Li Bai

Computer Fusion Laboratory (CFL)
College of Engineering, Temple University
1947 N. 12th Street, Philadelphia, PA 19122
+1-267-318-3918
lbai@temple.edu

RESEARCH INTERESTS

computer security, dependable secure computing, secret sharing scheme, multi-agent system, multi-sensor fusion, robotic operating systems, quadruped robot, drone, deep learning, reliability and resilience controls

ACADEMIC BACKGROUND

Ph.D. Electrical Engineering 1998-2001
Drexel University, Philadelphia, PA

- Ph.D. research in cyber security under direction of Prof. Moshe Kam, IEEE Fellow and IEEE President 2011.
  Dissertation title: Secure Electronic Mail.

M.Sc. Electrical Engineering 1996-1998
Drexel University, Philadelphia, PA

- Focus areas: multi-sensor decision fusion under direction of Prof. Moshe Kam, IEEE Fellow and IEEE President 2011
  Dissertation thesis: Distributed Detection Using the MLGDS Test.

B.Sc. Electrical Engineering 1993-1996
Temple University, Philadelphia, PA

EMPLOYMENT HISTORY

Associate Dean for Research, Graduate Studies & Faculty Affair July 2025 - Present
College of Engineering Engineering,
Temple University, Philadelphia PA 19122

Professor and Department Chair Jan. 2015 - June 2025
Department of Electrical and Computer Engineering,
Temple University, Philadelphia PA 19122

- Established Professional Science Master (PSM) in Cyber Security Program
- Created a 4+1 program with four Chinese universities.
- Revise ECE curriculum with project-based learning
- Integrated National Instrument equipment and Labview in undergraduate ECE education curriculum

Associate Professor (with Tenure) July 2010-Dec. 2014
Department of Electrical and Computer Engineering,
Temple University, Philadelphia PA 19122

Associate Professor (2nd appointment) Nov. 2013-May, 2016
Department of Management and Information System,
IT Auditing and Cyber Security (ITACS) program Fox Business School Temple University, Philadelphia PA 19122

Adjunct Professor Jan. 2013-May, 2013
Department of Management and Information System,

IT Auditing and Cyber Security (ITACS) program Fox Business School Temple University, Philadelphia PA 19122

Assistant Professor (Presidential Appointment) Sept. 2002-June 2010
Department of Electrical and Computer Engineering,
Temple University, Philadelphia PA 19122

Assistant Professor (Dean's Appointment) Sept. 2001- May 2002
Department of Electrical and Computer Engineering,
Temple University, Philadelphia PA 19122

Summer Faculty Fellow Summer of 2006 and 2007
American Society for Engineering Education (ASEE) , Office of Naval Research
NWSCCD, 1000 Kitty Hawk Ave., Philadelphia, PA

Summer Faculty Fellow Summer of 2002, 2003 and 2004
National Research Council (NRC) , Air Force Research Laboratory
Information Directorate/IFED, Rome, NY

Research Assistant/Teaching Assistant Sept. 1996-Aug. 2001
Data Fusion Laboratory
Department of Electrical and Computer Engineering
College of Engineering, Drexel University, Philadelphia, PA

INDUSTRIAL EXPERIENCE

Software Engineering Consultant Sept. April 2005-May 2006
SigTem Technology, Inc, 113 Clover Hill Lane, Harleysville, PA

Certified ABAP SAP Consultant Sept. July 1999 – Dec. 1999
Prescient Consulting company, Atlanta, GA

Software Engineering Intern Sept. June 1997 – Sept. 1997
T-Nextix co., Piscataway, NJ (formal known as SpeakEZ)

SPECIAL ACHIEVEMENTS

Awards

- *IEEE Philadelphia Section Benjamin Franklin Key Award*, 2016
- *IEEE Philadelphia Section Service Award*, 2011
- *Lindback Awards for Distinguished Teaching, Temple University*, 2010
- *Finalist for Young Engineer of the Year in Delaware Valley, Philadelphia engineering club, IEEE*, 2005
- *Young Engineer of the Year in Delaware Valley, IEEE Philadelphia Section*, 2004
- *The Best TA Award in College of Engineering, Drexel University*, 2000
- *Faculty Awards for the highest GPA graduating seniors in EE department, Temple University*, 1996
- *Lewis A. Caccese Scholarship Award, Philadelphia Engineering Foundation*, 1996

Invited Lectures (selection)

- "Secret sharing: A game of Hide and Seek", University of Massachusetts, May 28, 2008.

- "From secret sharing scheme to secure image applications", Singapore Management University, March 7, 2006.

Professional Activities (selection)
College and University

- Nanotechnology education advisory committee, Temple University, 2005.
- University Disciplinary Committee, 2003.
- Member Faculty Council, 2002-2004,
- College Bylaw Committee, 2002-2003.
- IEEE Student Branch Counselor (2002-2015).

Regional and International

- Service to IEEE
  - IEEE Region 2 Regional Student Activities Chair (https://students.ieee.org/student-branches/the-ieee-student-activities-committee-sac/), 2022-present
  - IEEE Philadelphia section student activities faculty advisor, 2021-present
  - IEEE Philadelphia section awards committee, 2019-present
  - The faculty advisor in Regional II student activities, 2009
  - IEEE Philadelphia section coordinator for the IEEE EAB activities in "Increasing the Representation of Women in IEEE's Fields of Interest" (funding amount: $171,500), 2008 - 2012
  - IEEE Educational Activities Advisory Board for Real World Engineering Program (RWEP), 2008
  - IEEE Philadelphia Executive Board member since 2002
  - Chair, IEEE Philadelphia Section, 2007
  - Vice Chair, IEEE Philadelphia Section, 2006
  - Membership Chair, IEEE Philadelphia Section, 2002
  - IEEE USA Congressional Delegate in 2005, 2006, 2024 and 2025
- Program committee member for
  - ECEDHA (ECE Department Head and Chair Association) conference planning committee member
  - The 2013 International 6th International Symposium on Resilient Control Systems, publication chair
  - The 2011 International Conference on Collaborative System and Technology, Philadelphia, May 2011
  - The 13th IEEE International Conference on High Performance Computing and Communications (HPCC-11) - Autonomic, Reliability and Fault-tolerance track, 2011, Canada
  - The 2009 International Workshop on Ubiquitous Computing Security (UCSec 09, http://www.sersc.org/UCSEC2009/), Las Vegas, USA, July 13-16, 2009.
  - The 11th IEEE International Conference on High Performance Computing and Communications (HPCC-09) - Autonomic, Reliability and Fault-tolerance track, 2009, South Korea
  - The 14th IEEE International Conference on Parallel and Distributed Systems, Security, Dependability and Trustworthy Computing, 2008, Melbourne, Victoria, Australia

  - The 4th annual IEEE Conference on Automation Science and Engineering, RFID and its industry applications, 2008, Washington D.C.
  - The 3rd International Conference on Embedded Software and Systems, 2007, South Korea
  - International Conference on Industrial Engineering and Engineering Management (IEEM), 2007, Singapore
  - IEEE International Symposium on Ubisafe Computing(UbiSafe-07), 2007, Canada
  - The 8th International Conference on Information Fusion, 2005, Philadelphia
- Guest Editor: Special Issue on "Wearable Technologies and Devices" in Computers in Industry Journal
- Conference session chair
  - The 4th annual IEEE Conference on Automation Science and Engineering, RFID and its industry applications
  - (Maintenance Modeling and Engineering - 1) in the International Conference on Industrial Engineering and Engineering Management (IEEM), 2007, Singapore
  - (Security and safety track) in the 10th International Conference on Information Fusion 2007.
  - (Cryptography track) in the 2nd IEEE International Symposium on Dependable, Autonomic and Secure Computing (DASC'06)
- Reviewer
  - IEEE Transactions on Reliability
  - Economic Quality Control
  - IEEE Transactions on Signal Processing
  - IIE Transactions (International)
  - IEE Proc. Radar, Sonar & Navigation
- Conference organizer and webmaster in the 8th International Conference on Information Fusion, 2005, Philadelphia (http://www.fusion2005.org).
- Panel reviewer for the Science, Mathematics, And Research for Transformation (SMART) Defense Scholarship for Service Program, 2007, 2013 and 2016
- Panel reviewer for the IEEE EAB "Increasing the Representation of Women in IEEE's Fields of Interest" Program, 2008
- NSF Panel Reviewer (Cyber Trust and CRI-Wireless), 2008
- Guest Editor: Special Issue on "Wearable Technologies and Devices" in Computers in Industry Journal

RESEARCH FUNDING (at TU)

Funded Research Support

- National Center for Manufacturing Sciences – DoD, "Advanced Additive Technologies for Sustainment of Navy Assets", amount: $3,107,226, November 1, 2019 – August 8, 2023.
- Richard Souvenir, Slobodan Vucetic, Li Bai, Ben Seibold, Zoran Obradovic, US Army, "Assessment of Cyber-threats and Vulnerabilities, & Design of Mitigation Strategies", amount: $525,000, March 1, 2021 – February 28, 2023.

- Michael Klein, Atsuhiro Muto, Slobodan Vucetic, Li Bai, Fauzia Ahmad, Ben Seibold, Zoran Obradovic, US Army Corp, "USACE", amount: $1,074,999, October 1, 2022 – September 30, 2023.
- Li Bai, Cory Budischack, Shawn Fagan, "Supporting Students' Academic and Career Success with a Sustainable Energy Focus", NSF, $1,499,988, October 1, 2022 – September 30, 2028.
- Comcast Cable Communications Management, LLC , "Remote Smart Health Platform Using Comcast Network", amount: $99,860.00, January 1, 2019 – December 31, 2023.
- Temple OVPR grant, "SMART System: Survey and Measurement using Avatar and Robotic Technology", amount: $60,000, September 1, 2016 – August 31, 2017.
- NSF project, "CPS: Synergy: Collaborative Research: Towards Secure Networked Cyber-Physical Systems: A Game-Theoretic Framework with Bounded Rationality," amount: $449,854, NSF, Jan. 1, 2015 – December 31, 2017.
- Li Bai, "Opportunistic Market-based Auction Approach for distributed Fuzzy Reasoning and Resource Allocations", amount: $600,019, ONR, Jan. 1, 2013 – December 31, 2016.
- Brian Butz, Saroj Biswas and Li Bai, "A Realistic Intelligent Multimedia Virtual Laboratory for Power Applications", amount: $198,662, NSF, Sept. 1, 2012 – August 31, 2014.
- Youngjin Yoo, Li Bai, Jie Wu, Michele Masucci, Hamil Pearsall, "Urban Apps & Maps Studio", amount: $500,000, US Department of Commerce's Economic Development Administration (EDA), Sept. 1, 2011-Aug. 31, 2016. (additional supplement funding $635,000 from Knight Foundation for three years from 2012).
- Li Bai, "Wireless Distributed Operating System Resources Allocation Problems Using a Multi-Agent Computation Approach", amount: $300,000, Office of Navy Research, March 1, 2011-Feb. 28, 2013.
- Jie Wu, Dimitrios Mastrogiammis, Li Bai and Chiu C. Tan, "Body Sensor Networks and Their Applications in Maternal Fetal Monitoring", amount: $300,000, Formula Fund Concept Grant, July 1, 2011 - June 30, 2013.
- Li Bai, "Wireless Distributed Operating System (Wireless DOS)", amount: $200,000, Office of Navy Research, March 1, 2009-Feb. 28, 2011.
- Li Bai, "DEAR: Dance and Engineering for Augmented Reality", $10,000, Temple University Faculty Senate Seed Grant, January 2011 – December 2011.
- Li Bai and Luke Kahlich, "DEAR: Dance and Engineering for Augmented Reality", $50,000, Temple University, July 2010 – June 2011.
- Li Bai (PI) and Slobodan Vucetic, "MOSAIC (Multi-agent-based Oil-refinery System Analysis and Intelligent Control", amount: $140,000, ExxonMobil Research and Engineering, January 1, 2009 – July 31, 2011.
- Jie Wu, Yuan Shi, Micahael Klein, Axel Kohlmeryer, Saroj Biswas, Li Bai, Igor Rivin, Edward Gawlinski, Zoran Obradovic and Gerard G. Criner "MRI-R2: Acquisition: A Hybrid High-Performance GPU/CPU System", amount: $839,221, NSF.
- Li Bai, "Simulation Tool to Intercept Multiple Missiles Employing Quick and Random Evasive Flight Path", amount: $50,000, funded by Missile Defense Agency, July 2008-June 2010.

- Li Bai, "Software Integration of Shipboard Automation and Control System", amount: $22,560, funded by Naval Surface Warfare Center Carderock Division (NSWCCD), September 16, 2008 – September 16, 2009.
- Li Bai (PI) and Saroj Biswas, "Intelligent Distributed Computation Algorithms on Zigbee/802.15.4 Network", amount: $80,014, funded by Office of Navy Research, April 2008-March 2009.
- Li Bai (PI) and Jerry Kane (SEPTA), "Regional Rail On-board Electronic Payment Project", amount: $150,000, funded by the I-95 Coalition in Federal Transportation Authority, June 2007-October 2008.
- Li Bai, "Applied Communications and Information Networking (ACIN) Program" –phase III, amount: $125,000, funded by the United States Department of the Army, September 2003- August 2004.
- Li Bai, "Applied Communications and Information Networking (ACIN) Program" – phase II, amount: $75,000, funded by the United States Department of the Army, September 2002- August 2003.
- Li Bai, "Design GMTI Simulator", amount: $10,000, funded by the Air Force Research Laboratory, September 2002 – May 2003.

Funded Research Fellowship Support

- Li Bai, "Level 2+ Information Fusion in GMTI", amount: $27,500, funded by the Air Force Research Laboratory, May 2002 – August 2002.
- Li Bai, "Integration of JBI and Level 2+ Information Fusion", amount: $12,500, funded by National Research Council, May 2003 – August 2003.
- Li Bai, "Mobile Agent in Distributed Information Processing for Information Fusion, amount: $15,000, funded by National Research Council, May 2004 – August 2004.
- Li Bai, "Damage Control Analysis Using Survivability Assessment", amount: $14,000, funded by American Society for Engineering Education, May 2006 – August 2006.
- Li Bai, "Wireless Sensor Network in Shipboard Damage", amount: $14,000, funded by American Society for Engineering Education, May 2007 – August 2007.

STUDENT SUPERVISION (at TU)

Ph.D. students:

6. Joseph Amato *Towards Secure And Decentralized Energy Dispatch: Fuel Optimization Using Distributed Learning For Energy Demand And Storage Strategies*, September 2025
5. Yiran Li *Simultaneous Artifacts Correction And Acceleration For Chemical Exchange Saturation Transfer Imaging Via Deep Learning*, June 2022
4. Danfeng Xie *Machine Learning-based Arterial Spin Labeling Perfusion MRI Signal Processing*, May 2020
3. Qiangguo Ren, Novel Market-based Multi-agent System for Power Balance and Restoration in Power Networks, May 2018
2. Ning Gong *Resilient Control Strategy and Analysis for Power Systems using (n, k)-Star Topology*, December 2016
1. Qing Dong *Multi-Agent Based Federated Control of Large-Scale Systems*, (co-advisor, August 2011)

MS students:

11. Hanlu Yang *POCS Augmented CycleGAN for MRI Reconstruction*, May 2020.
10. Zhuo Li *Multi-agent-based Collaborative Robots*, May 2012.
9. Zhao Cheng *Multi-Agent-based Distributed Detection*, May 2011.
8. Feiyu Xiong *Reliable and Intelligent Distributed Computation Algorithms on Zigbee/802.15.4 Network*, May 2009.
7. Shweta Moonat *Pharmacological effectiveness on OAB Patients using function MRI of the Brian*, December 2007
6. Balakumar Ragunathan *Blind Steganalysis of Distributed Steganographic Images Using an Estimation Approach*, August 2007.
5. Fan Zheng *Reliability and performance Analysis of Multiparty computation*, May 2006.
4. Sachin Francis *Secure Verification and Authentication Agents for Secure Group Communications*, April 2005.
3. Kanupriya Salaria *Information Fusion Approach for Merge at a Point Algorithm*, December 2004.
2. Robert Esposito *Robust Tri-SEM Architecture*, April 2004.
1. Wiriyanto Darsono *GMTI Simulator Design Using Dijkstra Algorithm*, October 2003.

Completed Master Projects:

10. Huaichih Chang, *Zumo Shield For Arduino, V1.3 Development Controller Board Design*, April 2024.
9. Richard Adam Sand, *Stem Student Outreach Using Robotics and Facial Recognition and Object Detection*, December 2023.
8. Frank Wu *RP2040 Microcontroller Co-processor Board Design* , April 2023.
7. Animesh Bala *A Deep Learning and Robotics Platform for Autonomous Driving, Developed for Teaching and Research*, May 2020.
6. Darryl Charles *(k, n) Secret Sharing Scheme for Threshold Cryptography*, December 2009.
5. Joel Landis *Group Template Matching Algorithm on Convoy Identification*, December 2008.
4. Chandrasheker Puvvada *A Java Implementation of (k, n) Threshold-based RSA Crypto-system*, August 2006.
3. Krunal Cholera *Automatic Secret Generation & Sharing for Secret Sharing Schemes*, April 2005.
2. Anil Reddy Gosu *Key Sharing in Public Key Infrastructure using RSA*, December, 2004.
1. Sunania Madan *Digital Signatures & Public Key Cryptographic Standards*, April 2004.

Completed Senior Design Projects:

6. Advisor of Freescale Team, the third place in East Coast competition (the fourth place in the nation). Brandon Keith, Peter Mollica and Cedric Destin, April 2013. (https://community.freescale.com/docs/DOC-94704#comment-4181)
5. dvisor of senior design team – "Amphibious Robot Snake: CobraShark", Students: Michael Korostelev, Olakunle Anifowose, Olajuwon Ogunsanwo, Zhuo Li and Derrick Greene, April 2009.

- the second place in the IEEE student project demonstration contest in IEEE Region II's Student Activity Conference (SAC) in 2009, cash award:$500
- the best senior design in the ECE Department, 2009

4. Advisor of an industrial sponsored onboard wireless ticket dispenser utilizing non-proprietary off-the-shelf Bluetooth and RFID technology components, Students:John Kosempel, Kyle McDaniel, Dennis Samuel, and Jusin Thomas, April 2008.
   - IEEE student paper contest in Philadelphia section, cash award: $240
   - the second place in the IEEE student paper contest in IEEE Region II's Student Activity Conference (SAC) in 2008, cash award:$500
   - the second place in the IEEE student project demonstration contest in IEEE Region II's Student Activity Conference (SAC) in 2008, cash award:$500
   - the second place in the Temple Business school's Be you Own Boss Competition, cash award: $2,000
3. Advisor of an industrial sponsored onboard wireless ticket dispenser utilizing non-proprietary off-the-shelf technology components, Students: Adeolu Adeniyi, Ayou Birch, Louis Kabiru, Rebekah Scholl, April 2005. a. the finalist in the Temple Business school's Be you Own Boss Competition
2. Advisor of an award-winning student senior design team. Temple University team won IEEE Micro-mouse competition in Philadelphia section. Students: Chilezie Nnadi, Olubunmi Babajide, Mohamed Gaweish and Prasad Gunasekera, April 2004.
1. Advisor of the senior design team that won the best student design award in IMAP, "@House". Students: Daniel Corrodo, Hang Vo, Loann Vo and Scott Brown, April 2003.

PATENT APPLICATIONS

2. Li Bai, "Secret Sharing Scheme with Low overhead for Information Content", patent application processed by Temple University patent and technology transfer office.
1. Li Bai, "Quick Interoperable Fare and Mobile Hand Held Wireless Ticket Dispenser", provisional patent application processed by Temple University patent and technology transfer office.

JOURNAL ARTICLES

See also my google scholar page.

BOOK CHAPTERS

1. Li Bai, Xianghe Yan, Saroj Biswas and Pina Fratamico, "RFID Technologies for Inspection of Imported Foods," Omics, Microbial Modeling, and Technologies in Food-borne Pathogens, Chapter 23, pp. 649-659.

JOURNAL PUBLICATIONS

21. Xie, D., Li, Y., Yang, H., Bai, L., Wang, T., Zhou, F., & Wang, Z., "Denoising arterial spin labeling perfusion MRI with deep machine learning", *Magnetic Resonance Imaging*, 68, 95-105, 2020.
20. Xie, Danfeng, Zhang, Lei, Bai, L., "Deep Learning in Visual Computing and Signal Processing", *Applied Computational Intelligence and Soft Computing*, 2017.
19. Gong, N., Korostelev, M., Ren, Q., Bai, L., Biswas, S., Ferrese, F, "Fault Tolerant (n, k)- Star Power Network Topology for Multi-Agent Communication

in Automated Power Distribution Systems", *World Academy of Science, Engineering and Technology, International Science Index 97, International Journal of Electrical, Computer, Energetic, Electronic and Communication Engineering*, 9(1), 1-7, 2015.

18. X. Mei, H. Ling, Y. Wu, E. Blasch, and L. Bai. "Efficient Minimum Error Bounded Particle Resampling L1 Tracker with Occlusion Detection ", *IEEE Trans. on Image Processing (T-IP)*, 22(7): 2661-2675, 2013.
17. Y. Wu, J. Cheng, J. Wang, H. Lu, J. Wang, H. Ling, E. Blasch, and L. Bai, "Real-time Probabilistic Covariance Tracking with Efficient Model Update", *IEEE Transactions on Image Processing*, Vol. 21, No.5, pp. 2824-2837, May 2012.
16. Saroj Biswas, Qing Dong and Li Bai, "Computation of Optimal Control of Linear Systems Using HAAR Wavelets", *International Journal of Innovative Computing, Information and Control (ICIC International)*, vol. 8, no.5(B), May 2012, pp. 3819-3831.
15. Debasis Kundu, Zhidong Bai, Swagata Nandi, and Li Bai "Super-Efficient Frequency Estimation", *Journal of Statistical Planning and Inference*, Vol. 141, no 8, August 2011.
14. Dong Qing, Saroj Biswas, and Li Bai, "Multiagent Based Federated Control of a Class of Nonlinear Systems", *J*ournal of Continuous, Discrete and Impulsive Systems, Vol 18, pp. 573-588, 2011.
13. Dong, Q. and Bradshaw, K. and Ferrese, F. and Bai, L. and Biswas, S., "Cooperative Federated Multi-Agent Control of Large-Scale Systems," *Control and Applications* 2011, ACTA Press.
12. Li Bai, "A Reliable (k, n) Image Secret Sharing Scheme with Low Information Overhead," *International Journal of Computer and Applications*, vol. 32, pp. 2307-2326, 2010.
11. Li Bai and Xukai Zou, "A Proactive Secret Sharing Scheme in Matrix Projection Method", *Int. J. of Security and Networks*, Vol. 4, No.4, pp. 201 - 209, 2009.
10. Li Bai and E. Blasch, "Two-Way Handshake Circular Sequential k-out-of-n Congestion System," *IEEE Transaction on Reliability*, vol. 57, no. 1, pp. 59-70, March 2008.
9. Li Bai, Chun-Yang Peng and Saroj Biswas, "Association of DOA Estimation from Two ULAs", *IEEE Transactions on Instrumentation & Measurement*, vol. 57, no.6, pp.1094-1101, June 2008.
8. Ying-Chang Liang, Eng Yeow Cheu, Li Bai and Guangming Pan, "On the Relationship Between MMSE-SIC and BI-GDFE Receivers for Large Multiple-Input Multiple-Out Channels," *IEEE Transactions on Signal Processing*, vol. 56, no.8, pp. 3627-3637, August 2008.
7. Xukai Zou and Li Bai, "A New Class of Key Management Scheme for Access Control in Dynamic Hierarchies", *International Journal of Computers and Applications*, vol. 30, no. 4, pp. 331-337, 2008.
6. Li Bai, "Generalized Access Structure Congestion System," *IEEE Transaction on Reliability*, vol. 56, no.2, pp.268-274, June 2007.
5. Li Bai, Saroj Biswas and Henry Sendaula, "Information Security from Survivability Assessment Perspective", short communication on *International Journal of Performability Engineering*, Vol. 3, No 3, pp. 379-381, July 2007.

4. Li Bai and Fan Zheng, "Ternary State Circular Sequential k-out-of-n Congestion System," *IEEE Transaction on Reliability*, vol. 56, no. 2, pp. 495-505, September 2007.
3. Li Bai, "Circular Sequential k-out-of-n: Congestion System," *IEEE Transaction on Reliability*, vol. 54, no.3, pp.412-420, September 2005.
2. Chiu C. Tan, Michael Korostelev, Li Bai, Dimitrios S. Mastrogiannis and Jie Wu, "Securing Remote Obstetrics Monitoring Systems", *International Journal on EHealth and Medical Communications (IJEHMC)*, accepted.
1. Zhao Cheng, Li Bai, Dhritiman Choudhury, Saroj Biswas and Jie Wu, "Mobile Sensor Deployment and Coverage Using Multi-Agent-based Collective Formation Schemes", *International Journal of Performability Engineering* , Volume 8, Number 2, March 2012 - Paper 4 - pp. 151-160.

CONFERENCE CONTRIBUTIONS

72. J Amato, A Bose, L Bai, "Optimization-based Control of Variable Speed Diesel Generators", 59th Annual Conference on Information Sciences and Systems (CISS), 1-6, 2025
71. A Base, J Amato, L Bai, "Federated Learning-Based Resilient Control of Shipboard Power System", 2024 IEEE International Conference on Green Energy and Smart Systems (GESS), 1-7, 2024.
70. L Bai, A Bose, Z Li, "A Resilient RAP Solution Using Market-based Multi-Agent Systems", 2024 IEEE Conference on Communications and Network Security (CNS), 1-6, 2024.
69. Bose, Anway; Bai, Li, "A Fully Decentralized Homomorphic Federated Learning Framework", in 2023 IEEE 20th International Conference on Mobile Ad Hoc and Smart Systems (MASS), pp. 178-185, September 2023.
68. Reza, Abtahi; Bose, Anway; Bai, Li, "A secure federated learning approach to smart microgrid stability prediction", in 2023 32nd International Conference on Computer Communications and Networks (ICCCN), 2Hawii, USA, July 2023
67. Anway Bose and Li Bai, "DARwIn-OP: A Smart Elderly-Assistant and Companion", in Proceedings of the IEEE International Conference on IoT in Emerging Fields (IEEE IoTEF 2022), Denver, Colorado, USA, October 2022.
66. Anway Bose, Joe Bruno, Philip Dames, and Li Bai, "Time Constraint Finite-Horizon Path Planning Solution for Micromouse Extreme Problem", in Proceedings of the IEEE International Conference on Mobile Ad-Hoc and Smart Systems (IEEE MASS 2021), Denver, Colorado, USA, October 2022.
65. Kollmer, J. D., Biswas, S. K., Bai, L., Sarwat, A. I., Saad, W. "A Hardware-in-the-loop Experimental Platform for Power Grid Security", 2018 ASEE Annual Conference & Exposition, Salt Lake City, Utah. https://peer.asee.org/29689
64. Danfeng Xie, Yiran Li, Li Bai and Ze Wang. "Super-ASL: Improving SNR & Temporal Resolution of ASL MRI Using Deep Learning." ISMRM workshop on Machine Learning 2018.
63. Danfeng Xie, Yiran Li,Li Bai and Ze Wang. "Denoising Arterial Spin Labeling Cerebral Blood Flow Images Using Deep Learning-Based Methods." 26th Joint Annual Meeting ISMRM-ESMRMB. ISMRM-ESMRMB, 2018
62. Kollmer, J. D., Biswas, S. K., Bai, L., Sarwat, A. I., Saad, W. (2018, June), A Hardware-in-the-loop Experimental Platform for Power Grid Security Paper presented at 2018 ASEE Annual Conference & Exposition , Salt Lake City, Utah. https://peer.asee.org/29689

61. Kollmer, J. D., Irwin, R. S., Biswas, S. K., Saad, W., Sarwat, A. I., Bai, L. (2017, June), Development of an Experimental Platform for Analysis of Cyber Attacks on the Power Grid Paper presented at 2017 ASEE Annual Conference & Exposition, Columbus, Ohio. https://peer.asee.org/28167

60. Gong, N., Biswas, S. K., Bai, L., Butz, B. P, "An Intelligent Tutoring System for Multimedia Virtual Power Laboratory", 2016 ASEE Annual Conference & Exposition

59. N. Gong, N. Hoe, L. Bai, C. Tucker, H. Grunwald, "Robots as Survey Administrators: Adapting Survey Administration Based on Paradata", American Association for Public Opinion Research 71st Annual Conference, 2016.

58. Q. Ren, L. Bai, S. Biswas, F. Ferrese, "Energy saving in Microgrid with Tree Configurations Using Nash Bargaining Solution", Resilience Week 2016

57. Gong, N. , Korostelev, M. , Ren, Q. , Bai, L. , Biswas, S. , Ferrese, F. (2015). "Fault Tolerant (n, k)- Star Power Network Topology for Multi-Agent Communication in Automated Power Distribution Systems". World Academy of Science, Engineering and Technology, International Science Index 97, International Journal of Electrical, Computer, Energetic, Electronic and Communication Engineering, 9(1), 1 - 7.

56. Ren, Q.; Bai, L.; Biswas, S; Ferrese, F; Dong, Q., "Demand-supply Balancing using Multi-agent System for Bus-oriented Microgrids," in 8th International Symposium on Resilient Control Systems, ISRCS 2015., Philadelphia, United States, 18-20 August. 2015.

55. Gong, N., Butz, B. P., Biswas, S. K., Bai, L., Douglas, D. J. (2015, June), Web-Based Scalable Intelligent Multimedia Virtual Laboratory for Power Engineering Paper presented at 2015 ASEE Annual Conference and Exposition, Seattle, Washington. 10.18260/p.25050

54. Gong, N., Butz, B. P., Bai, L., Biswas, S. (2014, June), A Realistic Intelligent Multimedia Virtual Laboratory for Power Engineering Paper presented at 2014 ASEE Annual Conference & Exposition, Indianapolis, Indiana. https://peer.asee.org/19989

53. Korostelev, M.; Ning Gong; Hu, A.; Li Bai; Wen, K.-Y., "M2-PASS: SMS-based mobile patient support and responding to challenges of transitional care," Biomedical Engineering and Informatics (BMEI), 2014 7th International Conference on , vol., no., pp.762,768, 14-16 Oct. 2014

52. Qiangguo Ren, Li Bai, Saroj Biswas, Frank Ferrese and Qing Dong, "A BDI Multi-agent Approach for Power Restoration", the 7th International Symposium on Resilient Control Systems (ISRCS 2014). Aug. 2014. Denver.

51. Aunshul Rege, Frank Ferrese, Saroj Biswas and Li Bai, "Adversary Dynamics and Smart Grid Security: A Multiagent System Approach", the 7th International Symposium on Resilient Control Systems (ISRCS 2014). Aug. 2014. Denver.

50. Ning Gong, Michael Korostelev, Li Bai, Saroj Biswas and Frank Ferrese, "Evaluation of highly conditionally diagnosable (n,k)-star topology for applications in resilient network on chip", the 7th International Symposium on Resilient Control Systems (ISRCS 2014). Aug. 2014. Denver.

49. Michael Korostelev, Li Bai, Assaf Zoor and Carole Tucker, "PIPSS - A portable instrument postural stability system to assess dynamic postural stability", International Joint Conference on Biomedical engineering systems and technologies, January 2014.

48. Brian Thibodeau, Qiangguo Ren, Li Bai, and Saroj Biswas, Frank Ferrese and Qing Dong, "Distributed Fuzzy Logic Price Negotiation in Market Based Mutli-agent Control", the 6th International Symposium on Resilient Control Systems (ISRCS 2013). Aug. 2013. San Francisco.

47. Saroj Biswas, Li Bai, and Qing Dong, "Multi-Objective Consensus of Interconnected System of Multi-Agent Systems", the 6th International Symposium on Resilient Control Systems (ISRCS 2013). Aug. 2013. San Francisco.

46. James Robison, Li Bai, Dimitrios S. Mastrogiannis, Chiu C. Tan, and Jie Wu, "A Survey on PHR Technology", IEEE Healthcom 2012, Oct. 2012, Beijing, China.

45. Chiu C. Tan, Li Bai, Dimitrios S. Mastrogiannis and Jie Wu, "Security Analysis of Emerging Remote Obstetrics Monitoring Systems", IEEE Healthcom 2012, Oct. 2012, Beijing, China.

44. Michael Korostelev, Li Bai, Dimitrios S. Mastrogiannis, Chiu C. Tan, and Jie Wu, "Body Sensor Networks in Fetal Monitoring with NFC Enabled Android Devices", 7th International Conference on Body Area Networks, September 24–26, 2012 Oslo, Norway.

43. Pengpeng Liang, Gregory Teodoro, Haibin Ling, Erik Blasch, Genshe Chen and Li Bai, "Multiple Kernel Learning for Vehicle Detection in Wide Area Motion Imagery", International Conference on Information Fusion (FUSION), Singapore, June 2012.

42. E.P. Blasch, H. Ling, Y. Wu, G. Seetharaman, M. Talbert, L. Bai, and G. Chen, "Dismount tracking and identification from electro-optical imagery", Proc. SPIE Conf. on Defense Security+Sensing, 2012.

41. Y. Wu, G. Chen, E. Blasch, L. Bai, and H. Ling, "Feature-based background registration in Wide-Area Motion Imagery", Proc. SPIE Conf. on Defense Security+Sensing, 2012.

40. Frank Ferrese, Saroj Biswas, Qing Dong and Li Bai, "Resiliency of Linear System Consensus in the Presence of Channel Noise", the 5th International Symposium on Resilient Control Systems (ISRCS 2012). Aug. 2012. Salt Lake City, Utah.

39. Saroj Biswas, Frank Ferrese, Qing Dong and Li Bai, "Resilient Consensus Control for Linear Systems in a Noisy Environment", the 2012 American Control Conference (ACC2012), June 2012. Montreal, Canada.

38. Qing Dong, Kristen Bradshaw, Stephen Chaves, Li Bai and Saroj Biswas, "Multi-Agent Based Federated Control of Large-Scale Systems with Application to Ship Roll Control", the 4th International Symposium on Resilient Control Systems, Boise, Idaho, August 9-11, 2011.

37. Saroj Biswas, Qing Dong, and Li Bai, "Consensus Control for Linear Systems in the Presence of Environmental and Channel Noise", the 4th International Symposium on Resilient Control Systems, Boise, Idaho, August 9-11, 2011.

36. Frank Ferrese, Qing Dong, Kristen Bradshaw, Stephen Chaves, Saroj Biswas, Li Bai, "Cooperative Federated Conttrol with Application to Tracking Control", the 13th IEEE International Conference on High Performance Computing and Communications (HPCC-2011) to be held in Banff, Alberta, Canada, Sep 02-04, 2011.

35. Benito Mendoza, Peng Xu, Qiangguo Ren and Li Bai, "Agile Plant Management Using Agents and Mobile Devices: Enhancing Collaboration and Information Integration in Large Scale Plants", the 2011 IEEE/WIC/ACM International

Conference on Web Intelligence and Intelligent Agent Technology, WI-IAT 2011 Industry paper, France, August, 2011.

34. Yi Wu, Erik Blasch, Genshe Chen, Li Bai and Haibin Ling, "Multiple Source Data Fusion via Sparse Representation for Robust Visual Tracking", International Conference on Information Fusion (FUSION), Chicago, USA, July 2011.
33. Qing Dong, Kristen Bradshaw, Frank Ferrese, Li Bai, and Saroj Biswas, "Cooperative Federated Multi-Agent Control of Large-Scale Systems", Control and Applications, Vancouver, BC, Canada, June 1–3, 2011.
32. Xue Mei, Haibin Ling, Yi Wu, Erik Blasch, and Li Bai, "Minimum Error Bounded Eefficient l1 Tracker with Occlusion Detection", in Proc. of IEEE Conf. on Computer Vision and Pattern Recognition (CVPR), Colorado Springs, June, 2011
31. Li Bai, Saroj Biswas and Frank Ferrese, "Design of a Reliable Distributed Secure Database System", The 5th IEEE International Conference on Networking, Architecture, and Storage (NAS 2010), Macau, China, July 2010.
30. Saroj Biswas, Qing Dong and Li Bai, "Optimization of Linear Singular Systems Using Haar Wavelets", The International Conference on Optimization and Control (ICOCO2010), Guiling, China, July 2010.
29. H. Ling, L. Bai, E. Blasch, and X Mei, "Robust Infrared Vehicle Tracking across Target Pose Change using L1 Regularization", International Conference on Information Fusion (FUSION), Edinburgh, UK, 2010.
28. Li Bai, Frank Ferrese, Kathryn Ploskina and Saroj Biswas, "Performance Analysis of Mobile Agent-based Sensor Network" (Invited Paper), International Conference on Reliability Maintainability and Safety, Chengdu, China, July 21-25, 2009.
27. Li Bai, Jerry Kane and Pat Lyons, "Open Architecture for Contactless Smartcard-Based Portable Electronic Payment Systems", the 4th Annual IEEE Conference on Automation Science and Engineering, August 2008, Washington D.C.
26. E. Blasch, C. Yang, I. Kadar, G. Chen, and L. Bai, "Net-Centric Layered Sensing issues in Distributed Target Tracking and Identification Performance Evaluation," Int. Conf. on Info Fusion - Fusion08, 2008.
25. Li Bai, Feiyu Xiong, Michael Korostelev and Saroj Biswas, "Optimal Updating Time using Theory of Reliability",14th Intl Conference on Parallel and Distributed Systems, pp. 27–34,December 2008, Australia.
24. Robert Esposito, John Mountney, Li Bai, Dennis Silage, "Parallel Architecture Implementation of a Reliable (k,n) Image Sharing Scheme", 14th Intl Conference on Parallel and Distributed Systems, pp. 439–446December 2008, Australia.
23. Albert Ortiz, Balakumar Ragunathan, Li Bai, Saroj Biswas and Don Dalessandro, "A Blind Steganalysis Scheme using Estimation Techniques", 16th European signal Processing Conference, August 2008, Lausanne, Switzerland.
22. Albert Ortiz, Donald Dalessandro, Kevin Brown, Frank Ferrese, Qing Dong and Li Bai "Design of a Reliable Distributed Secure Database System", 2008 Summer Computer Simulation Conference, June 2008, Edinburgh, Scotland.
21. Donald Dalessandro, Kevin Brown, Frank Ferrese, Qing Dong, and Li Bai, "Analysis of Shipboard Reconfigurable Fire Main Systems", 2008 Summer Computer Simulation Conference, June 2008, Edinburgh, Scotland.

20. Erik Blasch, Genshe Chen and Li Bai "Evaluating a level 2/3 information fusion system", Proceedings of SPIE, Higher Level Fusion and Architecture Issues, March 2008, Orlando, FL.
19. Balakumar Ragunathan, Li Bai, Saroj Biswas, "Blind Steganalysis of Distributed Steganographic Images using an Estimation Approach", IEEE Sarnoff symposium 2008, Princeton, NJ
18. Li Bai, Saroj Biswas and Erik Blasch "Survivability - An Information Fusion Process Metric from An Operational Perspective"', Fusion 2007, pp. 1-8, July 9-12, Québec City.
17. Li Bai, Saroj Biswas and Erik Blasch "An Estimation Approach to Extract Multimedia Information in Distributed Steganographic Images", Fusion 2007, pp. 1-6, July 9-12, Québec City.
16. Li Bai, Saroj Biswas and Henry Sendaula, "How to Update Dependable Secure Computing Systems from a Survivability Assessment Perspective?" The 3rd IEEE International Symposium on Dependable, Autonomic and Secure Computing (DASC'07), pp. 95-99, Washington, D.C., September 2007.
15. Li Bai, Saroj Biswas, Albert Ortiz, Frank Ferrese, Don Dalessandro and Qing Dong, "Survivability Analysis of Reconfigurable Systems", The International Conference on Industrial Engineering and Engineering Management (IEEM) 2007, honorable mention for the best paper award, pp. 663-667, Singapore, December 2007.
14. Li Bai, "A Reliable (k, n) Image Secret Sharing Scheme", The 2nd IEEE International Symposium on Dependable, Autonomic and Secure Computing (DASC'06), pp. 31-36, Indiana University, Purdue University, Indianapolis, 2006
13. Li Bai, Saroj Biswas, Albert Ortiz, and Don Dalessandro, "An Image Secret Sharing Method", Proceeding of the 9th International Conference on Information Fusion, pp. 1-6, Italy, 2006.
12. Y. Liang, Li Bai, and G. Pan, "Asymptotic Performance of BI-GFDE and Unconditional MMSE-SIC Receivers for Large MIMO Systems",pp. 4983-4987,presented at IEEE International Conference on Communications, Istanbul, Turkey.
11. Li Bai, "A Strong Ramp Secret Sharing Scheme Using Matrix Projection", Proceedings of the 2006 International Symposium on on World of Wireless, Mobile and Multimedia Networks , TSPUC 2006, pp.652-656, Buffalo, 2006
10. Divya Dornadula, Z. J. Delalic, Li Bai, Praveen Alexander, "Reduction of Power Dissipation in VLSI Chips", the 38th International Symposium on Microelectronics, September, 2005.
9. Li Bai, J. Landis, J. Salerno, M. Hinman, and D. Boulware, "Mobile Agent-Based Distributed Fusion (MADFUSION) System", Proceeding of the 8th International conference on Information Fusion, pp.1199-1203, Philadelphia, 2005.
8. Kanupriya Salaria, Li Bai, E. Lin, "Efficient DOA Estimation method Employing Refined Improved Polynomial Rooting," Proceeding of the 8th International conference on Information Fusion, pp. 1600-1604, Philadelphia, 2005.
7. Kanupriya Salaria, S. Das, M. Hinman, J. Salerno and Li Bai, "Situation Assessment for Aggregated Vehicle Merging at an Unknown Location", SPIE 2005 Conference in vol. 5434, Multisensor, Multisource Information Fusion: Architectures, Algorithms, and Applications 2005, March 2005, vol. 5809, pp. 43-52, Orlando, FL.

6. Erwei Lin, Li Bai and Moshe Kam, "Efficient DOA Estimation method Employing Unitary Improved Polynomial Rooting", Proceedings of IEEE International Conference on Acoustics, Speech, and Signal Processing 2004 (ICASSP '04), vol. 2 , 17-21 May 2004, pp. 257 – 260, Montreal, Canada.

5. Kanupriya Salaria, Wiriyanto Darsono, Michael Hinman, Mark Linderman and Li Bai, "Object Aggregation Using Merging at a Point", Proceedings of SPIE, vol. 5434, Multisensor, Multisource Information Fusion: Architectures, Algorithms, and Applications 2004, April 2004, pp. 287-294, Orlando, FL.

4. Li Bai and Saroj Biswas, "Online Course Evaluation and Analysis", Proceedings of the 2004 American Society of Engineering Education Annual Conference & Exposition, Engineering Researches New Heights, pp. 10627-10637. Salt Lake City, June 2004.

3. Li Bai and Michael Hinman, "Object Aggregation using Neyman Pearson Technique", Proceedings of SPIE, vol. 5099, Multisensor, Multisource Information Fusion: Architectures, Algorithms, and Applications 2003, April 2003, pp. 201-210, Orlando, FL.

2. Li Bai, R. Achuthananandam and Moshe Kam. "Access Revocation and Prevention of False Repudiation in Secure E-mail Exchange", ISADS Conference, Dallas, USA, pp. 419-427, March 2001.

1. Li Bai and Moshe Kam, "Distributed Detection Using the MLGDS Test", Proceedings of Euro Fusion 1998, Great Malvern, UK pp. 113-120, October 1998.