Curriculum Vitae for Saurabh Bagchi

May/2022

Education:

Degree	*Date*	*School*
PhD	2001	U. of Illinois at Urbana-Champaign (Computer Science)
MS	1998	U. of Illinois at Urbana-Champaign (Computer Science)
BTech	1996	Indian Institute of Technology, Kharagpur (Computer Science and Engineering)

Appointments:

May 2021 – Current	Inaugural Faculty Director, ECE Corporate Partnerships
May 2021 – Current	Co-Founder and CTO, KeyByte LLC
October 2017 – Current	Founding Director, Purdue Center for Resilient Infrastructures, Systems, and Processes (CRISP) (6 leadership role members + 25 affiliate faculty members)
August 2013 – Current	Professor, School of Electrical and Computer Engineering (ECE), Purdue University
May 2004 – Current	Assistant/Associate/Full Professor, Department of Computer Science, Purdue University (Courtesy Appointment)
May 2008 – July 2013	Associate Professor, School of Electrical and Computer Engineering (ECE), Purdue University
August 2002 – April 2008	Assistant Professor, School of Electrical and Computer Engineering (ECE), Purdue University
2001-2002	Research Staff Member, IBM T. J. Watson Research Center
2018 – Current	Inaugural International Visiting Faculty, Indian Institute of Technology, Kharagpur

Professional and Honorary Society Memberships:

Institute of Electrical and Electronics Engineering (IEEE)
- Board of Governors, Computer Society 2017-20, 2022-25 (elected in 2021)
- Distinguished Contributor, IEEE Computer Society, 2021
- Distinguished Visitor, IEEE Computer Society 2021-23
- IEEE Computer Society Golden Core Award 2017
- Chair, IEEE Computer Society Global Student Challenge Competition (GSC) 2021

Association of Computing Machinery (ACM)
- Member 2003-2009, Senior member 2009-present
- Distinguished Speaker, 2012-2015
- Distinguished Scientist, 2013

International Federation for Information Processing (IFIP)
- Member 2020-present (Elected to full membership)

Sigma Xi, The Scientific Research Society

Member 2009-present (Elected to full membership)

Honors and Awards:

[1] ***April 2022:*** Awarded the **Test-of-Time award** by the IEEE/IFIP International Conference on Dependable Systems and Networks **(DSN)**, the premier conference in the area of dependable computing. The award recognizes two papers published ten years ago that has had the greatest impact in the area of dependable computing.

[2] ***September 2021:*** Elected to the **IEEE Computer Society Board of Governors**. Each board member serves a three-year term, mine is from 2022 to 2025.

[3] ***September 2021:*** Selected by the **National Science Foundation (NSF)** to organize the Grand Challenges in Resilience Workshop, 2022.

[4] ***April 2021:*** Awarded the Amazon Research Award in the Applied Machine Learning category.

[5] Best papers at ACM International Conference on Embedded Wireless Systems and Networks (**EWSN**) (2020), International Supercomputing Conference (**ISC**) (*2019*), IEEE **ICST** (*2019*), ACM **BCB** (*2015*), ACM **Sensys** (*2011*), International Conference on Security and Privacy in Communication Networks (**SecureComm**) (*2008*), IEEE International Conference on Sensor Networks, Ubiquitous, and Trustworthy Computing (**SUTC**) (*2006*); Runner-up for best paper award at IEEE/ACM **Supercomputing** Conference (*2009*, *2012*), IEEE High Performance Distributed Computing (**HPDC**) (*2006*), IEEE International Microwave Symposium (**IMS**) (*2005*), and IEEE International Conference on Dependable Systems and Networks (**DSN**) (*2005*).

[6] ***December 2020:*** Selected as **IEEE Computer Society Distinguished Visitor** (DV) for January 2021 through December 2023. These are selected as "the most accomplished leaders in tech" who are sponsored by IEEE to be speakers at IEEE chapter events.

[7] ***July 2020:*** Selected as member of the **International Federation for Information Processing (IFIP)**, Working Group on Dependable Computing and Fault Tolerance. The group consists of a select set of research leaders in the field of dependable computing. Membership is by invitation only, upon the nomination of a group member, discussion and a majority vote by the members. Its current membership is at 60 with 1-2 new members being added each year.

[8] ***October 2019:*** Re-elected to the IEEE Computer Society Board of Governors.

[9] ***March 2019:*** Lead organizer of NSF-supported Workshop on Grand Challenges in Resilience. Held on Purdue campus with approximately 85 attendees.

[10] ***February 2019***: Purdue College of Engineering Faculty Excellence Award for Graduate Student Mentorship. One faculty member is awarded from the College of Engineering each year.

[11] ***March 2018***: Alexander von Humboldt Foundation research award winner for the Friedrich Wilhelm Bessel Research Award. "Scientists and scholars, internationally renowned in their field, who completed their doctorates less than 18 years ago and who in future are expected to continue producing cutting-edge achievements which will have a seminal influence on their discipline beyond their immediate field of work, are eligible for a

Friedrich Wilhelm Bessel Research Award." There are 20 given annually across the world (minus Germany) across all disciplines.

[12] ***March 2018***: Indian Institute of Technology, Kharagpur, appointed the inaugural International Visiting Professor in Computer Science and Engineering for 3 years.

[13] ***October 2017:*** Founding Director, Purdue College of Engineering Center for Resilient Infrastructures, Systems and Processes (CRISP), 2017: A multi-disciplinary center, involving 6 faculty members in leadership team and 23 affiliate faculty members, developing design and implementation principles for resilient systems, in the domains of cyber, physical, and civil infrastructures.

[14] IEEE Computer Society Board of Governors, 2017-20. IEEE Computer Society Golden Core Award, 2018.

[15] **Conference leadership:** Steering Committee member of the IEEE/IFIP Conference on Dependable Systems and Networks (**DSN**), *2018-present* (this is the premier conference on dependability). Program Chair for the 22nd ACM/IFIP International Conference on **Middleware,** *2022*; 25th IEEE International Symposium on Software Reliability Engineering (**ISSRE**), *2014* (this is the premier conference on software systems reliability); 41st IEEE/IFIP Conference on Dependable Systems and Networks (**DSN**), *2011*.

[16] AT&T Labs Research VURI Award, 2016.

[17] Google Faculty Research Award, 2015, for project titled "Man with machine in the battle against fake consumer reviews".

[18] Elevated to ACM Distinguished Scientist, 2013. Citation: "for laying the software basis for designing distributed systems that can tolerate faults under a variety of operating conditions".

[19] Re-appointed Visiting Scientist to IBM Research, 2015 (originally started in 2012).

[20] Selected as a faculty fellow of the IMPACT program at Purdue (for 2013-14), sole ECE fellow. IMPACT is a program at Purdue which seeks to change the learning culture on the West Lafayette campus to become more student-centered. Faculty fellows are competitively selected to lead this transformation.

[21] Appointed ACM Distinguished Speaker, 2012.

[22] Organizing Committee of the premier dependability conference, IEEE International Symposium on Dependable Systems and Networks (DSN), 2006, 2010, 2011, 2014.

[23] Appointed Visiting Scientist to IBM Research, Austin (2012 – current)

[24] Purdue Seed for Success Award, 2011 – two, for the NEEScomm and the MDA grants (given to Purdue PIs who bring in more than $1M in a single grant).

[25] Editor of Elsevier Computers and Security (CoSE) (2013-current). Associate Editor of IEEE Transactions on Mobile Computing (TMC) 2008-13 (3 year term, extended by 2 more years).

[26] Appointed as the Assistant Director of CERIAS, the inter-disciplinary computer security center on the Purdue campus, January 2011. (One of four Assistant Directors)

[27] Purdue Co-PI on the NEES Operations grant 2009-2014 (CMMI-0927178), the largest grant ever awarded to Purdue at $105M.

[28] Awarded the Eta Kappa Nu Purdue Student Chapter "Outstanding Professor Award" Spring 2010. This is awarded to one or two faculty members in one academic year.

[29] Awarded "Teaching for Tomorrow" Award from Purdue University in May 2009, one of ten university-wide awards given for excellence and promise in undergraduate teaching

[30] Senior member of IEEE (since 2007) and ACM (since 2009)

[31] Selected as Member of Sigma Xi, the Scientific Research Society

[32] Nominated by the School of Electrical and Computer Engineering for the Purdue University A. A. Potter Award for Teaching Excellence, 2008 (a single faculty is nominated by ECE based on performance in undergraduate teaching)

[33] Associate Editor for IEEE Transactions on Mobile Computing (appointed February 2008)

Research Grants and Contracts Received:
(Total grant amounts are listed. If not specified otherwise, the amount is shared equally among the investigators. If no other investigator is mentioned, this implies that the entire amount listed is my share.)

External

[1] Co-PI (PI: Somali Chaterji, Purdue ABE), **Army Research Lab**, "ApproxEdge: Streaming Analytics on Resource-Constrained Edge Devices," June 2022-May 2025, **$1.0M**. (Individual share: 50%)

[2] PI (Co-PI: Murat Kocaoglu), Adobe Research, "Causality theory for debugging microservice-based system," Unrestricted gift, September 2021, $40,000. (Individual share: 75%)

[3] Co-PI (PI: Aniket Kate, Co-PIs: Somali Chaterji, Mike Reiter (Duke University)), **National Science Foundation**, Cyber-Physical Systems (CPS) program, "Collaborative Research: CPS: Medium: Secure CPS for Real-time Agro-Analytics," Proposal No. CNS-2038986/2038566, February 2021-February 2024, **$1.08M**. (Individual share: ¼)

[4] PI (with Purdue Co-PIs Somali Chaterji (ABE), Mung Chiang (ECE), David Inouye (ECE); Princeton Co-PI Prateek Mittal), **Army Research Lab (ARL)**, "SCRAMBLE: Secure, Real-Time, Distributed Decision-Making for the Autonomous Battlefield," Contract number W911NF-2020-221, August 2020-25, **$3.74M**. (Individual share: 30%)

[5] PI (with Co-PIs Stephen Harrell, Rajesh Kalyanam, Xiaohui Carol Song (Purdue), William Barth, Richard Todd Evans (UT Austin)), **National Science Foundation**, CISE Community Research Infrastructure (CCRI) program, "ENS: Collaborative Research: Open Computer System Usage Repository and Analytics Engine," Proposal No. CNS-2016704/2016608, August 2020-July 2023, **$1.7M**. (Individual share: 35%)

[6] PI (with Co-PIs Aniket Kate, Purdue CS, and Somali Chaterji, Purdue ABE), **Army Research Lab**, Contract number W911NF-20-2-0026, "Consensus under Energy Constraints for Dynamic Distributed Cyber-Physical Systems," January 2020-January 2023, **$830,000**. (Individual share: 40%)

[7] PI (with David Inouye and Christopher Brinton, Purdue ECE), **Northrop Grumman Cybersecurity Research Consortium (NGCRC)**, "Secure, Real-Time Decision-Making for the Autonomous Battlefield," September 2019-December 2020, **$250,000**.

[8] PI, **Sandia National Lab**, "Testing Embedded System Firmware through Fuzzing and Symbolic Execution," May 2019-September 2021, **$250,000**.

[9] Co-PI (PI: Milind Kulkarni, Co-PIs: Felix Lin, Xiaokang Qiu), **National Science Foundation**, Scalable Parallelism in the Extreme (SPX) program, "Write Once, Run on Anything: Verified, Tuned Accelerator Kernels from High Level Specifications," Proposal No. CCF-1919197, October 2019-September 2023, **$1.25M**. (Individual share: ¼)

[10] Co-PI, **Lilly Endowment**, "Wabash Heartland Innovation Network (WHIN)," Lead: IoT Systems and Data Analytics, December 2017-December 2022, **$38.9M**. (Thrust lead responsible for $1M/year)

[11] PI, **Northrop-Grumman Corporation**, "TOPHAT: Federated Enterprise Moving Target Defense Through Cognitive Situational Awareness in SDN Environments," October 2017-May 2019, **$125,000**.

[12] PI, **Adobe Research**, "Streaming Data Analytics as a Service with Optimal, Fault-Tolerant Cloud Resource Scheduling," Unrestricted gift, **$60,000**.

[13] PI (with Co-PI: Shreyas Sundaram), **Sandia National Lab**, "Algorithms for Secure and Distributed Mobile Intelligence, Surveillance, and Reconnaissance Platforms," October 2017-October 2019, **$200,000**. (Individual share: ½)

[14] Co-PI (with PI: Shreyas Sundaram (ECE), Co-PI: Timothy Cason (Economics)), **National Science Foundation**, Secure &Trustworthy Cyberspace (SaTC) Program, "The Impacts of Human Decision-Making on Security and Robustness of Interdependent Systems," Proposal No. CNS-1718637, July 2017-July 2021, **$500,000**. (Individual share: ½).

[15] PI, **Department of Energy**, "Efficient Launching of GPU Kernels in the RAJA Programming Model," March 2017-March 2018, **$75,000**.

[16] PI, **Northrop-Grumman Corporation**, "Prediction of Attack Consequences and Automatic Network Reconfiguration as Response," November 2016-December 2017, **$150,000**.

[17] Co-PI (with PI: Ananth Grama (Purdue – Computer Science), Folker Meyer (Argonne National Lab), Co-PI: Somali Chaterji (Purdue CS)), **National Institutes of Health (NIH)**, National Institute of Allergy and Infectious Diseases (NIAID), Research Project (R01), "Continued Development and Maintenance of the MG-RAST Metagenomics Pipeline," Project No. 1R01AI123037-01, March 2016-February 2022, **$3.8M**. (Individual share: About 20%)

[18] Co-PI (with PI: Abhijit Deshmukh and Co-PI: Seokcheon Lee (Purdue – Industrial Engineering)), **General Electric**, "PRIAM: Smart Real Time Optimized Factories," June 2015-June 2020, **$1.2M**. (Individual share: Approximately 33%) Part of the Purdue-GE 5 year $10M center, called PRIAM.

[19] PI, **National Science Foundation**, Computer Systems Research (CSR) Program, "Diagnosing Performance and Correctness Errors in Parallel Applications at Large Scales," Proposal No. CNS-1527262, October 2015-September 2018, **$485,514**.

[20] Co-PI (with PI: Gene Spafford (Purdue – Computer Science)), **National Science Foundation**, Secure &Trustworthy Cyberspace (SaTC) Program, "EAGER: Exploring the Use of Deception to Enhance Cyber Security," Proposal No. CNS-1548114, August 2015-July 2018, **$182,299**. (Individual share: ½)

[21] PI (with Co-PIs: Xiaohui Song (Purdue), Ravishankar Iyer, Zbigniew Kalbarczyk (University of Illinois at Urbana-Champaign)), **National Science Foundation**, Division of Computer and Network Systems (CNS), Computing Research Infrastructure (CRI) Program, "Collaborative Research: Computer System Failure Data Repository to Enable Data-Driven Dependability Research," Proposal No. CNS-1513197, July 2015-July 2018, **$763,331** (Purdue portion). (Individual share: About 75%)

[22] Co-PI (with PI: Daniel DeLaurentis (Purdue – School of Aeronautics and Astronautics)), **Missile Defense Agency**, "System of Systems Modeling and Analysis Innovations for Enhanced BMDS Architectures," June 2015-May 2018, **$1.5M**. (Individual share: about 35%)

[23] PI, **Lawrence Livermore National Lab**, "Debugging and Failure Root-Cause Analysis Techniques for Heterogeneous Computing," January 2015-January 2016, **$64,075**.

[24] PI, **Northrop-Grumman Corporation**, "User-Behavior Modeling and Detection for Novel Attacks against Distributed Infrastructure," September 2014-September 2015, **$150,000**.

[25] PI, **Department of Energy**, "Quantifying the Performance Properties of Computing Systems," September 2014-May 2015, **$50,000**.

[26] PI (with Co-PIs: Yuan Qi (Purdue), Mostafa Ammar (Georgia Tech)), **National Science Foundation**, Division of Computer and Network Systems (CNS), Research in Networking Technology and Systems (NeTS) Program, "Tango: Performance and Fault Management in Cellular Networks through Device-Network Cooperation," Proposal No. CNS-1409506, July 2014-July 2018, **$1M**.

[27] PI (with Co-PI: Xiaohui Song (Purdue)), **National Science Foundation**, Division of Computer and Network Systems (CNS), Computing Research Infrastructure (CRI) Program, "Computer System Failure Data Repository to Enable Data-Driven Dependability Research," Proposal No. CNS-1405906, June 2014-June 2015, **$100,000**.

[28] Co-PI (with Milind Kulkarni (PI), Michael Gribskov), **National Science Foundation**, Division of Computer and Communication Foundations (CCF) - Exploiting Parallelism and Scalability (XPS), "On the Hunt for Correctness and Performance Bugs in Large-scale Programs," Proposal No. CCF-1337158, September 2013-September 2015, **$260,331**.

[29] Co-PI, **Missile Defense Agency** (with PI: Dan DeLaurentis, Aero), "Agent-Based Enhanced C2BMC Architecture," September 2010-December 2014, **$4.8M**. (Individual share: 35%)

[30] PI, **Northrop-Grumman Corporation**, "RADMAP: Runtime Analysis of Emerging Attack and System Health Data for Mission Planning and Execution," September 2013-September 2014, **$150,000**.

[31] PI, **Northrop-Grumman Corporation**, "Configuration of Intrusion Detection Sensors for Advanced Persistent Threats in Distributed Systems," September 2012-September 2013, **$100,000**.

[32] PI, **Department of Energy**, Lawrence Livermore National Lab, "Root Cause Analysis of Faults in Parallel Systems," September 2012-May 2013, **$40,000**.

[33] PI, IBM Research Austin, "Reliability at the Intersection of Mobility and Cloud Computing," February 2012-February 2013, **$65,585** (as an unrestricted gift).

[34] PI, **Northrop-Grumman Corporation**, "Secure Configuration of Intrusion Detection Sensors for Enterprise Systems," September 2011-2012, **$100,000**.

[35] Co-PI (with Xiaojun Lin (PI)), **National Science Foundation**, Networking Technology and Systems (NeTS) - Network Ecosystems (NECO), "Provably Assurable Ad Hoc Networks under Arbitrary Malicious Behaviors," Proposal No. CNS-0831999, September 2008-September 2012, **$16,000** (individual share, supplemental award).

[36] PI, **National Science Foundation**, Computer Systems Research (CSR) Program, "Monitoring for Error Detection in Today's High Throughput Applications," Proposal No. CNS-0916337, June 2011-June 2012, **$16,000** (individual share, supplemental award).

[37] PI, **National Science Foundation**, Computer Systems Research (CSR) Program, "Travel grant for IEEE Symposium on Reliable Distributed Systems (SRDS)," Proposal No. CNS-1047647, July 2010-June 2011, **$10,000** (individual share).

[38] Co-PI (within Purdue, not at NSF), **National Science Foundation**, "NEES Operations: FY 2010-FY2014," Proposal No. 0927178-CMMI, October 2009-October 2014, **$105M** (individual share: 2 students, 1 summer month per year).

[39] Co-PI (with Vijay Raghunathan (PI)), **National Science Foundation**, Integrative, Hybrid and Complex Systems, Division of Electrical, Communications and Cyber Systems (ECCS), Engineering Directorate, "Distributed Error Detection and Diagnosis in Wireless Embedded Systems with Customized Hardware Support," Proposal No. ECCS- 0925851, September 2009-August 2012, **$317,233**.

[40] PI, **National Science Foundation**, Computer Systems Research (CSR) Program, "Monitoring for Error Detection in Today's High Throughput Applications," Proposal No. CNS-0916337, July 2009-June 2012, **$259,000** (individual share).

[41] Co-PI (with Jim Krogmeier (PI) and Jan Allebach), **National Science Foundation**, Course, Curriculum and Laboratory Improvement (CCLI) Program: Phase 1, "Collaborative Research: The VIP Program - Integrating Undergraduate Design Projects and Graduate Research," Proposal No. DUE-0837280, February 2009-February 2011, **$82,732**.

[42] Co-PI (with Xiaojun Lin (PI)), **National Science Foundation**, Networking Technology and Systems (NeTS) - Network Ecosystems (NECO), "Provably Assurable Ad Hoc Networks under Arbitrary Malicious Behaviors," Proposal No. CNS-0831999, September 2008-September 2012, **$200,000**.

[43] Co-PI (with Gene Spafford (PI)), **Lockheed Martin**, "Secure Configuration Management and Resilience to Zero-Day Vulnerabilities," Awarded July 2008-July 2010, **$166,000** (individual share).

[44] PI, **National Science Foundation**, Networking Technology and Systems (NeTS) – Networking of Sensor Systems (NOSS), "Robust sensor network architecture through neighborhood monitoring and isolation," REU Supplement for Proposal No. CNS- 0626830, Awarded May 2008, **$12,000**.

[45] Co-PI (with Zhiyuan Li (PI) and Yung-Hsiang Lu), **National Science Foundation**, Computing Research Infrastructure (CRI) Program, "A Testbed for Compiler-supported Scalable Error Monitoring and Diagnosis for Reliable and Secure Sensor Networks," Proposal No. CNS-0751101, March 2008-March 2010, **$48,930**.

[46] Co-PI (with Elisa Bertino (PI), Lorenzo Martino, Khalid Moidu), **National Science Foundation**, Information and Intelligent Systems (IIS) Division, Information Privacy and Security Area, "Security Services for Healthcare Applications," Proposal No. CNS- 0712846, August 2007-August 2010, **$450,000**.

[47] Co-PI (with Zhiyuan Li (PI) and Yung-Hsiang Lu), **National Science Foundation**, Cyber Trust Program, "Compiler-Enabled Adaptive Security Monitoring on Networked Embedded Systems," Proposal No. CNS- 0716271, July 2007-July 2010, **$400,000**.

[48] Principal Investigator, **Motorola Labs**, "Placement of mesh nodes to maximize connectivity and coverage in a mobile rescue and relief operation setting," June 2007-June 2008, **$4,500** (includes $3,500 equipment donation).

[49] Principal Investigator (with William Chappell at Purdue, sub-contract through Emnet LLC), **The Indiana 21st Century Research and Technology Fund**, Round 7, "Metro-Wide Control of Combined Sewer Overflow Events Using Embedded Network Technology," June 2007-June 2009, **$145,994** (individual share).

[50] Principal Investigator, **Avaya Inc.**, "Intrusion Detection for Voice over IP (VoIP) Systems," April 2007-December 2008, **$60,000**.

[51] Principal Investigator, **Lilly Endowment Inc.**, "Purdue Research Park Pre-eminence Award," Start date: December 2006, **$30,000**.

[52] PI (with Ness B. Shroff (Co-PI)), **National Science Foundation**, Networking Technology and Systems (NeTS) – Networking of Sensor Systems (NOSS), "Robust sensor network architecture through neighborhood monitoring and isolation," Proposal No. CNS-0626830, September 2006-September 2009, **$350,000**.

[53] Co-PI (with Zhiyuan Li (PI) and Yung-Hsiang Lu), **National Science Foundation**, Computer Systems Research (CSR) – Embedded Hybrid Systems (EHS), "Resource-efficient Monitoring, Diagnosis, and Programming Support for Reliable Networked Embedded Systems," Proposal No. CNS-0509394, July 2005-July 2009, **$480,000**.

[54] Principal Investigator (with William Chappell at Purdue, sub-contract through University of Notre Dame), **The Indiana 21st Century Research and Technology Fund**, Round 6, "Detection and Control of Combined Sewer Overflow Events Using Embedded Sensor Network Technology," Project No. 512040817, January 2005-January 2007, **$153,902** (individual share).

[55] Principal Investigator (with William Chappell and Catherine Rosenberg as Co-PIs), **National Science Foundation (NSF)** Engineering Directorate, Electrical and Communication Systems, " Smart RF Antennas for Reliable and Real-Time Sensor Networks," Proposal No. ECS-0330016, September 2003-August 2007, **$500,000**.

Professional Society Activities:

Organization: IEEE Computer Society

Activity:
Student Member, 1996 - 2001
Member, 2001 – February 2007
Senior Member, February 2007 – Current
Board of Governors, 2017 – 2020, 2022 – 2023

- PC Chair of 25th IEEE International Symposium on Software Reliability Engineering (ISSRE), 2014.
- PC Chair of IEEE International Symposium on Dependable Systems and Networks (DSN), 2011.
- Member of organizing committee of IEEE International Symposium on Dependable Systems and Networks (DSN), 2006, 2010, 2013, 2014, 2017, 2019, 2020.
- Program Committee member for IEEE International Conference on Dependable Systems and Networks (DSN), 2003-current, IEEE Symposium on Reliable Distributed Systems (SRDS), 2004-current.
- Member of the Organizing Committee for SRDS, 2010 as Travel Grants Chair.
- Program Committee member for 7th IEEE International Conference on Distributed Computing in Sensor Systems (DCOSS), 2011.

- Organizer of panel titled "Ten Dependability Challenges for the Next Decade" for DSN 2011.
- Steering Committee member and Co-organizer of "Workshop on Recent Advances in Intrusion Tolerant Systems (WRAITS)" held with DSN 2010, 2009. With Miguel Correia (U. of Lisbon) and Partha Pal (BBN/Raytheon).
- Co-organizer of Workshop titled "Dependability Issues in Wireless Ad Hoc Networks and Sensor Networks (DIWANS)", at ACM International Conference on Mobile Computing and Networking (Mobicom), 2006 and IEEE International Conference on Dependable Systems and Networks (DSN), 2004. With Douglas Blough (Georgia Tech), Paolo Santi (IIT - CNR, Italy), Nitin Vaidya (Univ. of Illinois at Urbana-Champaign) in 2004 and Parmesh Ramanathan (University of Wisconsin), Shivakant Mishra (University of Colorado), Douglas Blough, and Paolo Santi in 2006.
- Organizer of panel titled "Open Source Software - A Recipe for Vulnerable Software, or The Only Way to Keep the Bugs and the Bad Guys Out?," at IEEE International Symposium on Software Reliability Engineering (ISSRE), 2003.

Organization: ACM
Activity: Member, 2003 – 2009
Senior Member, 2009 – Current
Distinguished Scientist, 2013
Distinguished Speaker, 2012

- PC Co-Chair 23rd ACM/IFIP International Conference on Middleware, 2022.

PhD Thesis Supervision Completed:

Name	*Date*	*Thesis Title*
Edgardo Barsallo Yi	December 2021	Dependable Wearable Systems
Ran Xu	December 2021	Approximation for Streaming Video Analytics on Mobile Devices
Naif Saleh Almakhdhub (co-supervised with Mathias Payer)	March 2020	IoT Systems Security: Benchmarking and Protection
Abraham A. Clements (co-supervised with Mathias Payer)	April 2019	Protecting Bare-Metal Systems from Remote Exploitation
Christopher Noe Gutierrez (co-supervised with Gene	November 2017	Deceptive Memory Systems

Spafford)		
Nawanol Theera-Ampornpunt	July 2017	Improving Failure Management through Cooperation between Mobile Devices and Cellular Network
Kanak Mahadik (co-supervised with Milind Kulkarni)	July 2017	Techniques for Scaling Computational Genomic Applications
Subrata Mitra	November 2016	What Broke Where For Distributed and Parallel Applications — A Whodunit Story
Paul Wood	June 2016	Improving the Resilience of Energy-Based Cyber-Physical Systems under Strategic Adversaries
Matthew Tan Creti	April 2015	Software and Hardware Approaches for Record and Replay of Wireless Sensor Networks
Amiya Maji	February 2015	Dependability where the Mobile World Meets the Enterprise World
Bowen Zhou (co-supervised with Milind Kulkarni)	July 2014	Characterization and Error Detection in Distributed Web Applications
Fahad Ali Arshad	April 2014	Failure Characterization and Error Detection in Distributed Web Applications
Tanzima Zerin Islam (co-supervised with Rudi Eigenmann)	June 2013	Reliable and Scalable Checkpointing Systems for Distributed Computing Environments
Gaspar Modelo Howard	February 2013	Secure Configuration of Intrusion Detection Sensors for Changing Enterprise Systems
Ignacio Laguna	December 2012	Probabilistic Fault Detection and Diagnosis in Large-Scale Distributed Applications
Donghoon Shin	July 2012	Algorithms for Distributed Monitoring in Multi-Channel Ad Hoc Wireless Networks
Jin Kyu Koo (co-supervised with Xiaojun Lin)	July 2012	Secure Control Protocols for Resource-Constrained Embedded Systems
Rajesh Krishna Panta	June 2010	Remote Reprogramming of Wireless Sensor Networks
Sarah Sellke (co-supervised with Ness B. Shroff)	January 2010	Analytical Techniques for Computer Security
Yu-Sung Wu	May 2009	Achieving High Survivability in Distributed Systems through Automated Response
Gunjan Khanna	June 2007	Non-Intrusive Detection and Diagnosis Of Failures in High Throughput Distributed Applications
Issa Khalil (co-supervised with Ness B. Shroff)	December 2006	Mitigation of Control and Data Traffic Attacks in Wireless Ad-Hoc and Sensor Network

Master's Thesis Supervision Completed:

Name	*Date*	*Thesis Title*
Austin Ketterer	October 2021	Embedded firmware security
Shikhar Suryavansh (co-supervised with Mung Chiang)	July 2020	Unmanaged Edge Computing
Peter Bai	July 2019	Operation of Deep Neural Networks on Mobile Hardware
Rakesh Kumar	May 2019	The Mystery of the Failing Jobs: Insights from Operational Data from Two University-Wide Computing Systems
Michael Glapa (co-supervised with Felix Lin)	December 2018	Malicious Reconfiguration of Executing Program in FPGA and its Defense
Ranvijay Singh	July 2018	Performance debugging for accelerator programs
Subramaniyam Kannan	July 2018	Intrusion response in SDN-based environments
Tara Thomas	July 2017	Streaming data analytics for bottleneck identification in an industrial shop floor
Ayush Patwari (co-supervised with Dan Goldwasser)	July 2017	Identifying undesirable behavior in social media: Towards automated fact-checking and YouTube
Suhas Javagal	April 2016	User centric workload analytics: Towards better cluster management
Ravi Gupta	April 2016	Programmability for high performance from heterogeneous architectures
Benjamin Kobin (co-supervised with Michael Kistler, IBM Research) (Independent study project)	May 2014	Debugging systems problems in data centers
Madalina Baker	July 2011	CarChat: A Vehicular Wireless Ad-Hoc Network Data Dissemination Protocol
Matthew Tan Creti	November 2008	Neighborhood Overhearing for Detection of Security Attacks in Wireless Sensor Networks
Ignacio Laguna	June 2008	Online Error Detection for High Data Rate Distributed Applications
Carlos Perez	December 2007	Reputation-based Resilient Data Aggregation in Sensor Networks
Bryan Rabeler	August 2006	Fine-Grained Control of Reliability in Shared- Memory Parallel Programs
Vinita Apte	May 2006	Distributed Intrusion Detection for Voice-over-IP Environments
Mike Cheng	May 2006	State Space Reduction for Efficient Detection and Diagnosis in Distributed Systems
Ravish Khosla (co-supervised with Edward J.	May 2006	Reliable Data Dissemination in Energy Constrained Sensor Networks

Coyle)		
Mark Krasniewski	August 2005	Reliable Middleware for Sensor Networks
Padma Varadharajan	May 2005	Automated Monitor Based Detection and Diagnosis in Distributed Systems
Nipoon Malhotra	June 2004	Robust Location Determination in Wireless Ad-Hoc Networks
Yu-Sung Wu	May 2004	Securing E-commerce System via Collaborative Intrusion Detection and Adaptive Intrusion Tolerance
Gunjan Khanna	December 2003	Self Checking Network Protocols: a Monitor-based Approach

PhD and Master's Thesis Students Currently Being Supervised:
(from earliest to latest by joining date, separately within PhD and Masters)

Name	*Degree*	*Thesis Title*
Ashraf Mahgoub	PhD	Reliable reconfiguration of distributed applications
Mustafa Abdallah (co-supervised with Shreyas Sundaram)	PhD	Game theory in cybersecurity
Ruqi Bai (co-supervised with David Inouye)	PhD	Adversarial machine learning
Atul Sharma	PhD	Secure distributed machine learning
Pengcheng Wang	PhD	Reliable streaming analytics on the edge
Akhil Sai Bandarupalli	PhD	Distributed consensus algorithms
Joshua Zhao	PhD	Secure distributed machine learning
Dipesh Tamboli	PhD	Distributed machine learning on the edge
Preeti Mukherjee	PhD	Approximate ML on IoT
Xiang Li	PhD	Reliable edge computing
Heron Teegarden	MS	Machine learning security
Joshua Majors	MS	Wearable and IoT security
Ahaan Dabholkar	MS	Secure distributed machine learning

Research Staff Currently Supervised:

Dr. Amiya Maji, PhD: Purdue University, 2015, 2020 – Current.

Tomas Ratkus, 2020 – Current.

Courses Developed:

ECE 595: ECE Stories of Success: An innovative course where thought leaders from our alums and corporate partners speak about their professional life stories in a highly interactive format, with discussion with our students. (Offered first in Spring 2022)

ECE 69500: Big Data for Reliability and Security (Offered on campus and online through edX; first offering Spring 2020; second offering Fall 2020; last offering Fall 2021)

ECE 60872/CS 59001: Fault Tolerant Computer Systems (Offered 15 times since 2009, including in Spring 2022; previously this was numbered ECE 695FTC)

ECE 572: Fault Tolerant Computer Systems (Offered Spring 2003, 2004, 2005, 2007) (subsumed by ECE 60872)

EPICS-ISR Started sensor networks project for Imagination Station, Lafayette (Continuously offered every semester from Spring 2004)

Courses "In Charge Of":

ECE 595: ECE Stories of Success
ECE 69500: Big Data for Reliability and Security
ECE 60872/CS 59001: Fault Tolerant Computer Systems

Books:

1. Long Wang, Karthik Pattabiraman, Catello Di Martino, Arjun Athreya, Saurabh Bagchi, "System Dependability and Analytics - Approaching System Dependability from Data, System and Analytics Perspectives," Published by Springer, publication date: June 2022.

Book Chapters and Magazine Articles:

[B1] **Saurabh Bagchi**, Vaneet Aggarwal, Somali Chaterji, Fred Douglis, Aly El Gamal, Jiawei Han,Brian J. Henz, Hank Hoffmann, Suman Jana, Milind Kulkarni, Felix Xiaozhu Lin, Karen Marais, Prateek Mittal, Shaoshuai Mou, Xiaokang Qiu, and Gesualdo Scutari, "Vision Paper: Grand Challenges in Resilience: Autonomous System Resilience through Design and Runtime Measures," in IEEE Open Journal of the Computer Society **(OJCS)**, pp. 155-172, July 2020, doi: 10.1109/OJCS.2020.3006807.

[B2] **Saurabh Bagchi**, Muhammad-Bilal Siddiqui, Paul Wood, and Heng Zhang. "Dependability in edge computing," Communications of the ACM (**CACM**), vol. 63, no. 1, pp. 58-66, January 2020.

[B3] Somali Chaterji, Parinaz Naghizadeh, Muhammad Ashraful Alam, **Saurabh Bagchi**, Mung Chiang, David Corman, Brian Henz et al. "Resilient Cyberphysical Systems and their Application Drivers: A Technology Roadmap," Report from the NSF Grand Challenges in Resilience Workshop, March 2019.

[B4] **Saurabh Bagchi**, Vaneet Aggarwal, Somali Chaterji, Fred Douglis, Aly El Gamal, Jiawei Han, Brian J. Henz et al. "Grand Challenges of Resilience: Autonomous System Resilience through Design and Runtime Measures," Report from the NSF Grand Challenges in Resilience Workshop, March 2019.

[B5] NSF Grand Challenges in Computer Systems Research Team (51 members), "Inter-Disciplinary Research Challenges in Computer Systems for the 2020s," ACM Digital Library, pp. 1–31, December 2018.

[B6] Ashish R. Hota, Abraham A. Clements, **Saurabh Bagchi**, and Shreyas Sundaram, "A Game-Theoretic Framework for Securing Interdependent Assets in Networks," In Springer "Game Theory for Security Risk Management: From Theory to Practice", editors: Stefan Rass, Stefan Schauer, pp. 157-184, 2018.

[B7] Shreyas Sen, Jinkyu Koo, and **Saurabh Bagchi**, "TRIFECTA: Security, Energy Efficiency, and Communication Capacity Comparison for Wireless IoT Devices," in IEEE Internet Computing, vol. 22, no. 1, pp. 74-81, Jan/Feb 2018.

[B8] Ignacio Laguna, Dong H. Ahn, Bronis R. de Supinski, Todd Gamblin, Greg L. Lee, Martin Schulz (LLNL), **Saurabh Bagchi**, Milind Kulkarni, Bowen Zhou (Purdue), Zhezhe Chen, Feng Qin (Ohio State), "Debugging High-Performance Computing Applications at Massive Scales," In Communications of the ACM (**CACM**) Magazine, vol. 58, no. 9, pp. 72-81, September 2015.

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[B10] William Oakes and **Saurabh Bagchi**, "EPICS Software Development Projects," In "Service Learning in the Computer and Information Sciences: Practical Applications in Engineering Education", pp. 159-172, Wiley-IEEE Press, 2012.

[B11] Yu-Sung Wu, Gaspar M. Howard, Matthew W. Glause, Bingrui Foo, **Saurabh Bagchi**, and Eugene H. Spafford , "Intrusion Response Systems: A Survey," In "Information Assurance: Dependability and Security in Networked Systems", editors David Tipper, Prashant Krishnamurthy, Yi Qian, and James Joshi; pp. 377-416, published by Morgan Kaufmann, 2008.

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Serial Journal Articles:

[J1] Ran Xu, Rakesh Kumar, Pengcheng Wang, Peter Bai, Ganga Meghanath (IIT Madras), Somali Chaterji, Subrata Mitra (Adobe Research), and **Saurabh Bagchi**, "ApproxNet: Content and contention-aware video object classification system for embedded clients," in ACM Transactions on Sensor Networks **(TOSN)** vol 18, no. 1, pp. 1-27, February 2022.

[J2] Daniel Woods, Mustafa Abdallah, **Saurabh Bagchi**, Shreyas Sundaram, and Timothy Cason, "Network defense and behavioral biases: An experimental study," Journal of **Experimental Economics**, vol. 25, issue 1, pp. 254-286, February 2022.

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[J4] Aritra Mitra, John A. Richards, **Saurabh Bagchi**, and Shreyas Sundaram, "Distributed Inference With Sparse and Quantized Communication," in **IEEE Transactions on Signal Processing**, vol. 69, pp. 3906-3921, June 2021.

[J5] Sarath Gopalakrishnan, Jose Waimin, Nithin Raghunathan, **Saurabh Bagchi**, Ali Shakouri, and Rahim Rahimi, "Battery-Less Wireless Chipless Sensor Tag for Subsoil Moisture Monitoring," **IEEE Sensors** Journal, 21(5), pp.6071-6082, May 2021.

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[J9] **Saurabh Bagchi**, Tarek F. Abdelzaher, Ramesh Govindan, Prashant Shenoy, Akanksha Atrey, Pradipta Ghosh, and Ran Xu, "New Frontiers in IoT: Networking, Systems, Reliability, and Security Challenges," In the IEEE Internet of Things Journal **(IoT-J)**, vol. 7, no. 12, pp. 11330–11346, December 2020.

[J10] Mustafa Abdallah, Parinaz Naghizadeh, Ashish R. Hota, Timothy Cason, **Saurabh Bagchi**, and Shreyas Sundaram, "Behavioral and Game-Theoretic Security Investments in Interdependent Systems Modeled by Attack Graphs," in IEEE Transactions on Control of Network Systems **(TCNS)**, vol. 7, no. 4, pp. 1585-1596, Dec. 2020, doi: 10.1109/TCNS.2020.2988007.

[J11] Aritra Mitra, John A. Richards, **Saurabh Bagchi**, and Shreyas Sundaram, "Distributed Inference With Sparse and Quantized Communication," in IEEE Transactions on Signal Processing, vol. 69, pp. 3906-3921, 2021, doi: 10.1109/TSP.2021.3089824.

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[J15] Christopher N. Gutierrez, Taegyu Kim, Raffaele Della Corte (U. of Naples), Jeffrey Avery (Northrop Grumman), Dan Goldwasser, Marcello Cinque (U. of Naples), and **Saurabh Bagchi** "Learning from the Ones that Got Away: Detecting New Forms of Phishing Attacks," in IEEE Transactions on Dependable and Secure Computing (**TDSC**), vol. 15, no. 6, pp. 988-1001, November-December 2018.

[J16] Christopher N. Gutierrez, Eugene H. Spafford, **Saurabh Bagchi**, and Thomas J. Yurek, "Reactive Redundancy for Data Destruction Protection (R2D2)," Elsevier Computers and Security (**CoSE**), vol. 74, pp. 184-201, May 2018.

[J17] Subramaniyam Kannan, Paul Wood, Larry Deatrick (Northrop Grumman), Patricia Beane (Northrop Grumman), Somali Chaterji, and **Saurabh Bagchi**, "MAAT: Multi-Stage Attack Attribution in Enterprise Systems using Software Defined Networks," EAI Transactions on Security and Safety, 17(11): e4, pp. 1-14, December 2017.

[J18] Somali Chaterji, Jinkyu Koo, Ninghui Li, Folker Meyer, Ananth Grama, and **Saurabh Bagchi**, "Federation in Genomics Pipelines: Techniques and Challenges," Oxford **Briefings in Bioinformatics**, bbx102, pp. 1-10, August 2017.

[J19] Andreas Wilke, Jared Bischof, Wolfgang Gerlach, Elizabeth Glass, Travis Harrison, Kevin P. Keegan, Tobias Paczian, William L. Trimble, **Saurabh Bagchi**, Ananth Grama, Somali Chaterji, and Folker Meyer, "The MG-RAST metagenomics database and portal in 2015," **Nucleic Acids Research**, volume 44 (Database Issue), pp. 590-594, December 2015.

[J20] Asish Ghoshal, Raghavendran Shankar, **Saurabh Bagchi**, Ananth Grama, and Somali Chaterji, "MicroRNA Target Prediction using Thermodynamic and Sequence Curves," **BMC Genomics**, volume 16, number 1, pp. 1-21, November 2015, doi: 10.1186/s12864-015-1933-2.

[J21] Dong-Hoon Shin, **Saurabh Bagchi**, and Chih-Chun Wang, "Toward Optimal Distributed Monitoring of Multi-Channel Wireless Networks," IEEE Transactions on Mobile Computing (**TMC**), vol. 15, no. 7, pp. 1826-1838, July 2016.

[J22] Tanzima Zerin Islam, **Saurabh Bagchi**, and Rudolf Eigenmann, "Reliable and Efficient Distributed Checkpointing System for Grid Environments," Journal of Grid Computing (**JoGC**), volume 12, issue 4, pp. 593-613, December 2014.

[J23] Ignacio Laguna, Dong H. Ahn, Bronis R. de Supinski, **Saurabh Bagchi**, and Todd Gamblin, "Diagnosis of Performance Faults in Large Scale Parallel Applications via Probabilistic Progress-Dependence Inference," IEEE Transactions on Parallel and Distributed Systems (**TPDS**), vol. 26, no. 5, pp. 1280-1289, May 2015.

[J24] Marc Snir, Robert W. Wisniewski, Jacob A. Abraham, Sarita V. Adve, **Saurabh Bagchi**, Pavan Balaji, Jim Belak, Pradip Bose, Franck Cappello, Bill Carlson, Andrew A. Chien, Paul Coteus, Nathan DeBardeleben, Pedro C. Diniz, Christian Engelmann, Mattan Erez, Saverio Fazzari, Al Geist, Rinku Gupta, Fred Johnson, Sriram Krishnamoorthy, Sven Leyffer, Dean Liberty, Subhasish Mitra, Todd Munson, Rob Schreiber, Jon Stearley, and Eric Van Hensbergen, "Addressing failures in exascale computing," International Journal of High Performance Computing Applications, Volume 28, Number 2, pp. 129-173, May 2014.

[J25] Tanzima Zerin Islam, Kathryn Mohror, **Saurabh Bagchi**, Adam Moody, Bronis R. de Supinski, and Rudolf Eigenmann, "McrEngine: A scalable checkpointing system using data-aware aggregation and compression," Scientific Programming, vol. 21, issues 3-4, pp. 149-163, July 2013.

[J26] Jinkyu Koo, Dong-Hoon Shin, Xiaojun Lin, and **Saurabh Bagchi**, "A Delay-Bounded Event-Monitoring and Adversary-Identification Protocol in Resource-Constrained Sensor Networks," Elsevier Ad Hoc Networks, pp. 1820-1835, vol. 11, issue 6, August 2013.

[J27] Dong-Hoon Shin and **Saurabh Bagchi**, "An Optimization Framework for Monitoring Multi-Channel Multi-Radio Wireless Mesh Networks," Elsevier Ad Hoc Networks, pp. 926-943, Volume 11, Issue 3, May 2013.

[J28] Rajesh Krishna Panta and **Saurabh Bagchi**, "Mitigating the Effects of Software Component Shifts for Incremental Reprogramming of Wireless Sensor Networks," IEEE Transactions on Parallel and Distributed Systems (TPDS), pp. 1882-1894, vol. 23, issue 10, October 2012.

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[J30] Issa Khalil and **Saurabh Bagchi**, "Stealthy Attacks in Wireless Ad Hoc Networks: Detection and Countermeasure," IEEE Transactions on Mobile Computing (TMC), vol. 10, issue 8, pp. 1096-1112, August 2011.

[J31] Srikanth Hariharan, Ness B. Shroff, and **Saurabh Bagchi**, "Secure Neighbor Discovery through Overhearing in Static Multihop Wireless Networks," Elsevier Computer Networks, vol. 55, issue 6, pp. 1229-1241, April 2011.

[J32] Rajesh Krishna Panta, **Saurabh Bagchi**, and Samuel P. Midkiff, "Efficient Incremental Code Update for Sensor Networks," ACM Transactions on Sensor Networks (TOSN), vol. 7, issue 4, pp. 1-32, February 2011.

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[J35] Rajesh Krishna Panta, **Saurabh Bagchi** and Issa M. Khalil, "Efficient wireless reprogramming through reduced bandwidth usage and opportunistic sleeping," Elsevier Ad Hoc Networks Journal, Volume 7, Issue 1, pp. 42-62, January 2009.

[J36] S. Sellke, N. B. Shroff, **S. Bagchi**, "Modeling and Automated Containment of Worms," IEEE Transactions on Dependable and Secure Computing (TDSC), volume 5, issue 2, pp. 71-86, April-June 2008.

[J37] Mark D. Krasniewski, Rajesh K. Panta, **Saurabh Bagchi**, Chin-Lung Yang, and William J. Chappell, "Energy-efficient, On-demand Reprogramming of Large-scale Sensor Networks," ACM Transactions on Sensor Networks (TOSN), Volume 4, Issue 1, pp. 1-38, January 2008.

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Rigorously Reviewed Conference Papers:

[C1] Ashraf Youssef Mahgoub, Edgardo Barsallo Yi, Karthick Shankar (Carnegie Mellon University), Somali Chaterji, Sameh Elnikety (Microsoft Research), and **Saurabh Bagchi**, "ORION: Optimized Execution Latency for Serverless DAGs," Accepted to appear at the 16th USENIX Symposium on Operating Systems Design and Implementation **(OSDI)**, pp. 1–15, July 2022. (Acceptance rate: 49/253 = 19.4%)

[C2] Ashraf Mahgoub, Edgardo Barsallo Yi, Karthick Shankar (Carnegie Mellon University), Eshaan Minocha, Somali Chaterji, Sameh Elnikety (Microsoft Research), and **Saurabh Bagchi**, "WISEFUSE: Workload Characterization and Optimized Execution Plans for Serverless DAG Workflows," Accepted to appear at the 2022 ACM **SIGMETRICS** conference, pp. 1–24, June 2022. (Acceptance rate: 17/126 = 13.5% (Winter submission cycle))

[C3] Ran Xu, Fangzhou Mu, Jayoung Lee, Preeti Mukherjee, Somali Chaterji, Saurabh Bagchi, and Yin Li (University of Wisconsin at Madison), "SMARTADAPT: Multi-branch Object Detection Framework for Videos on Mobiles," At the IEEE/CVF Conference on Computer Vision and Pattern Recognition **(CVPR)**, pp. 1-10, June 2022. (Acceptance rate: 2067/8162 = 25.3%)

[C4] Mustafa Abdallah, Daniel Woods, Parinaz Naghizadeh (Ohio State), Issa Khalil (QCRI), Timothy Cason, Shreyas Sundaram, and **Saurabh Bagchi**, "TASHAROK: Using Mechanism Design for Enhancing Security Resource Allocation in Interdependent Systems." In 2022 IEEE Symposium on Security and Privacy **(S&P)**, pp. 1-18, May 2022. (Acceptance rate: 57/407 = 14.0% (in 3rd reviewing cycle))

[C5] Ran Xu, Jayoung Lee, Pengcheng Wang, **Saurabh Bagchi**, Yin Li (University of Wisconsion - Madison), Somali Chaterji, "LITERECONFIG: Cost and Content Aware Reconfiguration of Video Object Detection Systems for Mobile GPUs," At the Seventeenth European Conference on Computer Systems (**EuroSys**), pp. 334-351, April 2022. (Acceptance rate: 42/162 = 25.9%)

[C6] Sheikh Shams Azam, Taejin Kim (CMU), Seyyedali Hosseinalipour, Carlee Joe-Wong (CMU), **Saurabh Bagchi**, and Christopher Brinton, "Can we Generalize and Distribute Private Representation Learning?" At the 25th International Conference on Artificial Intelligence and Statistics (**AISTATS**), pp. 11320-11340, March 2022. (Acceptance rate: 492/1685 = 29.2%)

[C7] Ashraf Mahgoub, Karthick Shankar (CMU), Subrata Mitra (Adobe Research), Ana Klimovic (ETH Zurich), Somali Chaterji, and **Saurabh Bagchi**, "SONIC: Application-aware Data Passing for Chained Serverless Applications," At the Usenix Annual Technical Conference (**Usenix ATC**), pp. 285-301, July 2021. (Acceptance rate: 64/341 = 18.8%)

[C8] Mustafa Abdallah, Daniel Woods, Parinaz Naghizadeh (Ohio State University), Issa Khalil (Qatar Computing Research Institute (QCRI)), Timothy Cason, Shreyas Sundaram, and **Saurabh Bagchi**, "Morshed: Guiding Behavioral Decision-Makers towards Better Security Investment in Interdependent Systems," At the 16th ACM Asia Conference on Computer and Communications Security **(ASIACCS)**, pp. 378–392, May 2021. (Acceptance rate: 28/157 = 17.8%)

[C9] Sean Kulinski, **Saurabh Bagchi**, and David I. Inouye. "Feature Shift Detection: Localizing Which Features Have Shifted via Conditional Distribution Tests," At the 34th Annual Conference on Advances in Neural Information Processing Systems **(NeurIPS)**, pp. 19523-19533, December 6-12, 2020. (Acceptance rate: 1900/9454 = 20.1%)

[C10] Ran Xu, Chen-lin Zhang (Nanjing University), Pengcheng Wang, Jayoung Lee, Subrata Mitra (Adobe Research), Somali Chaterji, Yin Li (U of Wisconsin at Madison), and **Saurabh Bagchi**, "APPROXDET: Content and Contention-Aware Approximate Object Detection for Mobiles," At the 18th ACM Conference on Embedded Networked Sensor Systems **(SenSys)**, pp. 449-462, November 16-19, 2020, Virtual ~~Yokohama, Japan~~. (Acceptance rate: 44/213 = 20.7%)

[C11] Abraham A. Clements (Purdue & Sandia), Eric Gustafson (UCSB), Tobias Scharnowski (Ruhr University Bochum), Paul Grosen (UCSB), David Fritz (Sandia), Christopher Kruegel (UCSB), Giovanni Vigna (UCSB), **Saurabh Bagchi**, and Mathias Payer (EPFL), "HALucinator: Firmware Re-hosting Through Abstraction Layer Emulation," At the 29th USENIX Security Symposium (**Usenix Sec**), pp. 1201-1218, Aug 12-14, 2020, Virtual ~~Boston, MA~~. (Acceptance rate: 157/977 = 16.1%)

[C12] Ashraf Mahgoub, Alexander Michaelson Medoff, Rakesh Kumar (Microsoft), Subrata Mitra (Adobe Research), Ana Klimovic (Google Research), Somali Chaterji, and **Saurabh Bagchi**, "OptimusCloud: Heterogeneous Configuration Optimization for Distributed Databases in the Cloud," At the Usenix Annual Technical Conference **(Usenix ATC)**, pp. 189-204, July 15-17, 2020, Virtual ~~Boston, MA~~. (Acceptance rate: 65/348 = 18.7%)

[C13] Rakesh Kumar, Saurabh Jha, Ashraf Mahgoub, Rajesh Kalyanam, Stephen L. Harrell, Xiaohui Carol Song, Zbigniew Kalbarczyk, William T. Kramer, Ravishankar K. Iyer, and **Saurabh Bagchi**, "The Mystery of the Failing Jobs: Insights from Operational Data from Two University-Wide Computing Systems," At the 50th Annual IEEE/IFIP International Conference on Dependable Systems and Networks **(DSN)**, pp. 158-171, June 29-July 2, 2020, Virtual ~~Valencia, Spain~~. (Acceptance rate: 48/291 = 16.5%)

[C14] Edgardo Barsallo Yi, Heng Zhang, Kefan Xu, Amiya Maji, and **Saurabh Bagchi**, "Vulcan: Lessons in Reliability of Wear OS Ecosystem through State-Aware Fuzzing," At the 18th ACM International Conference on Mobile Systems, Applications, and Services (**MobiSys**), pp. 391-403, June 15-19, 2020, Virtual ~~Toronto, Canada~~. (Acceptance rate: 34/175 = 19.4%)

[C15] Naif Saleh Almakhdhub (Purdue and King Saud University), Abraham A Clements (Sandia National Labs), **Saurabh Bagchi**, and Mathias Payer (EPFL), "µRAI: Return Address Integrity for Embedded Systems," At the Network and Distributed System Security Symposium (**NDSS**), pp. 1–18, February 23-26, 2020, San Diego, CA. (Acceptance rate: 73/399 = 18.3%)

[C16] Heng Zhang, Michael A. Roth (Google), Rajesh K. Panta (AT&T Labs Research), He Wang, and **Saurabh Bagchi**, "CrowdBind: Fairness Enhanced Late Binding Task Scheduling in Mobile Crowdsensing," At the 17th International Conference on Embedded Wireless Systems and Networks (**EWSN**), pp. 61-72, February 17-19, 2020, Lyon, France. (Acceptance rate: 14/45 = 31.1%) (Best paper award)

[C17] Nawanol Theera-Ampornpunt (Prince of Songkla University, Thailand), Shikhar Suryavansh (Purdue), Sameer Manchanda (University of Illinois at Urbana-Champaign), Rajesh Panta (AT&T Labs Research), Kaustubh Joshi (AT&T Labs Research), Mostafa Ammar (Georgia Institute of Technology), Mung Chiang, and **Saurabh Bagchi**, "AppStreamer: Reducing Storage Requirements of Mobile Games through Predictive Streaming," At the 17th International Conference on Embedded Wireless Systems and Networks (**EWSN**), pp. 37-48, Feb 17-19, 2020, Lyon, France. (Acceptance rate: 14/45 = 31.1%)

[C18] Mustafa Abdallah, Parinaz Naghizadeh, Timothy Cason, **Saurabh Bagchi**, and Shreyas Sundaram. "Protecting assets with heterogeneous valuations under behavioral probability weighting." In 2019 IEEE 58th Conference on Decision and Control (**CDC**), pp. 5374-5379, December 11-13, 2019.

[C19] Ashraf Mahgoub, Youssef Shahin, Riham Mansour, and **Saurabh Bagchi**. "SIMVECS: Similarity-based Vectors for Utterance Representation in Conversational AI Systems." At the 23rd Conference on Computational Natural Language Learning (**CoNLL**), pp. 708-717, November 3-4, 2019, Hong Kong, China. (Acceptance rate: 97/428 = 22.7%)

[C20] Ashraf Mahgoub, Paul Wood, Alexander Medoff, Subrata Mitra (Adobe Research), Folker Meyer (Argonne National Lab), Somali Chaterji, and **Saurabh Bagchi**, "SOPHIA: Online reconfiguration of Clustered NoSQL Databases for Time-VaryingWorkloads," At the 2019 USENIX Annual Technical Conference (**Usenix ATC**), pp. 223–240, July 10-12, 2019, Renton, WA. (Acceptance rate: 71/356 = 19.9%)

[C21] Pradeep Kotipalli, Ranvijay Singh, Paul Wood, Ignacio Laguna (Lawrence Livermore National Lab), and **Saurabh Bagchi**, "AMPT-GA: Automatic Mixed Precision Floating Point Tuning for GPU Applications," At the 33rd ACM International Conference on Supercomputing (**ICS**), pp. 160–170, June 26-28, 2019, Phoenix, AZ. (Acceptance rate: 45/193 = 23.3%)

[C22] Aritra Mitra, John A Richards, **Saurabh Bagchi**, and Shreyas Sundaram, "Finite-Time Distributed State Estimation over Time-Varying Graphs: Exploiting the Age-of-Information," At the American Control Conference (**ACC**), pp. 4006-4011, July 10-12, 2019, Philadelphia, PA. (Acceptance rate: 946/1478 = 64.0%)

[C23] Mustafa Abdallah, Parinaz Naghizadeh, Ashish Hota, Timothy Cason, **Saurabh Bagchi**, and Shreyas Sundaram, "The Impacts of Behavioral Probability Weighting on Security Investments in Interdependent Systems," At the American Control Conference (**ACC**), pp 5260-5265, July 10-12, 2019, Philadelphia, PA. (Acceptance rate: 946/1478 = 64.0%)

[C24] Naif Almakhdhub, Abraham Clements, Mathias Payer and **Saurabh Bagchi**, "BenchIoT: A benchmark for the things in the Internet of Things," At the 49th IEEE/IFIP International Symposium on Dependable Systems and Networks (**DSN**), pp. 234–246, June 24-27, 2019, Portland, OR. (Acceptance rate: 54/252 = 21.4%)

[C25] Ignacio Laguna (Lawrence Livermore National Lab), Paul C. Wood, Ranvijay Singh, and **Saurabh Bagchi**, "GPUMixer: Performance-Driven Floating-Point Tuning for GPU Scientific Applications," At the International Supercomputing Conference (ISC), pp. 227-246, Jun 17-19, 2019, Frankfurt, Germany. (Acceptance rate: 17/72 = 23.6%) (Hans Meuer Award winner for best paper)

[C26] Charitha Saumya, Jinkyu Koo, Milind Kulkarni, and **Saurabh Bagchi**, "XSTRESSOR: Automatic Generation of Large-Scale Test Inputs by Inferring Path Conditions," At the 12th IEEE International Conference on Software Testing, Verification, and Validation (ICST), pp. 1–12, April 22-27, 2019, Xi'an, China. (Acceptance rate: 31/110 = 28.2%) (Distinguished paper award, one of 3)

[C27] Jinkyu Koo, Charitha Saumya, Milind Kulkarni, and **Saurabh Bagchi**, "PySE: Automatic Worst-Case Test Generation by Reinforcement Learning," At the 12th IEEE International Conference on Software Testing, Verification, and Validation (ICST), pp. 136–147, April 22-27, 2019, Xi'an, China. (Acceptance rate: 31/110 = 28.2%)

[C28] Priyank Palod (IIT Kharagpur), Ayush Patwari, Sudhanshu Bahety, **Saurabh Bagchi**, and Pawan Goyal (IIT Kharagpur), "Misleading Metadata Detection on YouTube," In Proceedings of the 41st European Conference on Information Retrieval (**ECIR**) (Short paper), pp. 140–147, April 14-18, 2019, Cologne, Germany. (Acceptance rate: 44/151 = 29.1% (short papers))

[C29] Ran Xu, Subrata Mitra (Adobe Research), Jason Rahman (Facebook), Peter Bai, Bowen Zhou (LinkedIn), Greg Bronevetsky (Google), and **Saurabh Bagchi**, "PYTHIA: Improving Datacenter Utilization via Precise Contention Prediction for Multiple Co-located Workloads," In Proceedings of the 19th ACM/IFIP International Middleware Conference (**Middleware**), pp. 146-160, December 10-14, 2018, Rennes, France. (Acceptance rate: 22/95 = 23.2%)

[C30] Christopher Gutierrez, Mohammed Almeshekah, Eugene Spafford, and **Saurabh Bagchi**, "A Hypergame Analysis for ErsatzPasswords," At the 33rd IFIP TC-11 International Conference on Information Security and Privacy Protection (**IFIP SEC**), pp. 47–61, September 18-20, Poznan, Poland. (Acceptance rate: 36%)

[C31] Abraham A. Clements, Naif S. Almakhdhub, **Saurabh Bagchi**, and Mathias Payer, "ACES: Automatic Compartments for Embedded Systems," In Proceedings of the 27th USENIX Security Symposium (**USENIX Sec** '18), pp. 65–82, Aug 15–17, 2018, Baltimore, MD. (Acceptance rate: 100/524 = 19.1%)

[C32] Ran Xu, Jinkyu Koo, Rakesh Kumar, Peter Bai, Subrata Mitra (Adobe Research), Sasa Misailovic (University of Illinois Urbana-Champaign), and **Saurabh Bagchi**, "VideoChef: Efficient Approximation for Streaming Video Processing Pipelines," In Proceedings of the 2018 USENIX Annual Technical Conference (**USENIX ATC** '18), pp. 43–56, July 11–13, 2018, Boston, MA. (Acceptance rate: 76/378 = 20.1%)

[C33] Edgardo Barsallo Yi, Amiya K. Maji, and **Saurabh Bagchi**, "How Reliable is my Wearable: A Fuzz Testing-based Study," In Proceedings of the 48th IEEE/IFIP International Conference on Dependable Systems and Networks (**DSN**), pp. 410-417, Jun 25–28, 2018, Luxembourg City, Luxembourg. (Acceptance rate: 62/221 = 28.1%)

[C34] Tara Elizabeth Thomas, Jinkyu Koo, Somali Chaterji, and **Saurabh Bagchi**, "Minerva: A reinforcement learning-based technique for optimal scheduling and bottleneck detection in distributed factory operations," In Proceedings of the 10th IEEE Conference on Communication Systems & Networks (**COMSNETS**), pp. 1-8, Jan 3-7, 2018, Bangalore, India. (Acceptance rate: 38/125 = 30.4%)

[C35] Ashraf Mahgoub, Paul Wood, Sachandhan Ganesh, Subrata Mitra (Adobe Research), Wolfgang Gerlach (Argonne National Laboratory), Travis Harrison (Argonne National Laboratory), Folker Meyer (Argonne National Laboratory), Ananth Grama, **Saurabh**

Bagchi, and Somali Chaterji, "RAFIKI: A Middleware for Parameter Tuning of NoSQL Datastores for Dynamic Metagenomics Workloads," In Proceedings of the 18th ACM/IFIP/USENIX **Middleware** Conference, pp. 28-40, Dec 11-15, 2017, Las Vegas, Nevada. (Acceptance rate: 20/85 = 23.5%)

[C36] Heng Zhang, Nawanol Theera-Ampornpunt, He Wang, **Saurabh Bagchi**, and Rajesh K. Panta (AT&T Labs), "SENSE-AID: A framework for enabling network as a service for participatory sensing," In Proceedings of the 18th ACM/IFIP/USENIX **Middleware** Conference, pp. 68-80, Dec 11-15, 2017, Las Vegas, Nevada. (Acceptance rate: 20/85 = 23.5%)

[C37] Ayush Patwari, Dan Goldwasser, and **Saurabh Bagchi**, "A Multi-Classifier System for Detecting Check-Worthy Statements in Political Debates," In Proceedings of the 26th ACM International Conference on Information and Knowledge Management (**CIKM**) (Short paper), pp. 2259-2262, Nov 6-10, 2017, Singapore. (Acceptance rate: 119/398 = 29.9% (short papers))

[C38] Subramaniyam Kannan, Paul Wood, Larry Deatrick (Northrop Grumman), Patricia Beane (Northrop Grumman), Somali Chaterji, and **Saurabh Bagchi**, "Topology-based Host-Level Attribution for Multi-Stage Attacks in Enterprise Systems using Software Defined Networks," In Proceedings of the 13th International Conference on Security and Privacy in Communication Networks (**Securecomm**), pp. 1-15, October 22-24, 2017, Niagara Falls, Canada. (Acceptance rate: 31/105 = 29.5%)

[C39] Kanak Mahadik, Christopher Wright, Milind Kulkarni, **Saurabh Bagchi**, and Somali Chaterji, "Scalable Genomic Assembly through Parallel de Bruijn Graph Construction for Multiple K-mers," In Proceedings of the 8th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics (**ACM BCB**) (short paper), pp. 425-431, Aug 20-23, 2017, Boston, MA.

[C40] Abraham A Clements, Naif Saleh Almakhdhub, Khaled Saab, Prashast Srivastava, Jinkyu Koo, **Saurabh Bagchi**, and Mathias Payer, "Protecting Bare-metal Embedded Systems with Privilege Overlays," In Proceedings of the IEEE International Symposium on Security and Privacy (**Oakland**), pp. 289-303, May 22-26, 2017, San Jose, California. (Acceptance rate: 60/450 = 13.3%)

[C41] Jinkyu Koo, Xiaojun Lin, and **Saurabh Bagchi**, "RL-BLH: Learning-Based Battery Control for Cost Savings and Privacy Preservation for Smart Meters," In Proceedings of the 47th IEEE/IFIP International Conference on Dependable Systems and Networks (**DSN**), pp. 519-530, June 26-29, 2017, Denver, Colorado. (Acceptance rate: 49/220 = 22.3% (regular papers))

[C42] Subrata Mitra, Manish Gupta, Sasa Misailovic (U of Illinois at Urbana-Champaign), **Saurabh Bagchi**, "Phase-Aware Optimization in Approximate Computing," In Proceedings of the 2017 IEEE/ACM International Symposium on Code Generation and Optimization (**CGO**), pp. 185-196, Feb 4-8, 2017, Austin, TX. (Acceptance rate: 26/114 = 22.8%)

[C43] Ashish R. Hota, Abraham A. Clements, Shreyas Sundaram, and **Saurabh Bagchi**, "Optimal and Game-Theoretic Deployment of Security Investments in Interdependent Assets," In Proceedings of the 7th Conference on Decision and Game Theory for Security (**GameSec**), pp. 101-113, Nov 2-4, 2016, New York City, New York.

[C44] Nawanol Theera-Ampornpunt, Tarun Mangla, **Saurabh Bagchi**, Rajesh Panta, Kaustubh Joshi, Mostafa Ammar, and Ellen Zegura, "Toward a More Reliable Mobile Streaming through Cooperation between Cellular Network and Mobile Devices," In Proceedings of the IEEE 35th Symposium on Reliable Distributed Systems (**SRDS**), pp. 297-306, September 26-29, 2016, Budapest, Hungary. (Acceptance rate: 27/83 = 32.5%)

[C45] Tara Thomas, Anmol Bhattad, Subrata Mitra, and **Saurabh Bagchi**, "Probabilistic data assertions to detect silent data corruptions in parallel programs," In Proceedings of the IEEE 35th Symposium on Reliable Distributed Systems (**SRDS**), pp. 41-50, September 26-29, 2016, Budapest, Hungary. (Acceptance rate: 27/83 = 32.5%)

[C46] Mahadik, Kanak, Christopher Wright, Jinyi Zhang, Milind Kulkarni, **Saurabh Bagchi**, and Somali Chaterji. "SARVAVID: A Domain Specific Language for Developing Scalable Computational Genomics Applications." In Proceedings of the 2016 International Conference on Supercomputing (**ICS**), pp. 1-12, June 1-3, 2016, Istanbul, Turkey. (Acceptance rate: 43/178 = 24.2%)

[C47] Subrata Mitra, Rajesh Krishna Panta (AT&T Labs), Moo-Ryong Ra (AT&T Labs), **Saurabh Bagchi**, "Partial-parallel-repair (PPR): a distributed technique for repairing erasure coded storage," At the European Conference on Computer Systems (**EuroSys**), pp. 1-16, April 18-21, 2016, London, UK. (Acceptance rate: 38/180 = 21.1%)

[C48] Paul Wood, **Saurabh Bagchi**, and Alefiya Hussain, "Defending Against Strategic Adversaries in Dynamic Pricing Markets for Smart Grids," At the 8th International Conference on Communication Systems and Networks (**COMSNETS**), pp. 1-8, January 5-9, 2016, Bangalore, India. (Acceptance rate: 39/143 = 27.3%)

[C49] Nawanol Theera-Ampornpunt, Seong Gon Kim, Asish Ghoshal, **Saurabh Bagchi**, Ananth Grama and Somali Chaterji, "Fast training on large genomics data using distributed Support Vector Machines," At the 8th International Conference on Communication Systems and Networks (**COMSNETS**), pp. 1-8, January 5-9, 2016, Bangalore, India. (Acceptance rate: 39/143 = 27.3%)

[C50] Subrata Mitra, Greg Bronevetsky, Suhas Javagal and **Saurabh Bagchi**, "Dealing with the Unknown: Resilience to Prediction Errors," At the 24th International Conference on Parallel Architectures and Compilation Techniques (**PACT**), pp. 331-342, October 18-21, 2015, San Francisco, CA. (Acceptance rate: 38/179 = 21.2%)

[C51] Asish Ghoshal, Ananth Grama, **Saurabh Bagchi** and Somali Chaterji, "An Ensemble SVM Model for the Accurate Prediction of Non-Canonical MicroRNA Targets," At the 6th ACM Conference on Bioinformatics, Computational Biology and Health Informatics (**BCB**), pp. 403-412, September 9-12, 2015, Atlanta, GA. (Acceptance rate: 48/141 = 34%) (Winner of the best paper award)

[C52] Paul Wood, Christopher N. Gutierrez, and **Saurabh Bagchi**, "Denial of Service Elusion (DoSE): Keeping Clients Connected for Less," At the 34th International Symposium on Reliable Distributed Systems (**SRDS**), pp. 94-103, September 28 – October 1, 2015, Montreal, Canada. (Acceptance rate: 24/81 (regular papers) = 29.6%)

[C53] Amiya K. Maji, Subrata Mitra, and **Saurabh Bagchi**, "ICE: An Integrated Configuration Engine for Interference Mitigation in Cloud Services," At the 12th IEEE International Conference on Autonomic Computing (**ICAC**), pp. 91-100, July 7-10, 2015, Grenoble, France. (Acceptance rate: 14/69 (full papers) = 20.3%)

[C54] Matthew Tancreti, Vinaitheerthan Sundaram, **Saurabh Bagchi**, and Patrick Eugster, "TARDIS: Software-Only System-Level Record and Replay in Wireless Sensor Networks," At the 14th ACM/IEEE Conference on Information Processing in Sensor Networks (**IPSN**), pp. 286-297, April 13-17, 2015, Seattle, WA. (Acceptance rate: 27/111 = 24.3%)

[C55] Amiya Maji, Subrata Mitra, Bowen Zhou, **Saurabh Bagchi**, and Akshat Verma (IBM Research), "Mitigating Interference in Cloud Services by Middleware Reconfiguration," At the 15th Annual ACM/IFIP/USENIX **Middleware** conference, pp. 277-288, December 8-12, 2014, Bordeaux, France. (Acceptance rate: 27/144 = 18.8%)

[C56] Kanak Mahadik, Somali Chaterji, Bowen Zhou, Milind Kulkarni, and **Saurabh Bagchi**, "Orion: Scaling Genomic Sequence Matching with Fine-Grained Parallelization," At the International Conference for High Performance Computing, Networking, Storage, and Analysis (**Supercomputing**), pp. 449-460, Nov 16-21, 2014, New Orleans, LA. (Acceptance rate: 82/394 = 20.8%)

[C57] Tawfeeq Shawly, Jun Liu, Nathan Burow, **Saurabh Bagchi**, Robin Berthier (University of Illinois at Urbana-Champaign), and Rakesh B. Bobba (University of Illinois at Urbana-Champaign), "A Risk Assessment Tool for Advanced Metering Infrastructures," At the 5th IEEE International Conference on Smart Grid Communications (**SmartGridComm**), pp. 989-994, November 3-6, 2014. (Acceptance rate: 168/398 = 42.2%; in the Security and Privacy track, 41%)

[C58] Fahad A. Arshad, Amiya K. Maji, Sidharth Mudgal, **Saurabh Bagchi**, "Is Your Web Server Suffering from Undue Stress due to Duplicate Requests?" Short Paper, At the 11th International Conference on Autonomic Computing (**ICAC**), pp. 105-111, June 18-20, 2014, Philadelphia, PA. (Acceptance rate: 12 (full papers) + 10 (short papers)/53 = 41.5%)

[C59] Gaspar Modelo-Howard (Boeing), Christopher Gutierrez, Fahad Ali Arshad, **Saurabh Bagchi**, and Yuan Qi, "pSigene: Webcrawling to Generalize SQL Injection Signatures," At the 44th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (**DSN**), pp. 45-56, June 23-26, 2014, Atlanta, GA. (Acceptance rate: 56/185 = 30.3%)

[C60] Subrata Mitra, Ignacio Laguna, Dong H. Ahn (LLNL), **Saurabh Bagchi**, Martin Schulz (LLNL), and Todd Gamblin (LLNL), "Accurate Application Progress Analysis for Large-Scale Parallel Debugging," At the ACM International Symposium on Programming Language Design and Implementation (**PLDI**), pp. 193-203, Edinburgh, UK, June 9-11, 2014. (Acceptance rate: 52/287 = 18.1%)

[C61] Fahad Arshad, Rebecca Krause and **Saurabh Bagchi**, "Characterizing Configuration Problems in Java EE Application Servers: An Empirical Study with GlassFish and JBoss," At the 24th IEEE International Symposium on Software Reliability Engineering (**ISSRE**), pp. 198-207, Pasadena, CA, November 4-7, 2013. (Acceptance rate: 46/131 = 35.1%)

[C62] Ignacio Laguna, Subrata Mitra, Fahad A. Arshad, Nawanol Theera-Ampornpunt, Zongyang Zhu, **Saurabh Bagchi**, Samuel P. Midkiff, Mike Kistler (IBM Research), and Ahmed Gheith (IBM Research), "Automatic Problem Localization in Distributed Applications via Multi-dimensional Metric Profiling," At the 32nd International Symposium on Reliable Distributed Systems (**SRDS**), pp. 121-132, Braga, Portugal, September 30-October 3, 2013. (Acceptance rate: 22/67 = 32.8%)

[C63] Dong-Hoon Shin, Jinkyu Koo, Lei Yang (Arizona State U.), Xiaojun Lin, **Saurabh Bagchi**, and Junshan Zhang (Arizona State U.), "Low-Complexity Secure Protocols to Defend Cyber-Physical Systems Against Network Isolation Attacks," At the 1st IEEE Conference on Communications and Network Security (**CNS**), pp. 91-99, Washington DC, October 14-16, 2013. (Acceptance rate: 40/141 = 28.4%)

[C64] Dong-Hoon Shin, **Saurabh Bagchi**, and Chih-Chun Wang, "Toward Optimal Sniffer-Channel Assignment for Reliable Monitoring in Multi-Channel Wireless Networks," At the 10th IEEE International Conference on Sensing, Communication, and Networking (**SECON**), pp. 1-9, New Orleans, LA, June 24-27, 2013. (Acceptance rate: 51/173 = 29.5%)

[C65] Bowen Zhou, Jonathan Too, Milind Kulkarni, and **Saurabh Bagchi**, "WuKong: Automatically Detecting and Localizing Bugs that Manifest at Large System Scales," At the 22nd International ACM Symposium on High Performance Parallel and Distributed Computing (**HPDC**), pp. 131-142, New York City, New York, June 17-21, 2013. (Acceptance rate: 20/131 = 15.3%)

[C66] Tanzima Zerin Islam, Kathryn Mohror, **Saurabh Bagchi**, Adam Moody, Bronis R. de Supinski, and Rudolf Eigenmann, "mcrEngine: A Scalable Checkpointing System using Data-Aware Aggregation and Compression," At the IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (**Supercomputing**), pp. 1-10, Salt Lake City, Utah, November 10-16, 2012. (Acceptance rate: 100/472 = 21.2%) (One of 8 papers that was a finalist for the best student paper)

[C67] Ignacio Laguna, Dong H. Anh, Bronis R. de Supinski, **Saurabh Bagchi**, and Todd Gamblin, "Probabilistic Diagnosis of Performance Faults in Large Scale Parallel Applications," At the 21st International Conference on Parallel Architectures and Compilation Techniques (**PACT**), pp. 213-222, September 19-23, 2012, Minneapolis, MN. (Acceptance rate: 39/207 = 18.8%)

[C68] Jinkyu Koo, Xiaojun Lin, and **Saurabh Bagchi**, "PRIVATUS: Wallet-Friendly Privacy Protection for Smart Meters," At the 17th European Symposium on Research in Computer Security (**ESORICS**), pp. 343-360, September 10-4, 2012, Pisa, Italy. (Acceptance rate: 50/248 = 20.2%)

[C69] A. B. M. Alim Al Islam, S. M. Iftekharul Alam, Vijay Raghunathan, and **Saurabh Bagchi**, "Multi-Armed Bandit Congestion Control in Multi-Hop Infrastructure Wireless Mesh Networks," At the 20th IEEE International Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems (**MASCOTS**), pp. 31-40, August 7-9, 2012, Arlington, VA. (Acceptance rate: 49/136 = 36%, our paper was one of 7 accepted papers selected for 10 page publication limit, the others have an 8 page limit)

[C70] Greg Bronevetsky, Ignacio Laguna, **Saurabh Bagchi**, and Bronis R. de Supinski, "Automatic Fault Characterization via Abnormality-Enhanced Classification," At the 42nd Annual IEEE/IFIP International Conference on Dependable Systems and Networks (**DSN**), pp. 1-12, June 25-28, 2012, Boston, MA. (Acceptance rate: 51/236 = 21.6%)

[C71] Timothy Tsai, Nawanol Theera-Ampornpunt, and **Saurabh Bagchi**, "A Study of Soft Error Consequences in Hard Disk Drives," At the 42nd Annual IEEE/IFIP International Conference on Dependable Systems and Networks (**DSN**), pp. 1-8, June 25-28, 2012, Boston, MA. (Acceptance rate: 51/236 = 21.6%)

[C72] Amiya K. Maji, Fahad A. Arshad, **Saurabh Bagchi**, and Jan S. Rellermeyer, "An Empirical Study of the Robustness of Inter-component Communication in Android," At the 42nd Annual IEEE/IFIP International Conference on Dependable Systems and Networks (**DSN**), pp. 1-12, June 25-28, 2012, Boston, MA. (Acceptance rate: 51/236 = 21.6%) (Test-of-Time Award Winner in DSN 2022)

[C73] Dong-Hoon Shin, **Saurabh Bagchi**, and Chih-Chun Wang, "Distributed Online Channel Assignment Toward Optimal Monitoring in Multi-Channel Wireless Networks," At the 31st Annual IEEE International Conference on Computer Communications (**INFOCOM**), Mini-Symposium, pp. 2626-2630, Orlando, Florida, March 25-30, 2012. (Acceptance rate: 18% of 1554 submissions for Main Program, additional 7.5% to Mini Symposium)

[C74] Matthew Tan Creti, Mohammad Sajjad Hossain, **Saurabh Bagchi**, and Vijay Raghunathan, "AVEKSHA: A Hardware-Software Approach for Non-intrusive Tracing and Profiling of Wireless Embedded Systems," At the 9th ACM Conference on Embedded Networked Sensor Systems (**SenSys**), pp. 288-301, Seattle, Washington, November 1-4, 2011. (Winner of best paper award) (Acceptance rate: 24/123 = 19.5%)

[C75] Gaspar Modelo-Howard, Jevin Sweval, and **Saurabh Bagchi**, "Secure Configuration of Intrusion Detection Sensors for Changing Enterprise Systems," At the 7th ICST International Conference on Security and Privacy for Communication Networks (**Securecomm**), pp. 1-20, London, United Kingdom, September 7-9, 2011. (Acceptance rate: 23/95 = 24.2%)

[C76] Amiya Maji and **Saurabh Bagchi**, "v-CAPS: A Confidentiality and Anonymity Preserving Routing Protocol for Content-Based Publish-Subscribe Networks," At the 7th ICST International Conference on Security and Privacy for Communication Networks (**Securecomm**), pp. 1-20, London, United Kingdom, September 7-9, 2011. (Acceptance rate: 23/95 = 24.2%)

[C77] Fahad Arshad and **Saurabh Bagchi**, "Dangers and Joys of Stock Trading on the Web: Failure Characterization of a Three-Tier Web Service," At the 30th IEEE Symposium on Reliable Distributed Systems (**SRDS**), pp. 157-166, Madrid, Spain, October 4-7, 2011. (Acceptance rate: 30/88 = 34.1%)

[C78] Ignacio Laguna, Todd Gamblin, Bronis R. de Supinski, **Saurabh Bagchi**, Greg Bronevetsky, Dong H. Anh, Martin Schulz, and Barry Rountree, "Large Scale Debugging of Parallel Tasks with AutomaDeD," At the IEEE/ACM International Conference for High Performance Computing, Networking, Storage, and Analysis (**Supercomputing**), pp. 1-12, Seattle, Washington, November 12-18, 2011. (Acceptance rate: 74/352 = 21%)

[C79] Bowen Zhou, Milind Kulkarni, and **Saurabh Bagchi**, "Vrisha: Using Scaling Properties of Parallel Programs for Bug Detection and Localization," At the 20th ACM International Symposium on High-Performance Parallel and Distributed Computing (**HPDC**), pp. 85-96, San Jose, California, June 8-11, 2011. (Acceptance rate: 22/170 = 12.9%)

[C80] Man Wang, Zhiyuan Li, Feng Li, Xiaobing Feng, **Saurabh Bagchi**, and Yung-Hsiang Lu, "Dependence-based Multi-level Tracing and Replay for Wireless Sensor Networks Debugging," At the ACM SIGPLAN/SIGBED Conference on Languages, Compilers, Tools and Theory for Embedded Systems (**LCTES**), pp. 91-100, April 12-14, 2011. (Acceptance rate: 17/48 = 35.4%)

[C81] Amiya Kumar Maji, Kangli Hao, Salmin Sultana, and **Saurabh Bagchi**, "Characterizing Failures in Mobile OSes: A Case Study with Android and Symbian," At the 21st Annual International Symposium on Software Reliability Engineering (**ISSRE**), pp. 249-258, Nov 1-4, 2010, San Jose, California. (Acceptance rate: 40/130 = 30.8%)

[C82] Rajesh Krishna Panta, Madalina Vintila, and **Saurabh Bagchi**, "Fixed Cost Maintenance for Information Dissemination in Wireless Sensor Networks," At the 29th IEEE Symposium on Reliable Distributed Systems (**SRDS**), pp. 54-63, October 31-November 3, 2010, New Delhi, India. (Acceptance rate: 21/93 = 22.6%)

[C83] Carlos Perez-Toro, Rajesh Krishna Panta, and **Saurabh Bagchi**, "RDAS: Reputation-Based Resilient Data Aggregation in Sensor Network," At the 7th Annual IEEE Communications Society Conference on Sensor, Mesh and Ad Hoc Communications and Networks (**SECON**), pp. 1-9, June 21-25, 2010, Boston, MA. (Acceptance rate: 63/274 = 23.0%)

[C84] Greg Bronevetsky, Ignacio Laguna, **Saurabh Bagchi**, Bronis R. de Supinski, Dong H. Ahn, and Martin Schulz, "AutomaDeD: Automata-Based Debugging for Dissimilar Parallel Tasks," At the 40th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (**DSN**), pp. 231-240, June 28-July 1, 2010, Chicago, IL. (Acceptance rate (DCCS track): 40/174 = 23%)

[C85] Jinkyu Koo, Rajesh Krishna Panta, **Saurabh Bagchi**, and Luis Montestruque, "A Tale of Two Synchronizing Clocks," At the 7th ACM Conference on Embedded Networked Sensor Systems (**SenSys**), pp. 239-252, November 4-6, 2009, Berkeley, California. (Acceptance rate: 21/119 = 17.6%)

[C86] Ignacio Laguna, Fahad A. Arshad, David M. Grothe, and **Saurabh Bagchi**, "How To Keep Your Head Above Water While Detecting Errors," At the ACM/IFIP/USENIX 10th International **Middleware** Conference, pp. 1-20, November 30-December 4, 2009, Urbana-Champaign, Illinois. (Acceptance rate: 21/110 = 19.1%)

[C87] Tanzima Zerin Islam, **Saurabh Bagchi**, and Rudolf Eigenmann, "FALCON - A System for Reliable Checkpoint Recovery in Shared Grid Environments," At the 22nd Annual ACM/IEEE **Supercomputing** Conference, pp. 1-12, November 14-20, 2009, Portland, Oregon. (Acceptance rate: 59/261 = 22.6%) (Nominated as one of 4 best student papers)

[C88] Matthew Tan Creti, Matthew Beaman, **Saurabh Bagchi**, Zhiyuan Li, and Yung-Hsiang Lu, "Multigrade Security Monitoring for Ad-Hoc Wireless Networks," At the 6th IEEE International Conference on Mobile Ad-hoc and Sensor Systems (**MASS**), pp. 342-352, October 12-15, 2009, Macau SAR, China. (Acceptance rate: 62/245 = 25.3%)

[C89] Rajesh Krishna Panta, **Saurabh Bagchi**, and Samuel P. Midkiff, "Zephyr: Efficient Incremental Reprogramming of Sensor Nodes using Function Call Indirections and Difference Computation," At the USENIX Annual Technical Conference (**USENIX ATC**), June 14-19, 2009, pp. 411-424, San Diego, CA. (Acceptance rate: 32/191 = 16.8%)

[C90] Yu-Sung Wu, **Saurabh Bagchi**, Navjot Singh and Ratsameetip Wita, "Spam Detection in Voice-Over-IP Calls through Semi-Supervised Clustering," At the 39th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (**DSN**), Lisbon, Portugal, pp. 307-316, June 29-July 2, 2009. (Acceptance rate: 63/260 = 24.2%)

[C91] Dong-Hoon Shin and **Saurabh Bagchi**, "Optimal Monitoring In Multi-Channel Multi-Radio Wireless Mesh Networks," At the 10th ACM International Symposium on Mobile Ad Hoc Networking and Computing (**Mobihoc**), May 18-21, 2009, pp. 229-238, New Orleans, Louisiana. (Acceptance rate: 31/175 = 17.7%)

[C92] Sarah Sellke, Chih-Chun Wang, **Saurabh Bagchi**, Ness Shroff, "Covert TCP/IP Timing Channels: Theory to Implementation," At the 28th Annual IEEE Conference on Computer Communications (**INFOCOM**), April 19-25 2009, pp. 2204-2212, Rio de Janeiro, Brazil. (Acceptance rate: 282/1435 = 19.7%).

[C93] Rajesh Krishna Panta and **Saurabh Bagchi**, "Hermes: Fast and Energy Efficient Incremental Code Updates for Wireless Sensor Networks," At the 28th Annual IEEE Conference on Computer Communications (**INFOCOM**), April 19-25 2009, pp. 639-647, Rio de Janeiro, Brazil. (Acceptance rate: 282/1435 = 19.7%)

[C94] Yu-Sung Wu, Gaspar Modelo-Howard, Bingrui Foo, **Saurabh Bagchi**, Eugene Spafford, "Search for Efficiency in Automated Intrusion Response for Distributed Applications," At the 27th International Symposium on Reliable Distributed Systems (**SRDS**), Naples, Italy, pp. 53-62, October 6-8, 2008. (Acceptance rate: 28/112 = 25%)

[C95] Vinai Sundaram, **Saurabh Bagchi**, Yung-Hsiang Lu, and Zhiyuan Li, "SeNDORComm: An Energy-Efficient Priority-Driven Communication Layer for Reliable Wireless Sensor Networks,": At the 27th International Symposium on Reliable Distributed Systems (**SRDS**), Naples, Italy, pp. 23-32, October 6-8, 2008. (Acceptance rate: 28/112 = 25%)

[C96] Gaspar Modelo-Howard, **Saurabh Bagchi**, and Guy Lebanon, "Determining Placement of Intrusion Detectors for a Distributed Application through Bayesian Network Modeling," At the 11th International Symposium on Recent Advances in Intrusion Detection (**RAID**), Boston, MA, pp. 271-290, September 15-17, 2008. (Acceptance rate: 20/80 = 25%)

[C97] Issa Khalil and **Saurabh Bagchi**, "MISPAR: Mitigating Stealthy Packet Dropping in Locally-Monitored Multi-hop Wireless Ad Hoc Networks," At the 4th International Conference on Security and Privacy in Communication Networks (**SecureComm**), Istanbul, Turkey, 10 pages, September 22-25, 2008. (Acceptance rate: 26/124 = 21%)

[C98] **Saurabh Bagchi**, Mark C. Johnson, and Somali Chaterji, "Effects of Types of Active Learning Activity on Two Junior-Level Computer Engineering Courses," Accepted to appear as a full paper, 6 pages, 38th Annual Frontiers in Education (**FIE**) Conference, Saratoga Springs, New York, October 25-28, 2008.

[C99] **Saurabh Bagchi**, Carla B. Zoltowski, and William C. Oakes, "Impact of Research Technologies on Service Learning," Work In Progress, 2 pages, 38th Annual Frontiers in Education (**FIE**) Conference, Saratoga Springs, New York, October 25-28, 2008.

[C100] Rajesh K. Panta, Issa Khalil, **Saurabh Bagchi**, and Luis Montestruque, "Single versus Multi-hop Wireless Reprogramming in Sensor Networks," In Proceedings of the 4th International Conference on Testbeds and Research Infrastructures for the Development of Networks & Communities (**Tridentcom**), 7 pages, March 18-20, 2008.

[C101] Shammi Didla, Aaron Ault, and **Saurabh Bagchi**, "Optimizing AES for Embedded Devices and Wireless Sensor Networks," In Proceedings of the 4th International Conference on Testbeds and Research Infrastructures for the Development of Networks & Communities (**Tridentcom**), pp. 1-10, March 18-20, 2008.

[C102] Vinaitheerthan Sundaram, Sandip HomChaudhuri, Sachin Garg, Chandra Kintala, and **Saurabh Bagchi**, "Improving Dependability using Shared Supplementary Memory and Opportunistic Micro Rejuvenation in Multi-tasking Embedded Systems," At the 13th IEEE Pacific Rim International Symposium on Dependable Computing (**PRDC**), pp. 240-247, December 17-19, 2007, Melbourne, Australia. (Acceptance rate: 40/110= 36.4%)

[C103] Gunjan Khanna, Ignacio Laguna, Fahad A. Arshad, and **Saurabh Bagchi**, "Distributed Diagnosis of Failures in a Three Tier E-Commerce System," At the 26th IEEE International Symposium on Reliable Distributed Systems (**SRDS**), pp. 185-198, October 10-12, 2007, Beijing, China. (Acceptance rate: 29/193=15%)

[C104] Gunjan Khanna, Ignacio Laguna, Fahad A. Arshad, and **Saurabh Bagchi**, "Stateful Detection in High Throughput Distributed Systems," At the 26th IEEE International Symposium on Reliable Distributed Systems (**SRDS**), pp. 275-287, October 10-12, 2007, Beijing, China. (Acceptance rate: 29/193=15%)

[C105] Xiaojuan Ren, Rudolf Eigenmann, and **Saurabh Bagchi**, "Failure-Aware Checkpointing in Fine-Grained Cycle Sharing Systems," In Proc. of the 16th IEEE International Symposium on High-Performance Distributed Computing (**HPDC**), pp. 33-42, Monterey Bay, California, June 27-29, 2007. (Acceptance rate: 20%)

[C106] Sarah H. Sellke, Chih-Chun Wang, Ness Shroff, and **Saurabh Bagchi**, "Capacity Bounds on Timing Channels with Bounded Service Times," At the IEEE International Symposium on Information Theory (**ISIT**), pp. 981-985, Nice, France, June 24-29, 2007.

[C107] Issa Khalil, **Saurabh Bagchi**, and Ness Shroff, "SLAM: Sleep-Wake Aware Local Monitoring in Sensor Networks," At the 37th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (**DSN**), pp. 565-574, June 25-28, 2007, Edinburgh, Scotland. (Acceptance rate: 24/94 = 25.5%)

[C108] Rajesh Krishna Panta, Issa Khalil, and **Saurabh Bagchi**, "Stream: Low Overhead Wireless Reprogramming for Sensor Networks," At the 26th Annual IEEE Conference on Computer Communications (**INFOCOM**), pp. 928-936, May 6-12 2007, Anchorage, Alaska, USA. (Acceptance rate: 252/~1400 = 18%)

[C109] Ravish Khosla, Xuan Zhong, Gunjan Khanna, **Saurabh Bagchi**, and Edward J. Coyle, "Performance Comparison of SPIN based Push-Pull Protocols," At the IEEE Wireless Communications and Networking Conference (**WCNC**), pp. 3990-3995, Hong Kong, Mar 11-15, 2007. (Acceptance rate: 48%)

[C110] Xuan Zhong, Ravish Khosla, Gunjan Khanna, **Saurabh Bagchi** and Edward J. Coyle, "Data-Centric Routing in Sensor Networks: Single-hop Broadcast or Multi-hop Unicast?," At the IEEE 65th Vehicular Technology Conference (**VTC2007-Spring**), pp. 150-154, 22 - 25 April 2007, Dublin, Ireland. (Acceptance rate: 685/1443 = 47.4%)

[C111] Issa Khalil, **Saurabh Bagchi**, and Ness Shroff, "MOBIWORP: Mitigation of the Wormhole Attack in Mobile Multihop Wireless Networks," At the IEEE International Conference on Security and Privacy in Communication Networks (**Securecomm**), Baltimore, MD, pp.1-12, Aug 28-Sep 1, 2006. (Acceptance rate: 32/126~25.4%)

[C112] Xiaojuan Ren, Seyong Lee, Rudolf Eigenmann, and **Saurabh Bagchi**, "Resource Failure Prediction in Fine-Grained Cycle Sharing Systems," In The 15th IEEE International Symposium on High Performance Distributed Computing (**HPDC**), pp. 93-104, June 19-23, 2006, Paris, France. (Acceptance rate: 24/157~15.3%) (Runner-up for best paper award)

[C113] Douglas Herbert, Yung-Hsiang Lu, **Saurabh Bagchi**, and Zhiyuan Li, "Detection and Repair of Software Errors in Hierarchical Sensor Networks," IEEE International Conference on Sensor Networks, Ubiquitous, and Trustworthy Computing (**SUTC**), pp. 403-410, June 5-7, 2006, Taiwan. (Acceptance rate: 50/210~23.8%) (One of 4 top papers selected for publication in ACM TAAS)

[C114] Nipoon Malhotra, Shrish Ranjan, and **Saurabh Bagchi**, "LRRM: A Randomized Reliable Multicast Protocol for Optimizing Recovery Latency and Buffer Utilization," In the 24th IEEE Symposium on Reliable Distributed Systems (**SRDS**), pp. 215-225, October 26-28, 2005, Orlando, Florida. (Acceptance rate: 20/67~29.9%).

[C115] Issa Khalil, **Saurabh Bagchi**, Cristina Nita-Rotaru, "DICAS: Detection, Diagnosis and Isolation of Control Attacks in Sensor Networks," In the IEEE Conference on Security and Privacy for Emerging Areas in Communication Networks (**SecureComm**), pp. 89-100, Athens, Greece, September 5-9, 2005 (Acceptance rate: 32/163~19.6%).

[C116] Bingrui Foo, Yu-Sung Wu, Yu-Chun Mao, **Saurabh Bagchi**, and Eugene Spafford, "ADEPTS: Adaptive Intrusion Response using Attack Graphs in an E-Commerce Environment," In the International Conference on Dependable Systems and Networks (**DSN**), pp. 508-517, Yokohama, Japan, June 28 - July 1, 2005. (Acceptance rate: DCCS track 54/204 ~ 26.8%)

[C117] Sarah Sellke, Ness B. Shroff, and **Saurabh Bagchi**, "Modeling and Automated Containment of Worms," In the International Conference on Dependable Systems and Networks (**DSN**), pp. 528-537, Yokohama, Japan, June 28 - July 1, 2005. (Acceptance rate: DCCS track 54/204 ~ 26.8%)

[C118] Mark Krasniewski, Padma Varadharajan, Bryan Rabeler, **Saurabh Bagchi**, and Y. Charlie Hu, "TIBFIT: Trust Index Based Fault Tolerance for Arbitrary Data Faults in Sensor Networks," In the International Conference on Dependable Systems and Networks (**DSN**), pp. 672-681, Yokohama, Japan, June 28 - July 1, 2005. (Acceptance rate: PDS track 24/115 ~ 20.9%) [Nominated for the best paper in the PDS track, one of 7 nominated papers]

[C119] Issa Khalil, **Saurabh Bagchi**, and Ness B. Shroff, "LITEWORP: A Lightweight Countermeasure for the Wormhole Attack in Multihop Wireless Networks," International Conference on Dependable Systems and Networks (**DSN**), pp. 612-621, Yokohama, Japan, June 28 - July 1, 2005. (Acceptance rate: PDS track 24/115 ~ 20.9%)

[C120] N. Malhotra, M. Krasniewski, C. Yang, **S. Bagchi**, and W. Chappell, "Location Estimation in Ad-Hoc Networks with Directional Antennas," In Proceedings of the 25th IEEE International Conference on Distributed Computing Systems (**ICDCS**), pp. 633-642, June 6-9, 2005, Columbus, Ohio. (Acceptance rate: 14.3% of 540 submitted papers)

[C121] Gunjan Khanna, Padma Varadharajan, and **Saurabh Bagchi**, "Self Checking Network Protocols: A Monitor Based Approach," In Proceedings of the 23rd IEEE Symposium on Reliable Distributed Systems (**SRDS**), pp. 18-30, October 18-20, 2004, Florianopolis, Brazil. (Acceptance rate: 27/117 ~ 23.1%)

[C122] Yuldi Tirta, Zhiyuan Li, Yung-Hsiang Lu, and **Saurabh Bagchi**, "Efficient Collection of Sensor Data in Remote Fields Using Mobile Collectors," In Proceedings of the 13th IEEE International Conference on Computer Communications and Networks (**ICCCN**), pp. 515-520, October 11-13, 2004. (Acceptance rate: 81/200 ~ 40.5%)

[C123] **Saurabh Bagchi**, Yu-Sung Wu (Purdue U., USA), Sachin Garg, Navjot Singh, and Tim Tsai (Avaya Labs, USA) "SCIDIVE: A Stateful and Cross Protocol Intrusion Detection Architecture for Voice-over-IP Environments," In Proceedings of the IEEE Dependable Systems and Networks Conference (**DSN**), pp. 401-410, June 28-July 1, 2004, Florence, Italy. (Acceptance rate: DCCS track 58/276 ~ 21.0%)

[C124] Gunjan Khanna, **Saurabh Bagchi**, and Yu-Sung Wu, "Fault Tolerant Energy Aware Data Dissemination Protocol in Sensor Network," In Proceedings of the IEEE Dependable Systems and Networks Conference (**DSN**), pp. 739-748, June 28-July 1, 2004, Florence, Italy. (Acceptance rate: PDS track 25/101 ~ 24.8%)

[C125] Serdar Cabuk, Nipoon Malhotra, Longbi Lin, **Saurabh Bagchi**, and Ness Shroff, "Analysis and Evaluation of Topological and Application Characteristics of Unreliable Mobile Wireless Ad-hoc Network," In Proceedings of the 10th IEEE Pacific Rim Dependable Computing Conference (**PRDC**), pp. 248-257, March 2004. (Acceptance rate: 34/102 ~ 33.3%)

[C126] Gunjan Khanna, John Rogers, and **Saurabh Bagchi**, "Failure Handling in a Reliable Multicast Protocol for Improving Buffer Utilization and Accommodating Heterogeneous Receivers," At the 10th IEEE Pacific Rim Dependable Computing Conference (**PRDC**), pp. 15-24, March 2004. (Acceptance rate: 34/102 ~ 33.3%)

[C127] Yu-Sung Wu, Bingrui Foo, Yongguo Mei, and **Saurabh Bagchi**, "Collaborative Intrusion Detection System (CIDS): A Framework for Accurate and Efficient IDS," In Proceedings of the 19th Annual Computer Security Applications Conference (**ACSAC**), pp. 234-244, December 2003. (Acceptance rate: 36/110 ~ 32.7%)

[C128] **S. Bagchi**, M. Kaplan, and R. Das, "Design and Evaluation of a Logger-based Recovery Subsystem for Publish-Subscribe Middleware," In Proceedings of the International Symposium on Performance Evaluation of Computer and Telecommunication Systems (**SPECTS**), 10 pages, July 2002.

[C129] **S. Bagchi**, G. Kar, and J. Hellerstein, "Dependency Analysis in Distributed Systems using Fault Injection: Application to Problem Determination in an E-Commerce System," In Proceedings of the 12th International Workshop on Distributed Systems: Operations & Management (**DSOM**), 14 pages, October 2001.

[C130] S. Bhola, R. Strom, **S. Bagchi**, Y. Zhao, and J. Auerbach, "Exactly-once Delivery in a Content-based Publish-Subscribe System," In Proceedings of the International Conference on Dependable Systems and Networks (**DSN**), pp. 7-16, June 2002.

[C131] **S. Bagchi**, Y. Liu, Z. Kalbarczyk, R. K. Iyer, Y. Levendel, and L. Votta, "A Framework for Database Audit and Control Flow Checking for a Wireless Telephone Network Controller," In Proceedings of the International Conference on Dependable Systems and Networks (**DSN**), pp. 225-234, July 2001.

[C132] N. Speirs, D. Stott, Z. Kalbarczyk, **S. Bagchi**, J. Xu, and R. K. Iyer, "Comparing Fail-Silence Provided by Process Duplication versus Internal Error Detection for DHCP Server," In Proceedings of the 15th International Parallel and Distributed Processing Symposium (**IPDPS**), pp. 8-15, April 2001.

[C133] **S. Bagchi**, K. Whisnant, Z. Kalbarczyk, and R. K. Iyer, "The Chameleon Infrastructure for Adaptive, Software Implemented Fault Tolerance," In Proceedings of the 17th IEEE Symposium on Reliable Distributed Systems (**SRDS**), pp. 261-267, October 1998.

Short Conference Papers or Lightly Reviewed Workshop Papers:

[L1] Sheikh Shams Azam, Taejin Kim (CMU), Seyyedali Hosseinalipour, Carlee Joe-Wong (CMU), **Saurabh Bagchi**, and Christopher Brinton, “A Generalized and Distributable Generative Model for Private Representation Learning,” At the NeurIPS 2021 Workshop on Deep Generative Models and Downstream Applications, pp. 1-12, co-located with NeurIPS, December 2021.

[L2] Vishal Shrivastav, Dimitrios Koutsonikolas, and **Saurabh Bagchi**, “RAMPS: Next Generation Platform for Real Time and Resilient IoT Analytics using MmWave and

Programmable Switches," At the Fifth Workshop on Distributed Infrastructures for Deep Learning (**DIDL**), co-located with ACM Middleware, pp. 1-6, December 2021.

[L3] Jayoung Lee, Pengcheng Wang, Ran Xu, Venkat Dasari, Noah Weston, Yin Li, **Saurabh Bagchi**, and Somali Chaterji, "Benchmarking Video Object Detection Systems on Embedded Devices under Resource Contention," In Proceedings of the 5th International Workshop on Embedded and Mobile Deep Learning (**EMDL**), co-located with ACM Mobisys, pp. 19-24, 2021.

[L4] Mustafa Abdallah, Sayan Mitra (UIUC), Shreyas Sundaram, and **Saurabh Bagchi**, "HIOA-CPS: Combining Hybrid Input-Output Automaton and Game Theory for Security Modeling of Cyber-Physical Systems," In 2021 IEEE Security and Privacy Workshops (**SPW**), pp. 253-259. IEEE, 2021.

[L5] Heng Zhang, Amiya K. Maji, and **Saurabh Bagchi**, "Privacy in the Mobile World: An Analysis of Bluetooth Contact Traces," In Proceedings of the 2020 Joint Workshop on CPS&IoT Security and Privacy **(CPSIoTSec)**, co-located with ACM Conference on Computer and Communications Security (CCS), pp. 61-65. 2020.

[L6] Calvin Henry, Daniel Hu, and **Saurabh Bagchi**, "The Effect of Motion on PPG Heart Rate Sensors," As a Fast Abstracts paper in the 50th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (**DSN**), pp. 59-60, June 29-July 2, 2020.

[L7] Kshitiz Goel, Abhishek Bhaumick, Deepika Kaushal, and **Saurabh Bagchi**, "Reliability Analysis of Edge Scenarios using Pedestrian Mobility," As a Fast Abstracts paper in the 50th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (**DSN**), pp. 61-62, June 29-July 2, 2020.

[L8] Shikhar Suryavansh, Chandan Bothra, Mung Chiang, Chunyi Peng, and **Saurabh Bagchi**, "Tango of edge and cloud execution for reliability," In Proceedings of the 4th Workshop on Middleware for Edge Clouds & Cloudlets, held with Middleware Conference, pp. 10-15, December 2019.

[L9] **Saurabh Bagchi** and Jitesh Panchal, "Living on the Edge Dependably: New Challenges and Solution Directions," At the NSF Grand Challenges in Computer Systems Research (Position Paper), pp. 1–2, March 24-25, 2018, Williamsburg, VA.

[L10] Ranvijay Singh, Paul Wood, Ravi Gupta (Intel), **Saurabh Bagchi**, Ignacio Laguna (LLNL), "Snowpack: Efficient Parameter Choice for GPU Kernels via Static Analysis and Statistical Prediction," At the 8th Workshop on Latest Advances in Scalable Algorithms for Large-Scale Systems (ScalA), co-located with the IEEE/ACM Supercomputing conference, pp. 1-8, November 13, 2017, Denver, Colorado.

[L11] Heng Zhang, **Saurabh Bagchi**, and He Wang, "Integrity of Data in a Mobile Crowdsensing Campaign: A Case Study," At the First ACM Workshop on Mobile Crowdsensing Systems and Applications (Co-located with SenSys 2017), pp. 1-6, Nov 5, 2017, Delft, Netherlands.

[L12] Ayush Patwari, Ignacio Laguna (LLNL), Martin Schulz (LLNL), and **Saurabh Bagchi**, "Understanding the Spatial Characteristics of DRAM Errors in HPC Clusters," At the 7th Fault Tolerance for HPC at eXtreme Scales (FTXS) Workshop (co-located with HPDC), pp. 1-6, Jun 26, 2017, Washington DC.

[L13] Subrata Mitra, Suhas Raveesh Javagal, Amiya K. Maji (ITaP), Todd Gamblin (LLNL), Adam Moody (LLNL), Stephen Harrell (ITaP), and **Saurabh Bagchi**, "A Study of Failures in Community Clusters: The Case of Conte," At the 7th IEEE International Workshop on Program Debugging, co-located with ISSRE, pp. 1-8, Oct 23-27, 2016, Ottawa, Canada.

[L14] Saiyma Sarmin, **Saurabh Bagchi**, Alim Al Islam, "Chameleon: defending secret information from eavesdropping over physical environment," At the International Conference on Networking Systems and Security (NSysS), pp. 1-5, Dhaka, Bangladesh, January 7-9, 2016.

[L15] Subrata Mitra, Suhas Javagal (Purdue University, USA); Todd Gamblin, Adam Moody (Lawrence Livermore National Laboratory, USA); Stephen Harrell, **Saurabh Bagchi** (Purdue University, USA), "Cluster Workload Analytics Revisited," In the Fast Abstracts session of the 46th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN), pp. 1-2, June 28-July 1, 2016, Toulouse, France.

[L16] **Saurabh Bagchi**, Fahad Ali Arshad, and Gaspar Modelo Howard, "Cybersecurity Operations in a Multi-Institutional Academic Setting: The NEES Story," At the NSF Cybersecurity Summit for Large Facilities and Cyberinfrastructure, pp. 1-6, August 26-28, 2014, Arlington, VA.

[L17] Nawanol Theera-Ampornpunt, **Saurabh Bagchi**, Kaustubh Joshi (AT&T Labs), Rajesh Krishna Panta (AT&T Labs), "Using Big Data for More Dependability: A Cellular Network Tale," At the 9th Workshop on Hot Topics in Dependable Systems (HotDep), held in conjunction with the 24th ACM Symposium on Operating Systems Principles (SOSP), pp. 1-6, November 3, 2013, Nemacolin Woodlands Resort, PA. (Acceptance rate: 11/21 = 52.3%)

[L18] **Saurabh Bagchi**, Fahad Arshad, Jan Rellermeyer (IBM), Thomas Osiecki (IBM), Michael Kistler (IBM), and Ahmed Gheith (IBM), "Lilliput meets Brobdingnagian: Data Center Systems Management through Mobile Devices," At the 3rd International Workshop on Dependability of Clouds, Data Centers and Virtual Machine Technology (DCDV 2013), held with the 43rd Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN), pp. 1-6, June 24, 2013, Budapest, Hungary.

[L19] Fahad A. Arshad, Gaspar Modelo-Howard, and **Saurabh Bagchi**, "To Cloud or Not to Cloud: A Study of Trade-offs between In-house and Outsourced Virtual Private Network," At the 7th workshop on Secure Network Protocols (NPSec), held in conjunction with the 20th IEEE International Conference on Network Protocols (ICNP), pp. 1-6, October 30, 2012, Austin, TX.

[L20] Bowen Zhou, Milind Kulkarni, and **Saurabh Bagchi**, "ABHRANTA: locating bugs that manifest at large system scales," At the 8th Workshop on Hot Topics in System Dependability (HotDep), held in conjunction with the 10th USENIX Symposium on Operating Systems Design and Implementation (OSDI), pp. 1-6, October 7, 2012, Hollywood, CA.

[L21] Jan S. Rellermeyer and **Saurabh Bagchi**, "Dependability as a Cloud Service - A Modular Approach," In Proceedings of the 2nd International Workshop on Dependability of Clouds, Data Centers, and Virtual Machine Technology (DCDV), pp. 1-5, June 25-28, 2012, Boston, MA.

[L22] Parmjeet Singh, Noopur Singh, Jung Yang, and **Saurabh Bagchi**, "Eternal Youth for the Data Center through Software Rejuvenation: Promise or Paradox?," Accepted to appear as a Fast Abstract paper at the 41st IEEE/IFIP International Symposium on Dependable Systems and Networks (DSN), 2 pages, June 27-30, 2011.

[L23] A. B. M. Alim Al Islam, S. M. Iftekharul Alam, Vijay Raghunathan, and **Saurabh Bagchi**, "MABCC: Multi-Armed Bandit Congestion Control in Multi-hop Infrastructure Wireless Mesh Networks," Accepted to appear as a Fast Abstract paper at the 41st IEEE/IFIP International Symposium on Dependable Systems and Networks (DSN), 2 pages, June 27-30, 2011.

[L24] Nawanol Theera-Ampornpunt, Bowen Zhou, and **Saurabh Bagchi**, "Predicting Time to Failure for Large Scale Distributed Systems," Accepted to appear as a Fast Abstract paper at the 41st IEEE/IFIP International Symposium on Dependable Systems and Networks (DSN), 2 pages, June 27-30, 2011.

[L25] Srikanth Hariharan, Ness B. Shroff, and **Saurabh Bagchi**, "Secure Neighbor Discovery through Overhearing in Static Multihop Wireless Networks," IEEE Workshop on Wireless Mesh Networks (WIMESH 2010), pp.1-6, 21 June 2010.

[L26] Greg Bronevetsky, Ignacio Laguna, **Saurabh Bagchi**, Bronis R. de Supinski, Martin Schulz, and Dong H. Ahn, "Statistical Fault Detection for Parallel Applications with AutomaDeD," At the IEEE Workshop on Silicon Errors in Logic - System Effects (SELSE), pp. 1-6, 2010.

[L27] Jinkyu Koo, Myungjin Lee, and **Saurabh Bagchi**, "Fault Tolerant and Energy-Efficient Real-Time Scheduling of Packet Transmission for Wireless Network Interface Cards," As a Fast Abstract (2 pages) at the 39th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN-2009).

[L28] Amiya Kumar Maji, Kangli Hao, Salmin Sultana, and **Saurabh Bagchi**, "Characterization of Failures in Android Operating System," As a Fast Abstract (2 pages) at the 39th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN-2009).

[L29] Mohammad Sajjad Hossain, Tanzima Zerin Islam, **Saurabh Bagchi**, and Vijay Raghunathan, "Fast and Collaborative Interference Avoidance for Wireless Medical Devices," As a Fast Abstract (2 pages) at the 39th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN-2009).

[L30] Vinaitheerthan Sundaram, Matthew Tan Creti, Rajesh K. Panta, and **Saurabh Bagchi**, "Component-Dependency based Micro-Rejuvenation Scheduling," As a Fast Abstract (2 pages) at the 38th Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN-2008).

[L31] Sarah Sellke, Ness B. Shroff, **Saurabh Bagchi**, and Chih-Chun Wang, "Timing Channel Capacity for Uniform and Gaussian Servers," At the 44th Annual Allerton Conference On Communication, Control, and Computing, 2 pages, Sep 27-29, 2006, Allerton, IL.

[L32] Gunjan Khanna, **Saurabh Bagchi**, Kirk Beaty, Andrew Kochut, and Gautam Kar, "Providing Automated Detection of Problems in Virtualized Servers using Monitor framework," In the Workshop on Applied Software Reliability (WASR), held with the IEEE International Conference on Dependable Systems and Networks (DSN), 6 pages, June 25-28, 2006.

[L33] Vinita Apte, Yu-Sung Wu, **Saurabh Bagchi**, Sachin Garg, and Navjot Singh, "SpaceDive: A Distributed Intrusion Detection System for Voice-over-IP Environments," Appeared at the IEEE International Conference on Dependable Systems and Networks (DSN) as a Fast Abstracts paper, 2 pages, June 25-28, 2006, Philadelphia, USA.

[L34] Gunjan Khanna, Yu Cheng and **Saurabh Bagchi**, "Modeling Probabilistic Diagnosis Parameters," Appeared at the IEEE International Conference on Dependable Systems and Networks (DSN) as a Fast Abstracts paper, 2 pages, June 25-28, 2006, Philadelphia, USA.

[L35] Ruben Torres, Vinita Apte, and **Saurabh Bagchi**, "Epidemic Multicast with Optimal Node Selection in Ad-Hoc Networks," Appeared at the IEEE International Conference on Dependable Systems and Networks (DSN) as a Fast Abstracts paper, 2 pages, June 28-July 1, 2005, Yokohama, Japan.

[L36] Ravish Khosla, Yu Cheng, and **Saurabh Bagchi**, "Reliable Data Dissemination using Trust in Multi-hop Sensor Networks," Appeared at the IEEE International Conference on Dependable Systems and Networks (DSN) as a Fast Abstracts paper, 2 pages, June 28-July 1, 2005, Yokohama, Japan.

[L37] Xiaojuan Ren, Seyong Lee, **Saurabh Bagchi**, and Rudolf Eigenmann, "Resource Fault Prediction for Fine-Grained Cycle Sharing," Appeared at the IEEE International Conference on Dependable Systems and Networks (DSN) as a Fast Abstracts paper, 2 pages, June 28-July 1, 2005, Yokohama, Japan.

[L38] Chin-Lung Yang, **Saurabh Bagchi**, and William Chappell, "Location Tracking with Directional Antennas in Wireless Sensor Networks," Appeared in the IEEE MTT-S International Microwave Symposium 2005 (IMS2005), 4 pages, June 11-17, 2005, Long Beach, California. (Nominated for the best student paper in the MTT-S conference, one of 20 nominated student papers)

[L39] B. Rabeler, Z. Chishti, **S. Bagchi**, “An API for Varying Criticality Requirements in Parallel Programs,” Appeared at the IEEE International Conference on Dependable Systems and Networks (DSN) as a Fast Abstracts paper, June 28-July 1, 2004, Florence, Italy.

[L40] M. Krasniewski, P. Varadharajan, **S. Bagchi**, “A Trust Index Based Protocol to Tolerate Byzantine Failures in Sensor Networks,” Appeared at the IEEE International Conference on Dependable Systems and Networks (DSN) as a Fast Abstracts paper, June 28-July 1, 2004, Florence, Italy.

[L41] N. Pettis, **S. Bagchi**, “Energy Efficiency and Fault Tolerance in Wireless Network Cards Through Buffering,” Appeared at the IEEE International Conference on Dependable Systems and Networks (DSN) as a Fast Abstracts paper, June 28-July 1, 2004, Florence, Italy.

[L42] **Saurabh Bagchi** and Henrique Madeira, "Open Source Software-A Recipe for Vulnerable Software, or the Only Way to Keep the Bugs and the Bad Guys Out?," In Proceedings of the 14th IEEE International Symposium on Software Reliability Engineering (ISSRE), Denver, Colorado, pp. 347-349, November 2003.

[L43] Nipoon Malhotra, Shrish Ranjan, and **Saurabh Bagchi**, "Light-Weight Randomized Reliable Multicasting Protocol," Appeared at the International Conference on Dependable Systems and Networks (DSN) as a Fast Abstracts paper, June 2003.

[L44] Gunjan Khanna, Yu-Sung Wu, and **Saurabh Bagchi**, "Data Dissemination Protocol in Sensor Networks to Tolerate Node and Link Failures," In Proceedings of the International Conference on Dependable Systems and Networks (DSN) as a Fast Abstracts paper, June 2003.

[L45] Jen-Yeu Chen, Yen-Shiang Shue, Hakeem Ogunleye, and **Saurabh Bagchi**, "A comparative study on data fault tolerant requirements for data propagation in sensor networks," In Proceedings of the International Conference on Dependable Systems and Networks (DSN) as a Fast Abstracts paper, June 2003.

[L46] **S. Bagchi**, Z. Kalbarczyk, R. Iyer, and K. Whisnant, "Software-based Signaturing in Distributed Systems," In Fast Abstract of the 29th IEEE Fault Tolerant Computer Symposium (FTCS-29), June 1999.

[L47] R.K. Iyer, Z. Kalbarczyk, K. Whisnant, and **S. Bagchi**, "A Flexible Software Architecture for High Availability Computing," In Proceedings of the 3rd IEEE International High-Assurance Systems Engineering Symposium (HASE), pp. 42-49, November 1998.

[L48] **S. Bagchi**, K. Whisnant, Z. Kalbarczyk, and R. K. Iyer, "Chameleon - A Software Infrastructure for Adaptive Fault Tolerance," In IEEE International Computer Performance and Dependability Symposium (IPDS), pp. 275-276, September 1998.

[L49] R.K. Iyer, Z. Kalbarczyk, and **S. Bagchi**, "Chameleon: Adaptive Fault Tolerance Using Reliable, Mobile Agents," As Short Paper in Proceedings of the 16th IEEE Symposium on Reliable Distributed Systems (SRDS), pp. 61-62, October 1997.

Invited Lectures:

[I1] "Making Wimpy Devices Do Strong Analytics," Keynote at the Annual Symposium of the USC (University of Southern California)-Amazon Center on on Secure & Trusted Machine Learning, April 22, 2022.

[I2] "Dependability Meets Data Analytics," University of Delaware, Computer and Information Sciences, February 22, 2022.

[I3] "Secure Federated Learning on Wimpy Devices," Google Workshop on Federated Learning and Analytics, November 8-10, 2021.

[I4] "SCRAMBLE: Secure, Real-Time Decision-Making for the Autonomous Battlefield," Army Research Lab Summit on Assured Autonomy, October 26, 2021.

[I5] "Distributed ML Inferencing for Latency-Sensitive Applications," Amazon Web Services, July 19, 2021.

[I6] "Dependability: Meet Data Analytics," Distinguished seminar at Department of Computer Science and Engineering, University of Lisbon, October 28, 2020.

[I7] "Dependability Meets Data Analytics," Keynote at the 5th IEEE International Workshop on Reliability and Security Data Analysis (RSDA), co-located with the 31st Annual IEEE International Symposium on Software Reliability Engineering (ISSRE), October 12, 2020.

[I8] "SCRAMBLE: Secure, Real-Time Decision-Making for the Autonomous Battlefield," Northrop Grumman AI Summit, October 7, 2020.

[I9] "Dependability Meets Data Analytics," University of Illinois at Urbana-Champaign, Department of Computer Science, December 16, 2019.

[I10] "Internet-connected and Insecure at All Speeds: Wireless Embedded Systems," Stony Brook University, Department of Computer Science, October 11, 2019.

[I11] "Harnessing the Power of Mobile and Embedded Devices for Secure and Reliable Systems," Oregon State University, Electrical Engineering and Computer Science, November 26, 2018.

[I12] "Dependability for Computer Systems meets Data Analytics"

[1] Adobe Research, San Jose, CA, October 22, 2018.

[2] Texas A&M, Electrical and Computer Engineering, April 12, 2018.

[3] University of Illinois at Urbana-Champaign, Electrical and Computer Engineering, March 27, 2018.

[4] AT&T Labs, Bedminster, NJ, March 15, 2018.

[5] Rutgers University, Department of Electrical and Computer Engineering, March 12, 2018.

[I13] "Dependability for Computer Systems meets Data Analytics"

[1] Northwestern University, Department of Electrical Engineering and Computer Science, November 17, 2017.

[2] University of Minnesota, Department of Computer Science, October 30, 2017.

[3] Virginia Tech, Bradley Distinguished Seminar, School of Electrical and Computer Engineering, October 6, 2017.

[4] Indiana University, The School of Informatics, Computing, and Engineering (SICE), Bloomington, IN, September 8, 2017.

[I14] "Dependable versus Fake News," At meeting of IFIP Working Group 10.4 on Dependable Computing and Fault Tolerance, Longmont, Colorado, June 22-25, 2017.

[I15] "Dependability from the Very Small to the Very Large," At Rutgers University, Department of Electrical and Computer Engineering, April 7, 2016.

[I16] "FRESCO: An Open Failure Data Repository for Dependability Research and Practice," At the ACM/IEEE Supercomputing Conference, Bird-of-Feather Session, November 18, 2015.

[I17] "User-centric Workload Analysis of University-wide Computing Cluster," At the University of Illinois, Department of Electrical and Computer Engineering, October 6, 2015.

[I18] "Dependability in a Connected World: Research in Action in the Operational Trenches," Keynote talk at the 34th International Symposium on Reliable Distributed Systems (SRDS), Montreal, Canada, September 28, 2015

[I19] "Dependability in a Connected World: From the Very Large to the Very Small," At Georgia Tech College of Computing, September 9, 2015.

[I20] "Cyber-Physical Security for the Energy Grid: From the Micro to the Macro," At Duke Energy, Lafayette, IN, March 11, 2015.

[I21] "Dependability in a Connected World: From the Very Large to the Very Small," At the Indian Institute of Technology, Kharagpur, January 8, 2015.

[I22] "Countering Evolving Threats in Distributed Applications: Scientific Principles," At Sandia National Labs in Albuquerque, NM, July 30, 2014.

[I23] "Performance Debugging for Highly Parallel Accelerator Architectures," At EPFL, Lausanne, Switzerland, February 22, 2013.

[I24] "Discrete Mathematics Teaching in Computer Engineering Curriculum," At the NSF Workshop on "Learning Discrete Mathematics and Computer Science via Primary Historical Sources", Las Cruces, NM, April 16-17, 2012.

[I25] "Three Significant Trends in Mobile Security: Threats and Solutions," At the 13th Annual CERIAS Information Security Research Symposium, Panel on "Mobile Security", West Lafayette, IN, April 3, 2012.

[I26] "Fault Tolerance for Exascale Systems through Automated Error Detection, Localization, and Efficient Checkpointing," At IBM Austin Research Lab, May 25, 2011.

[I27] "Secure Configuration of Intrusion Detections Sensors for Enterprise Systems," At the Northrop Grumman Cybersecurity Research Consortium (NGCRC) 3rd Semi-Annual Symposium, April 14, 2011.

[I28] "Stateful Detection in High Throughput Distributed Systems," At IBM Research, Delhi, India, November 3, 2010.

[I29] "Responses to Cyber Attacks in Distributed Systems," At Air Force Research Lab, Rome, NY, August 17, 2010.

[I30] "PhD: The First Chapter in an Exciting (mostly) Journey," At the 7th Annual IEEE Communications Society Conference on Sensor, Mesh and Ad Hoc Communications and Networks (SECON), June 24, 2010, Boston, MA.

[I31] "Responses to Cyber Attacks in Distributed Systems," At the AFRL - Dartmouth Workshop on Cyber Network Operations Planning and Assessment, April 21-22, 2010, Dartmouth College, Hanover, NH. Also at the Air Force Research Lab, Rome, NY, August 17, 2010.

[I32] "Toward Dependable and Controllable Wireless Networks," University of Illinois at Urbana-Champaign Wireless Summer School. This was for a panel titled "Future Research Directions in Wireless Networks", August 5, 2009.

[I33] "Non Intrusive Detection of Errors in High Throughput Distributed Applications," At the Lawrence Livermore National Lab to the Center for Applied Scientific Computing (CASC), July 13, 2009.

[I34] "Secure Embedded Wireless Networks," Venture capitalists as part of the Road Show organized by Purdue's Office of Technology Commercialization, at Fort Wayne, IN, September 10, 2008.

[I35] "Non Intrusive Detection & Diagnosis of Failures in High Throughput Parallel Applications," Lawrence Livermore National Lab, August 11, 2008.

[I36] "Dependable Middleware for Wireless Sensor and Mesh Networks," Crane, June 30, 2008.

[I37] “Research in Service Learning: A Tricky Path but with Potential Windfall,” EPICS Annual Symposium, May 22, 2008.

[I38] “A Very Personal List of Caveats and Wishes for System Research,” Presentation as member of "Systems" panel, at the 4th University of Illinois Information Trust Institute (ITI) Workshop on Dependability and Security: Opportunities and Challenges in Building an Overarching Community, November 30, 2007.

[I39] “Failure prediction and failure-aware scheduling in grid-like systems,” University of Texas at Austin, March 2, 2007.

[I40] “Core Technologies,” Information Trust Institute, University of Illinois Workshop on Dependability and Security, December 5, 2006.

[I41] “Achieving High Survivability in Distributed Systems through Automated Intrusion Response,” At the bi-annual meeting of the IFIP WG 10.4 on Dependable Computing and Fault Tolerance, Annapolis, Maryland, July 2, 2006.

[I42] “Robust Communication in Ad hoc Networks Resistant to Node Compromise and Failure,” Rockwell Collins Advanced Technology Center, Cedar Rapids, Iowa, May 19, 2006.

[I43] “Dependable Middleware for Wireless Sensor Networks,” Tellabs Foundation, Naperville, Illinois, February 23, 2006.

[I44] "Secure Key Management in Sensor Networks," Department of ECE, Georgia Tech, October 2004.

[I45] “Disruption Tolerance: Why, What & How,” At the bi-annual meeting of the IFIP WG 10.4 on Dependable Computing and Fault Tolerance, Siena, Italy, July 2004.

[I46] "Intrusion Tolerance in Distributed Systems," Coordinated Science Lab, University of Illinois at Urbana-Champaign, April 2004.

Issued/Filed Patents:

[P1] Somali Chaterji, **Saurabh Bagchi**, and Ran Xu, “System and Methods for Content and Contention-aware Approximate Object Detection,” Filed: March 31, 2022, U.S. Application No: 17/710,233.

[P2] **Saurabh Bagchi** and Nawanol Theera-Ampornpunt, “Predictive Streaming System,” Filed: October 30, 2021, U.S. Application No: 63/108,049.

[P3] Somali Chaterji, **Saurabh Bagchi**, and Ashraf Mahgoub, “System and Methods for Heterogeneous Configuration Optimization for Distributed Servers in the Cloud,” Filed: December 31, 2020, U.S. Application No: 17/139,958.

[P4] **Saurabh Bagchi**, Somali Chaterji, Paul Wood, and Ashraf Mahgoub, "Clustered Database Reconfiguration System for Time-varying Workloads," Filed: April 16, 2020, Issued: April 12, 2022, U.S. Application No: 16/850,755.

[P5] Rajesh Panta, Moo-Ryong Ra, **Saurabh Bagchi**, and Subrata Mitra, "Parallel partial repair of storage," Publication No. US20180181471, filed: December 22, 2016.

[P6] Amiya Kumar Maji, Subrata Mitra, and **Saurabh Bagchi**, "Integrated configuration engine for interference mitigation in cloud computing," Patent No. 10,310,883, issued: June 4, 2019.

[P7] Patent No: 10,007,592. "Debugging non-deterministic embedded systems," issued: June 26, 2018.

[P8] Patent Nos: 8,811,188, 8,107,397. "Protocol for secure and energy-efficient reprogramming of wireless multi-hop sensor networks," re-filed: August 19, 2014, issued: January 30, 2012, filed: June 5, 2007.

[P9] Patent No: 8,767,957. "Communication encryption method and device," issued: July 1, 2014, filed: December 3, 2008.

[P10] Patent No: 8,032,615. "Dynamic online multi-parameter optimization system and method for autonomic computing systems," issued: October 4, 2011, filed: May 23, 2008.

[P11] Patent Nos: 7,814,547, 7,451,486. "Stateful and cross-protocol intrusion detection for voice over IP," re-filed: October 12, 2010, issued: August 28, 2008, filed: September 30, 2004.

Other Activities:

[1] Advanced Communicator Silver (ACS), Toastmasters Club No. 1127, West Lafayette, Indiana, member December 2003-present. Also Faculty Advisor to Purdue Toastmasters Club.

[2] Faculty Advisor, "Boiler Talks", Toastmasters Local Chapter, Registered Student Organization, Purdue University, 2021-present.

[3] Faculty Advisor, "Asha for Education", Registered Student Organization, Purdue University, 2003-present.