ``Information Retrieval for a Large Repository of Complex Data,” NASA, (July 1994-June 1997), Amount: \$66,000.

66. ``Six International Travel grants," Purdue Research Foundation and MUCIA.
67. ``Experiments in Large Scale Distributed Systems," AT&T Foundation, (November 1993-October 1994), Amount: \$25,000 (with Michael Young).
68. ``Experiments in Transition to Large Scale Open System Environment," Army Research Laboratory (Software Technology Branch), (January 1993-1995), Amount: \$812,000 (joint funding with DISA).
69. ``Experiments in Adaptability to Failures in Distributed Systems," NASA, (July 1991-June 1994), Student Fellowship, Amount: \$22,000 per year.
70. ``Communications Software for Reliable Distributed Systems," AT&T Foundation, (November 1990), Amount: \$30,000.
71. ``Distributed Object Database System," NASA, (July 1990-June 1993), Student Fellowship, Amount: \$22,000 per year.
72. ``Reliable Processing in Distributed Database Systems," National Science Foundation (REU supplement), (May 1990-July 1991), Amount: \$8,000.
73. ``Adaptability to Failures in Distributed Systems," Purdue Research Foundation, (August 1990 -August 1992), Amount: \$24,000.
74. ``Design and Implementation of an Adaptable Distributed System," U.S. Army Institute for Research in Management Information, Communication, and Computer Sciences (AIRMICS), (January 1992-December 1992), Amount: \$101,832.
75. ``Design and Implementation of an Adaptable Distributed System," U.S. Army Institute for Research in Management Information, Communication, and Computer Sciences (AIRMICS), (April 1990-December 1991), Amount: \$98,554.
76. ``Reliable Processing in Distributed Database," National Science Foundation, (August 1989-July 1991), Amount: \$57,027.
77. ``Check-pointing in Distributed Systems," Purdue Research Foundation, (August 1988-August 1990), Amount: \$14,400.
78. ``Replication Copy Control," Unisys, (August 1988-August 1989), Amount: \$30,000.
79. ``Experiments in Communications and Distributed Systems," AT&T, (November 1988-December 1989), Amount: \$30,000.
80. ``Design of an Adaptable Distributed System: Phase IV," AIRMICS (grant via NASA), (May 1989-April 1990), Amount: \$120,281.
81. ``Design of an Adaptable Distributed System: Phases III," AIRMICS (grant via NASA), (March 1988-April 1989), Amount: \$115,600.
82. ``Design of an Adaptable Distributed System: Phase II," AIRMICS (grant via NASA), (May 1987-February 1988), Amount: \$122,391.
83. ``Design of an Adaptable Distributed System," AIRMICS (grant via NASA), (June 1986-May 1987), Amount: \$83,473.
84. ``Design of an Adaptable Distributed System," NASA, (June 1986-May 1987), Amount: \$31,075.
85. ``Site Failure/Network Partition Recovery," SPERRY Corporation, (June 1, 1986-March 1988) (with Mike Atallah), Amount: \$60,000.

86. ``Design of an Adaptable Distributed System," Purdue Research Foundation (August 1986-July 1988), Amount: \$14,100.
87. ``Reliability and Integrity in Distributed Database Systems," SPERRY Corporation, (June 1, 1985-May 31, 1986) (with Mike Atallah), Amount: \$60,000.
88. ``An Integrated Approach to Software Reliability," U.S. Dept. of Transportation, (1985-1988): up to \$200,000, based on task-order contracts.
89. ``Systems Structures for Software Reliability in Enroute Air Traffic Control Systems," (Phases 2 and 3) U.S. Dept. of Transportation, (March 1983-February 1985), Amount: \$64,000.
90. ``Systems Structures for Software Reliability in Enroute Air Traffic Control Systems," U.S. Dept. of Transportation, (September 1980-March 1983), Amount: \$56,000.
91. ``Software Reliability in Air Traffic Control Systems," U.S. Dept. of Transportation, (September 1979-August 1980), Amount: \$47,000.

Editorial Boards

1. Editor-in-Chief: International Journal of Security and Its Applications (ISSN: 1738-9976)
2. Editor-in-Chief of International Journal of Multimedia Technology (IJMT)
3. Editor-in-Chief of Journal of Advanced Computer Science & Technology (ISSN: 2227-4332)
4. Editor of IEEE Transactions on Cloud Computing, (2016- 2020)
5. Editor of IEEE Transactions on Knowledge and Data Engineering, (1996-2000)
6. World Wide Web Journal (Guest Editor), Special Issue on Information Management on Internet, (2002).
7. Editor of Journal of System Integration, (1999-2012).
8. Editor of International Journal of Advance Innovations, Thoughts & Ideas (ISSN: 2277-1891)
9. Editor of International Journal of Multi-Media Systems' Tools and Applications, (1998-2020).
10. Editor of International Journal of Cooperative Information Systems, (1999-2012).
11. Editor of IEEE Transactions on Mobile Computing, (2004-2008).
12. Member of Advisory Board International Journal on Systems, Cybernetics, and Informatics (Indian publication), (2012-)
13. Editor of International Journal of Communication Networks and Distributed Systems, (IJCND) (2011-)
14. Editor of Recent Patents On Computer Science, Bentham Science Publishers (2011-)
15. Member of Advisory Board for the Journal of Science, Technology and Management, India
16. Associate editor of International Journal on Digital Library Systems, (2010- 2014)
17. Editor of Journal of Advances in Multimedia, (2011-)
18. Advisory Board of FTRA - Future Technology Research Association International
19. Editor of *Journal of Information Security (JIS)*, (2010-)

20. Editor of International Journal of Information and Telecommunication Technology, (2010-)
21. International Journal of Next-Generation Computing (IJNGC), (2010-)
22. Journal of Immune Computation, ISSN : 2234-4306 (Print), ISSN : 2234-4314 (Online)

NATIONAL PROFESSIONAL COMMITTEES

Major Role

1. Keynote, Sixth International Conference on Soft Computing and its Engineering Applications December 2024, Bangkok, Thailand
2. Keynote, International Conference on Punjabi Intellectuals meet (Punjab Academy of Science), Nov 2024, India
3. Second International Conference on Next Generation Computing and Information Systems, December 2023, India
4. Keynote Second IEEE-sponsored International Conference on Computer, Electronics, Electrical Engineering and Their Applications (IC2E3-2023), June 2023, India
5. Keynote, International Conference Computational Science and Computational Intelligence (CSCI), December 2023, Las Vegas
6. Chairman, International Workshop on Secure and Reliable Microservices and Containers, Vienna, 2022.
7. Keynote Speaker, International Semantics Intelligence Conference (ISIC), May 2022
8. Keynote Speaker, 16th International *Conference* on Risks and Security of Internet and Systems. November 2021. Ames, Iowa
9. Keynote Speaker, International Semantics Intelligence Conference (ISIC), February 2021, New Delhi, India
10. Keynote Speaker, IEEE World AI Internet of Things (IOT) Congress, Seattle, 2021
11. Chairman of Workshop on Novelty in Open World, ISIC, 2021
12. Chairman, ML4SeC: Workshop on Machine Learning for Security and Cryptography, Istanbul, September, 2019, in conjunction with IEEE International Symposium on Personal, Indoor and Mobile Radio Communications
13. Award in honor of C. V. Ramamoorthy, committee member in IEEE Artificial Intelligence and Knowledge Engineering (AIKE) conference.
14. Best paper C.V. Ramamoorthy award chair, IEEE Symposium on Reliable Distributed Systems, 2018, Brazil
15. Best paper award chair, IEEE Cloud Conference, 2018, San Francisco
16. Organizing Committee, International Conference on Satellite and Telecommunication, September 2018, Stockholm, Sweden
17. Keynote Speaker, Artificial Intelligence Conference, April 2018, Las Vegas
18. Keynote Speaker, International Conference on Recent Innovation in Computing, March 2018, Jammu, India
19. Keynote Speaker, IEEE International Conference on Advanced Networks and Telecommunications Systems (AINTS), December 2017, Bhubaneswar, India
20. Co-chair, International Symposium on Multi-media Security and Digital Forensic Conference, December 2017, Guangzhou, China
21. Co-chair, NSF conference on Network and Security (CanSec), October 2017, Rolla, Missouri
22. General Conference Chair, Third International Symposium on Security in Computing and Communications (SSCC-15), August 2015, India

23. Conference chair, 2016 the 6th International Conference on Power and Energy Systems, Paris, France.
24. Keynote speaker, National conference on Recent Advances in Embedded Technologies at JIMS, April 2015, India
25. Keynote speaker, International Conference on advance Computing and Creating Entrepreneurs (IACC), February 2013, India
26. Keynote speaker, 9th IEEE International Conference on Heterogeneous Networking for Quality, Reliability, Security, and Robustness (Qshine) conference, January 2013, India
27. Keynote speaker, IEEE International Advance Computing conference, February 2013, India
28. Co-chair, International Conference on Advances in Computing, Communications and Informatics (ICACCI-2012), August 3-5, 2012, Chennai
29. Steering Committee for IEEE International Symposium on Wireless Pervasive Computing (ISWPC 2011), Hong Kong, 2011
30. Co-chair, Second IEEE International Workshop on Specialized Ad Hoc Networks and Systems (SAHNS 2010), Minneapolis, June 2011
31. Advisory Committee, International Conference on Advanced Computing, Networking and Security (ADCONS 2011), NIT Karnataka, Surathkal
32. Advisory Committee, International Conference on High Performance and Grid Computing, 2011, Chitkara University, India
33. Advisory Committee, International Conference on Advances in Computing and Communication at NIT (Himachal)-India
34. Chair of Steering committee of IEEE Symposium on Reliable Distributed Systems (SRDS)
35. General Chair of the ACM/IET/ICST International Workshop on Performance and analysis of Wireless Networks, to be held in conjunction with The International Conference on Mobile Technology, Applications, and Systems (Mobility 2008), September, 2008, Ilan, Taiwan.
36. Co-Chair of the 2nd IEEE International Workshop on Broadband Wireless Internet Access, to be held in conjunction with the 4th IEEE International Conference on Wireless and Mobile Computing, Networking and Communications (WiMob 2008) October 12, 2008, Avignon, France
37. Co-chair of CRA-W sponsored workshop on Pervasive Computing, St Louis
38. Co-chair, First IEEE International Workshop on Specialized Ad Hoc Networks and Systems (SAHNS 2007), Toronto, Canada, June 29, 2007
39. IEEE Fellow Committee, 2004, 2005, 2006
40. PolyU's Distinguished Scholar, Hong Kong Polytechnic University 70th Anniversary
41. Keynote speaker at DEXA conference workshop, Krakow, Poland, 2006
42. Keynote speaker at International Conference on Distributed Computing and Internet Technology, Bhuvneshwar, India, 2004.
43. NSF PI workshop, Area Chair for Privacy & Trust Management, 2003 and 2004.

44. IEEE Computer Society' Technical Achievement Award Committee, 2003.
45. Invited Speaker, 14th International Workshop on Mobile Distributed Database System, Prague, September 2003.
46. Keynote Speaker at International Conference on Advances in Computing and Communications (ADCOM), Bhuvneshwar, India, December 2001.
47. Chairman, IEEE workshop on Secure Mobile Systems, New Orleans, October 2001.
48. Keynote Speaker at Greece Database Conference, Ioannina, Greece, May 2001.
49. Invited Speaker at International Workshop on Mobility in Databases (MDDS-2000), London, September 2000.
50. Invited Speaker at International Conference on Data Warehousing and Knowledge Discovery (DaWak-2000), London, September 2000.
51. Keynote Speaker at Database and Expert Systems (DEXA-99) conference, Florence, September 1999.
52. Chairman of 18th IEEE Symposium on Reliable Distributed Systems and Three Workshops on Multimedia, Security and Parallel and Dist. Systems, October 1998, Purdue University (156 attendees).
53. Invited Speaker at IEEE ASSET-98 Workshop, March 1998.
54. Chairman of the Steering Committee of the IEEE Symposium on Reliable Distributed Systems, 1995-1999. (Also, Liaisons of the Technical Committee of Distributed Processing).
55. Keynote Speaker, Sixth International Conference on Databases and Expert Systems (DEXA-95), London, UK, September 1995.
56. Chairman of Workshop on Research Issues in Digital Libraries, in association with DEXA-95, London, September 1995.
57. Co-Chair of the NASA International Conference and Forum on Advances in Digital Libraries, Washington DC. (Jointly funded by NASA, ARPA, AT&T, BellCore and NSF), May 1995.
58. Co-Chair of the Rutgers-Purdue Workshop on Digital Libraries, Newark (jointly sponsored by funding from AT&T and BellCore), May 1994.
59. General Chair of the International Conference on Information and Knowledge Management, Gaithersburg, Maryland, November 1994.
60. Vice-chair of ISMM Conference on Parallel and Distributed Systems, Las Vegas, October 1994.
61. Program Chair of the IEEE Workshop on Parallel and Distributed Systems, Princeton, October 1993.
62. Invited Speaker in the International Conference on Intelligent and Cooperative Information Systems, Rotterdam, May 1993.
63. Tutorial Speaker in IEEE Symposium on Reliable Distributed Systems, Princeton, NJ, October 1993.
64. Program Chairman of the International Conference on Information and Knowledge Management, Washington DC, November 1993.

65. Invited Speaker, International Conference on Information and Knowledge Management, Baltimore, November 1992.
66. Co-Guest Editor of IEEE Computer (special issue on Object-Oriented Systems and Applications), October 1992.
67. Co-Program Chairman (with Nabil Adam) of the Rutgers-Purdue Workshop on Current Issues in Database Systems and Applications, Newark, October 1992.
68. Tutorial Speaker in IEEE Symposium on Reliable Distributed Systems, Houston, October 1993.
69. General Vice-Chair of the IEEE Technical Committee on Distributed Processing, January 1992-December 1993.
70. Invited Speaker at the Annual Conference of the Computer Society of India, October 1991, New Delhi, India.
71. Program Chairman of IEEE Computer Society's Workshop on Design Principles for Experimental Distributed Systems, October 1986, Purdue University, West Lafayette. (A special issue of IEEE Transactions on Software Engineering in June 1989 published selected papers that were presented at the workshop.)
72. Vice Chairman of Program Committee for Ninth IEEE Computer Society's Conference on Distributed Computing Systems, Newport Beach 1989. (Distributed Systems Architecture Track.)
73. American Liaison of Tenth IEEE Computer Society's Conference on Distributed Computing Systems, Paris, 1990.
74. Program Chairman of the IEEE Workshop on Experimental Distributed Systems, October 1990, Huntsville, Alabama.
75. Founding member of IEEE Data Engineering Conference Committee, 1985
76. Vice Program Chairman of IEEE Computer Society's Sixth International Conference on Distributed Computing Systems Conference, May 1986, Cambridge.
77. Vice Chairman of IEEE Computer Society's Technical Committee on Distributed Processing, (1982-1984).
78. Founder of IEEE Computer Society's Symposium on Reliability in Distributed Software and Database Systems. (Renamed Reliability in Distributed Systems). Program Chairman (July 1981), General Chairman (July 1982), and Program Committee Member (1983-1986, 1988-1989, 2004-2008) for IEEE Computer Society's Symposia on Reliability in Distributed Software and Database Systems.
79. Member of IEEE computer society Education Activity Board, (1982-1983)
80. Member of IEEE computer society Publication Board, (1981-1984)

Member of Program Committee of over two hundred international conferences (not listed in detail).

International Activities (Various Years not in chronological order)

1. Hosting a Ph.D student (additional support for faculty exchange) from IIT under the SERB program of India-Purdue collaboration <https://globalpartners.purdue.edu/global-partnerships/india/overseas-visiting-doctoral-fellowship/>

2. Participation in Vaibhav program for India-US exchange of ideas among scientists (organized by Indian Ministry of Science and Technology) (attended by 350 scientists from India and US for 6 sessions)
3. Contributed to funded proposals that were funded for collaborating with Ph.D students and their advisors in India (under the Anubhuti program)
4. Offered a series of lecture on security/privacy in networks, database systems in India (attended by 300 persons) and China (attended by 30 students)
5. Hosting faculty, Ph.D students and Undergraduate from Switzerland, India, China
6. International Conference on High Performance and Grid Computing, Chitkara University, India
7. Chair, 4th International Workshop on Dependable Network Computing and Mobile Systems (DNCMS 2010) held in conjunction with SRDS 2010, India
8. Invited speaker at International Conference on System Integration, Brasilia, November, 2008
9. Seminars in Universities of Karlstad, Stockholm, Uppsala, Pierre and Madam Curie, EPFL (2008)
10. Visiting Professor in ETH and EPFL and University of Bern in Switzerland (several summers from 1991-2006).
11. Seminars in Cambridge, ETH, Technical University of Vienna, University of Klagenfurt, HIIT, Technical University of Berlin, Humboldt University. (2006-2008)
12. Chairman of the University's International Education Committee, June 1990-June 1991.
13. Invited Speaker, Computer Society of India, DEXA conference, ICDCI conference 1991, 1995, and 1999.
14. Member of University Advisory Committee on International Programs, September 1990-June 1991.
15. Consultant to University of Indonesia, November 1988-December 1988.
16. Invited Professor at Ecole Polytechnique Federal De Lausanne (EPFL), Various years (1989-2006)
17. Invited Professor at ETH, Zurich, June -August 1991.
18. One Day Seminar to Swiss Industry Consortium, Lausanne, 1993.
19. Invited Speaker in the International Conference on Intelligent and Cooperative Information Systems, Rotterdam, Netherlands, May 1993.
20. One Day seminar at EPFL for Industry and Academics, June 1994.
21. Invited Speaker in the International Conference on System Integration, San Paulo, Brazil, August 1994.
22. Keynote Speaker in the Sixth International Conference on Databases and Expert Systems, London, September 1995.
23. Organizer of a Workshop on Advances in Digital Libraries in the Sixth International Conference on Database and Expert Systems, London, September 1995.
24. Invited Professor, University of Klagenfurt, Austria, 1999.

25. Establishing Collaborative Program with ETH and EPFL, Switzerland, 2001.
26. Seminar in University of Bern and EPFL, 2003.
27. Keynote Speaker, International Workshop on Distributed Computing and Internet Technology, Bhubaneswar, India, 2004.
28. Keynote speaker, DEXA Workshop on Security and Privacy, Krakow, 2006
29. Tutorials on Privacy, Helsinki University and HIIT, 2006
30. Colloquia in Humboldt University and ETH, Zurich, 2007
31. PolyU's Distinguished Scholar, Hong Kong Polytechnic University 70th Anniversary
32. Hosted Ph. D students from University of Bern, Universities in Korea, and Humboldt University, 2008

TEACHING Graduate and Undergrad (Last few years)

College of Science nominee for Murphy award (highest in Purdue for undergrad teaching)

1. CS 590: (Situation Awareness, Adversarial ML and Explainable AI) Develop tools and systems that apply ML to real applications on real data and try to deal with attacks and explain the decisions of AI powered decision making. In addition, the seminar will discuss methods to make these tools more efficient and more accessible. (Fall 2020) (Student Evaluation 3.92/4.0)
2. CS 542: (Distributed Database Systems). Seven new projects have been created on Video Conferencing, Communications, Multi-media, Digital Libraries, and Mobile Databases, Web Caching, Server less Computing. The course has changed to deal with distributed computing in new emerging applications and technologies. (Started in 1985 and offered many times) (Student evaluation 4..7-4.9/5.0)
3. CS 348: (Information System). I revised the course content and taught it as nuts and bolts of technologies that are needed for building information systems. This included physical and logical design of information systems, data mining, database warehouses, cooperative information systems, interoperability, and commercial systems. I brought outside speakers and arranged a visit to a local company. (Student Evaluations 4.5/5.0)
4. CS 448: (Introduction to Database Systems). Updated the course by introducing concepts of Object-Oriented, Client-Server, and multi-media databases. (Student Evaluations 4.8/5.0)
5. CS 490 (Emerging Technologies and Fundamental of Computer Science), Seminar for Minorities in non-CS majors, offered in last three semesters (Student Evaluations 4.9/5.0)
6. CS 690B: (Research Seminar on Cloud Systems for Blind and Hearing Impaired). Fall 2010, first offering.
7. CS 641: (Multimedia Database Systems). Fall, 2008 first offering. Covers topics such as Digital Libraries, Video Conferencing, Mobile MM Support (3G, 4G systems), QoS, Media Streaming
8. Seminars at other Universities and Thesis Committees: I have served on Ph.D. Committees, offered Ph.D. seminars and helped graduate students in EPFL, Lausanne, ETH, Zurich, and Rutgers University, Queens and James Cook University, South Africa, I.I.T Delhi, Humboldt University, Berlin, and University of Berlin, Germany, India

2. Tutorials at International Conferences and Institutes

9. I have organized tutorial notes on several topics (a) Configurable Distributed Database Systems: Living with Failures and Surviving Catastrophes, (b) Reliability and Performance Evaluation of Distributed Database Systems, (c) Communication Facilities for Transaction Processing, and (d) Privacy and Security (Recently offered in Fall 2020 to 300 students/faculty in Internationally organized seminars)
10. These have been published by IEEE and EPFL, Lausanne and have been presented to various industry groups and conference attendees. (Presentations 40-hour course to 250 faculty in India and another 40-hour course in a major university in China)

3. Undergraduate (extra activities, Various Years)

11. Advising CS honor students (2023)
12. Independent study by eight undergraduates (in lieu of CS 490 course)
13. Hosting interns from IIT (last few summers)
14. Freshman Honors seminar.
15. Active in contacting high school students who are prospects for the freshman class of school of science and served on the awards committee. Meeting students and families of prospective freshman
16. Helping minority students in school of science (voluntarily) in Computer Science courses. Member of the School of Science Minority Affairs Committee. Member of the Horizon program to retain minorities. Member of Undergrad School of Science Research Committee.
17. CS 490 (Independent Study): Have supervised 8 undergraduate students who have mainly worked in Raid laboratory and were funded through NSF and AT&T grants. Three students are currently supported by NSF REU grant.

Postdocs

1. Dr. Sanjay Madria (1998-2000)
2. Dr. Ladjel Bellatreche (2000)
3. Dr. Malika Mahoui (2000-2001)
4. Dr. I Young Chung (2001-2002)
5. Dr. Florian Baumgartner (2002)
6. Dr. Mamata Jenamani (2003-2004)
7. Dr. Leszek Lilien (2002-2006)
8. Dr. Xiaoxin Wu (2002-2005)
9. Dr. Wen Zen (2003-2004)
10. Dr Jungho Huh (2006-2010)
11. Dr. Ruy Olivier (2007-2009)
12. Dr. Rui Jiang (2013-2015)
13. Dr. Gong Tao (2012-2014)
14. Dr. Hongsong Chen (2014-2016)

15. Dr JunSong Fu (2018-2020)
16. Dr. Sikai Chen (2020-2023) with Prof. Sam Labi in Civil Engineering)
17. Prof. Ruy Oliveira (2022-2023), visiting scholar
18. Prof. Nagender Aneja (2023-), visiting scholar.

Ph.D. Students (Graduated or Passed the Qualifier Examination)

Major Advisor

1. Cecil Hua, ``Verification of Concurrency Control Algorithms for Distributed Database Systems,” (1979-1981). (Employed at IBM.)
2. Leszek Lilien, ``Integrity in Database Systems,” (1980-1983). (Faculty at Western Michigan University.)
3. Zwang Ruan, ``Replication in Distributed Systems,” (1984-1986) (Motorola, China)
4. John Riedl, ``Formal Models and Implementation of Adaptable Distributed Systems,” (from 1985-1989). (Professor at University of Minnesota.)
5. Pei-Jyun Leu, ``Consistent State Detection and Recovery for Concurrent Processing,” (from 1986-1988.) (Employed at Hewlett Packard Corporation.)
6. Shy Renn Lian, ``Global State Detection in Distributed Systems,” (from 1986-1990). (Employed at AT&T Corporation.)
7. Enrique Mafla, ``Transaction Processing in Operating System Kernel,” (from 1988-1990). (Professor at a University of Ecuador.)
8. Shirley Browne Moore, ``Recovery in Replicated Database Systems,” (1988-1990). (Faculty at University of Texas at El Paso)
9. Sumi Helal, ``Adaptability to failures in Distributed Systems,” (1988 -1991). (Professor at University of Florida.)
10. Srinivasan Jagannathan, ``Composite Object Replication in Distributed Database Systems,” (from 1988-1992). (Employed at Oracle Corporation.)
11. Yin-he Jiang, ``Enhancements to Relational Database Systems,” (from 1990-1994). (Employed at Oracle Corporation.)
12. Yongguang Zhang, ``Communications in Large Scale Distributed Systems,” (from 1990-1994). (Microsoft Research)
13. Aidong Zhang, ``Maintaining Consistency in Multi-databases,” (from 1993-1994). (Distinguished Professor at SUNY Buffalo and now chair professor at University of Virginia)
14. Evaggelia Pitoura, ``Advanced Transaction Model and Relaxed Consistency Criterion for Mobile Environments,” (from 1993 -1995). (Professor at University of Ioannina in Greece.)
15. Xiangning Liu, ``Experimental Study of Data Communication and Replication for Transaction Processing over Large Number of Distributed Sites,” (from 1993 -1995). (Employed in Sybase Corporation.)
16. Shunge Li, ``Experiments in Multi-media Object Oriented Systems,” (from 1993-1997). (VP at Wistron AiEdge Corporation.)
17. Shalab Goel, ``Concurrency and Coherency Control in Shared Disk Parallel Database Systems,” (from 1995-2000). (Employed at GE Digital)

18. Melli Annamalia, ``Context-based Retrieval in Digital Image Libraries,” (from 1993-1997). (Employed at Oracle Corporation.)
19. Sheng-Yih Wang, ``Adaptable Video-Audio Conferencing,” (from 1995-2000). (Principal Engineer at Palo Alto Networks.)
20. Ahsan Habib, ``Active Networks and DiffServ,” (from 2000-2003). (Employed as VP at Telenav, Santa Clara).
21. Mohamed Hefeeda, ``Multimedia Streaming,” (from 2001-2004). (Director of CS at Simon Fraser University, Canada).
22. Yi Lu, ``Adhoc Networks,” (from 2000-2004). (Employed at Microsoft Corporation.)
23. Yuhui Zhong, `` Formalization of Trust,” (from 2001-2005). (Employed at Microsoft Corporation.)
24. Weichao Wang, ``Secure Routing in Wireless and Mobile Networks,” (from 2002-2006). (Head of department at Univ of North Carolina, Charlotte)
25. Gang Ding, ``Cross-layer Algorithms for Mobile Wireless Networks,” (from 2002 - 2006).(Employed at Olympus Communication Technology of America)
26. Ahmet Burak Can, ``Trust and Anonymity in Peer-to-Peer Systems,” (from 2004 -2007). (Faculty at Hacettepe University, Turkey.)
27. Amit Sirsat, ``Self-Configuration Algorithms for Mobile Adhoc Networks,” (from 2004 - 2008). (Employed at Apple Corporation)
28. Yu Zhang, `` Analysis of Port Scanning Attacks,” (from 2006-2009). (Employed at Google)
29. Nwokedi Idika, ``Security Measures” (from 2007-2010) (Employed at Google)
30. Pelin Angin, ``Autonomous Agent-Based Mobile-Cloud Computing” (from 2009-213) (Employed at Middle Eastern Technical University, Turkey)
31. Ruchith Fernando, Privacy In Social Messaging And Identity Management (from 2011-2014) (Employed at Amazon)
32. Rohit Ranchal, “Cross-Domain Data Dissemination and Policy Enforcement” (from 2010-2015) (Employed at Amazon Corporation)
33. Norman Ahmed, “Design, Implementation and Experiments in Moving Target Defense” (from 2010-2016) (Employed at Air Force Research Laboratory)
34. Mehdi Azarmi, “End-to-End Security in Service-oriented-architecture (from 2010-2016) (Employed in Salesforce Corporation)
35. Denis Ulybyshev, Privacy preserving Data Dissemination (from 2015-2019) (Employed at University of Tennessee, Cooksville)
36. Amber Johnson, Wearable device Security (from 2014-2019) (Employed at Northrup Grumman Corporation)
37. Miguel Villarreal-Vasquez, Anomaly Detection and Secure Deep Learning Algorithms under Adversarial Situations (from 2016-2020) (Employed at Amazon)
38. Ganapathy Mani, Deep learning Based Models for Autonomy and Cybersecurity Intelligence in Autonomous System (from 2016-2020) (Employed at JP Morgan)
39. Servio Ernesto Palacios Interiano, Auditable Computations on (Un)Encrypted Graph-Structured Data (from 2017-2020) (Employed in startup, QLever.io)

40. Alina Nesen, Anomaly Detection in Multi-modal Data with Semantic Analysis, (from 2018-2022) (Employed at Target)
41. K.A.L. Solaiman, Explainable Embedding-based Representation of Data Objects for Augmented Semantic Search, (from 2018- 2023) (Employed at University of Maryland, Baltimore)
42. Marina Wagdy Wadea Haliem, Novelities in Ride sharing games and Reinforcement Learning, Ph.D (from 2018-2022), (Employed at Google)
43. Aala Oqab Alsalema, Optimization of Multi-agent games, Ph. D (2018-2024), Employed at Jouf University, Saudi Arabia
44. Mijanur Palash, Video analysis to detect Autism and Mental Problems, (from 2020-2023) (Employed at Oakridge National Laboratory)
45. Trevor Bonjor, Multiagent Game simulation and Novelty Detection, Ph. D (from 2020 - 2024) (Employed at UC-Sandiego)
46. S. Islam, Security and ML to discover Novelities and adaptation in AI systems (2022-) Passed Preliminary for Ph.D
47. L. Li, Large Language Models, (2023-)
48. Z Liu, Collaborative Attacks (2023-) Post Preliminary exam since April 2024
49. M. Kim, Quantum computing optimization (2023-)

Service

1. University Wide Committee (Various Years)

1. Senator for Purdue faculty, 2016- 2022
2. Member of Purdue Select Senate Committee regarding sexual assault and misconduct on campus, 2023
3. Member of Equity and Diversity committee of Purdue Senate, 2016- 2022
4. Member of Education and Policy committee of Purdue Senate, 2017-2019
5. Member of Military Education committee of Purdue Senate, 2015-2022
6. CoS council (2024-now)
7. Mentor for Emerging Leaders Science Scholars program 2022-2025.
8. Disability center subcommittee to mentor students in CS 2022
9. Member of the University International Education Committee for three years, Chairman.
10. School of Science representative for the University Advisory Committee on International Programs.
11. School of Science Committee for evaluating PRF XL grants
12. Participant in Mentor Program for minority students (Horizon) 1992- now.
13. Member Faculty of the Interdisciplinary Program on Geographical Information. Systems and Remote Sensing, 1984- now.

14. Participant in the Aviation Safety Center Planning Group, (with Ernest Agee of EAS and Warren Stevenson of EE and faculty from technology, Engineering).
15. Participant in the proposal to NSF for Multimedia Technology for Education, 1994-(with Ed Coyle of EE and faculty from Agriculture, Education schools).
16. Reviewer of Global Initiative Faculty Grants
17. Indiana Partnership for State wide Peer Review Committee on Computer Science (Coordinator Dr. Clinton Fuelling at Ball State and Prof. Phil Swain).
18. School of Science (Grievance Committee)
19. School of Science (PRF grants for Faculty review Committee)
20. School of Science (Undergraduate Research Day Committee)
21. Member of Asia Studies Program Taskforce.
22. Evaluation Committee of Lilly Foundation Awards/Proposal under the Executive Vice President's office.
23. Horizon Program (For retaining brilliant minority students).
24. GE Fellowship Evaluation Committee for Minorities and Women.
25. Distant Learning Committee of the University.
26. School of Science (Minority Affairs Committee), 1996-2003.
27. School of Science Council, 2001-2005.
28. School of Science (Minority Faculty Recruiting), 2004-2006.
29. Proposal Writing and Presentation for Regenstrief Health Care Engineering Center (RCHE) establishment
30. School of Science Area Committee for Promotions

2. Departmental Committee (Various Years)

22. Diversity Committee 2022-now
23. MS admission Committee (2020-2022)
24. Advisor ACM student chapter
25. Captain United Way (2017-2020)
26. Internal Advisory Board of Purdue Center for Educational & Research in Information Assurance & Security (CERIAS)
27. Chairman of Diversity Committee
28. Space Management Committee
29. Graduate Committee
30. Department Head Advisory Committee-Elected by faculty.
31. Colloquia Chairman
32. Faculty Advisor to Association of Computing Machinery (ACM)
33. Faculty Advisor to Indian Students Association

- 34. Awards Committee.
- 35. Undergraduate Committee.
- 36. Promotion Committee.
- 37. EE Liaison.
- 38. Industrial Affiliate Committee.
- 39. CS690S Seminar for New Graduate Students.
- 40. CS 195 Freshman Honors Seminar.
- 41. Senate Committee to Prevent Sexual Assault
- 42. Mentor Emerging Leaders Science Scholars

3. Others

- 43. West Lafayette High School (Book selection Committee).
- 44. Happy Hollow School (Organizer of International Night).
- 45. Five-year review of Computer Science department, Western Michigan University, November
- 46. Establishing Information Assurance program at Monmouth College.

Government Service (Various Years)

- 1. Committee for NASA (USRA) for Evaluating Architecture of Embedded Distributed Network Systems
- 2. Providing Consulting Services to NIST for the Remote Data Access (RDA) protocol for integrating commercial databases over wide area networks
- 3. Committee for writing guidelines and specifications for Data Integration and Distribution with Mr. Bill Wong member from DISA (Defense Information Systems Architecture), Department of Defense.
- 4. Panel Member: National Science Foundation
- 5. Panel Member: NASA CAN for Public Use of Earth and Space Science Data over the Internet work
- 6. Reviewer of proposals from Army Research Lab, NASA
- 7. Invited Participant at ARPA meeting in St. Louis.
- 8. AFRL/Navy faculty fellow
- 9. Special Projects for NSF (Large projects)
- 10. Reviewer, US State Department (Russia program)
- 11. Reviewer, US Department of Transportation