Weisong Shi

Alumni Distinguished Professor and IEEE Fellow

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RESEARCH INTERESTS

Edge Computing, Vehicle Computing, Autonomous Driving, Connected Health

LEADERSHIP EXPERIENCES

CCC Council Member (2024 -)
Advisory Committee, NSF CISE (2023 -)
Chair, Department of Computer and Information Sciences, University of Delaware (10/2022 -)
Interim Chair, Department of Computer Science, Wayne State University (05/2022 -09/2022)
Associate Dean for Research and Graduate Studies, College of Engineering, Wayne State University (09/2019 - 05/2022)
Program Director, National Science Foundation (08/2013 - 08/2015)
Center Director, NSF eCAT IUCRC Center 2021- 2023) (`http://ecat.center/`)
Chair, Wayne Mobility Initiative (2020 -) (`http://mobility.wayne.edu/`)
Director, Connected and Autonomous Research Laboratory (The CAR Lab, 12/2017 -) (`http://thecarlab.org/`)
Chair, IEEE Computer Society Technical Committee on the Internet (2012-2016)
Chair, IEEE Computer Society Special Technical Community on Autonomous Driving Technology (2020 -)

EDUCATION

Ph.D., Computer Engineering   Sep '95 – Mar '00
Institute of Computing Technology, Chinese Academy of Sciences, Beijing, China
Adviser: Professor Peisu Xia

B.E., Computer Science   Sep '91 – Jul '95
Xidian University, Xi'an, China

EMPLOYMENT

Alumni Distinguished Professor and Chair   Feb '24 – present
Department of Computer and Information Sciences
University of Delaware

Professor and Chair   Oct '22 – Feb '24
Department of Computer and Information Sciences
University of Delaware

Interim Chair   May '22 – Sep '22
Department of Computer Science
Wayne State University

Associate Dean for Research and Graduate Studies   May '20 – May '22
College of Engineering

Wayne State University

Professor   Aug '13 – Sep.'22
Department of Computer Science
Wayne State University

Associate Dean for Research   Aug '19 – May '20
College of Engineering
Wayne State University

Program Director   Aug '13 – Aug '15
CISE/CNS/CSR
National Science Foundation

Associate Professor   Aug '08 – Aug '13
Department of Computer Science
Wayne State University

Assistant Professor   Aug '02 – Aug '08
Department of Computer Science
Wayne State University

Associate Research Scientist in Computer Science   Apr '00 – Aug '02
Courant Institute of Mathematical Sciences
New York University

ACADEMIC HONORS AND AWARDS

- Highly Ranked Scholar (lifetime) by ScholarGPS, 2025

- Alumni Distinguished Professor of Computer and Information Sciences, 2024

- Editor-in-Chief of IEEE Internet Computing Magazine, 2024

- AAIA (Asia-Pacific Artificial Intelligence Association) Fellow 2023

- NSF CISE Advisory Committee, 2023-2026

- Crain's Notable Leaders in EV, 2022

- AI 2000 Most Influential Scholar Award, 2022

- Outstanding Scientific Article Award by CAST, 2020

- IEEE TCI Distinguished Service Award, 2020

- Most Downloaded Paper Award (IEEE Computer), 2018

- Best Paper Award of IEEE eHealth Technical Committee 2017

- Academia Advisory Board of IEEE Computer Society 2017

- Associate Editor-In-Chief of IEEE Internet Computing 2017

- ACM Distinguished Scientist 2016

- Appointed as the Inaugural Editor-In-Chief of **Smart Health Journal** 2016

- College of Engineering Faculty Research Excellence Award 2016

- **IEEE Fellow (Computer Society)** 2016

- IEEE HealthCom Best Student Paper Award 2015

- Wayne State University Charles H. Gershenson Distinguished Faculty Fellow 2015

- Best Paper Nominee of 2014 ACM International Joint Conference on Pervasive and Ubiquitous Computing (Ubi-Comp), September 2014

- Spotlight paper of IEEE Transactions on Parallel and Distributed Systems, April 2013

- Best Paper Award of IEEE International Symposium on Workload Characterization 2012

- Best Paper Award of National Annual Conference on High Performance Computing 2012

- Chair of the IEEE Computer Society Technical Committee on the Internet (2012 -)

- College of Liberal Arts and Sciences Teaching Award 2011

- Wayne State University Career Development Chair Award 2009

- **NSF CAREER Award** 2007

- College of Liberal Arts and Sciences Teaching Award 2007

- Marquis Who's Who of Emerging Leaders 2006

- Wayne State University Faculty Research Award, 2005

- Best Paper Award in IEEE 19th International Parallel and Distributed Processing Symposium, April 2005

- Best Paper Award in 4th International Conference on Web Engineering, July 2004

- Wayne State University Faculty Research Award, 2004

- **100 National Outstanding Dissertations of China**, 2002

- President Outstanding Honor of Chinese Academy of Sciences, 2000

- Microsoft Research Fellowship, 1999

GRANTS AND CONTRACTS

External Grants and Contracts
Total: $35M

1. NSF, Collaborative Research: CSR: Small: CADaaS: Deterministic Communication and Predictive Computation for Connected Autonomous Driving as a Service, $273,555, PI, 03/01/25 - 02/29/28.

2. West Digital (NSF eCAT IUCRC), Computational Autonomous Vehicle Storages (AVS), $50k, PI, 1/1/25-12/31/25.

3. Tier IV, Design and Implementation of Infrastructure Programming Interface (IPI), $60k, PI, 11/1/24. - 10/31/25.

4. NSF eCAT IUCRC, Off-road Motion Planning for Autonomous Mobile Robots, $30k, PI, 1/1/25-12/31/25.

5. NSA, DRiving Automotive Industry WorkForce Transformation (DRIFT): Excellence and Innovation in Cybersecurity and Artificial Intelligence, $250,000, PI, 12/1/24-11/30/26.

6. NSF, SLES: Orchestrating Model, System, and Hardware for Safe Learning in Autonomous Vehicles, $1.5M, Co-PI (PI: Xi Peng), 10/1/24-9/30/28.

7. NSF, CSR: Small: Predictable Multi-Tenant DNN Inference for Autonomous Driving, $600k, PI, 10/1/24 - 9/30/2027.

8. West Digital (NSF eCAT IUCRC), Data Storage System for Autonomous Vehicles, $50k, PI, 1/124-12/31/24.

9. Tier IV, Investigating the Effect of C-V2X on Autoware.Universe, $50k, PI, 9/1/23. - 8/31/24.

10. Toyota, Open Intersection Reference Design and Implementaion $60k (Gift), PI, 1/1/24 - 12/31/24.

11. NSF, Collaborative Research: CPS: Medium: Physics-Model-Based Neural Networks Redesign for CPS Learning and Control, $197,000. PI. 6/15/23-5/31/26.

12. NSF, IUCRC Phase I Wayne State University: Center for Electric, Connected and Autonomous Technologies for Mobility (eCAT), $1,049,965 (PI), 3/15/23 - 2/28/2028. The total budget of the three sites is $2.25M.

13. Toyota, Edge-based Architecture for CAVs, $60k (Gift), PI, 1/1/23 - 12/31/23.

14. NSF, Convergence Accelerator Track H: Leveraging Human-Centered AI Microtransit to Ameliorate Spatiotemporal Mismatch between Housing and Employment for Persons with Disabilities, $613,621, 02/23-01/24. Co-PI (PI: Brocanelli).

15. GM, Deep Prognostics for EV Batteries, $200,000, PI, 8/1/22-7/31/24.

16. National Institutes for Environmental Health Sciences (NIEHS), P42 Center (P42 ES030991-01A1) entitled "Center for Leadership in Environmental Awareness and Research", about $10M, Senior Personnel, (MPIs: Mellisa Runge-Morris and Carol Miller), 10/1/22 - 9/30/27.

17. NSF, CNS Core: Small: Enabling Real-time, Scalable and Secure Collaborative Intelligence on the Edge, $499,861, Co-PI (PI: Dong), 1/1/22-12/31/24.

18. NSF, Collaborative Research: PPoSS: Planning: Scaling Autonomous Vehicle Systems at the Edge: from On-Board Processing to Cloud Infrastructure, $163,796, Co-PI (PI: Grosu), 7/15/21-6/30/22.

19. NSF, IUCRC Planning Grant Wayne State University: Center for Electric, Connected and Autonomous Technologies for Mobility (eCAT), $20,000, 6/15/21-5/31/22.

20. Toyota, End-to-End Architecture for CAVs, $50K (Gift), PI, 5/1//21-3/31/22.

21. NSF, Center for Broad Explorations on Spectrum Technologies for Navigation, Environment, Surveillance, and Transportation (BEST NEST) planning, $300,000, 10/1/20-3/31/21, Co-PI, (PI, Seyed Zekavat, WPI)

22. NSF, RAPID: CORPUS: An Edge Intelligence-Assisted Multi-Granularity COVID-19 Risk Predication and Update System, $150,000, 7/1/20-6/30/21. PI (Co-PI: Ming Dong)

23. MDOT Mobility Challenge for NAAIAS 2020, $15,000, 5/1/20-6/30/20. (PI)

24. USDOT Autonomous Driving Systems (ADS) Demonstration Grant in City of Detroit, $7,500,000, 1/1/20-12/31/23. (PI: City of Detroit, Wayne State PI).

25. NSF, SaTC: CORE: Small: Collaborative: Hardware-assisted Plausibly Deniable System for Mobile Devices, $250,000, 10/1/19-9/30/22. PI (Original PI was Fengwei Zhang)

26. Great Lake Protection Fund (GLPF), Smart Management of Microplastic Pollution in the Great Lakes, $929,000, 11/1/18-10/31/21, Co-PI. (PI: Yongli Zhang)

27. NSF, CSR PI meeting, $160k, 8/1/18-7/31/19. PI.

28. Michigan Health Endowment Fund, Real Time Nursing Home Quality Control, MHEF R-1712-142406, $79,846, 5/1/18-4/30/19, Co-PI. (PI Allen Goodman).

29. Facebook Research Award, $50k, 2018. (PI)

30. Microsoft Azure Research Award, $10K, 2/1/18-1/31/19, MPI (with Yongli Zhang).

31. NSF, S&AS:INT: Autonomous Battery Operating System (ABOS): An Adaptive & Comprehensive Approach to Efficient, Safe, & Secure Battery System Management, $1.25M, 9/1/17-8/31/21, Co-PI (PI: Nathan Fisher).

32. NSF, OpenEdge: Toward Open and Transparent Edge Computing and Its Application in Public Safety, $50K, 9/1/17-8/31/18. PI.

33. Michigan Health Endowment Fund, Real Time Nursing Home Quality Control, MHEF R-1608-140360, $97,534, 5/1/17-4/30/18, Co-PI. (PI Allen Goodman).

34. NSF, CNS workshop on Grand Challenges on Computing at the Edge, 8/1/16-7/31/18, $100,000. (Sole PI)

35. NSF, CCF Medium:Collaborative Research: Wizard: Exploiting Disk Performance Signatures for Cost-Effective Management of Large-Scale Storage Systems, 6/1/16-5/31/19, total budget $700,000. (Sole PI)

36. NSF, EAGER: Fine-Grained Software Power Prediction and Its Application on Power Management of Heterogeneous Multicore Systems, 2/1/16-1/31/18, $299,928. (Sole PI)

37. Intel, Internet of Things Innovators Lab, October 2015, $30,000 + Equipment. (Sole PI)

38. Great Lakes Protection Fund (GLPF), Real-Time Energy Impact Monitors for Residential, Industrial and Policy Use, 7/1/13-6/30/15, $557,000. (Co-PI, PI: Carol Miller).

39. Gates Foundation (Grand Challenge Exploration Program), Mobile Immunization Tracking and Management System, 11/1/12-4/30/14, $100K (Direct Cost). (Co-PI, PI: Paul Kilgore)

40. NSF II-NEW: A Research and Education Infrastructure for Power- and Thermal-Aware Computing , $386,396, 6/1/12-5/31/15. (PI, Co-PI: Nathan Fisher)

41. VA: iOS application for Veteran Health Goal Tracking Patient Centered Care, 10/1/11-8/31/12, $200,000 (Co-PI, PI: Kai Yang)

42. Department of Homeland Security, "First Responder Resiliency-Identification and Application of Malleable Factors," (Co-PI, PI: Bengt Arnetz), October 2010 - September 2012. $437,560. (stopped because of federal cut)

43. Air Force SBIR, "Building a Trust-aware Dynamic Routing Solution for Wireless Sensor Networks," (PI, lead organization:Intelligent Automation Inc.), December 2009 - December 2011, $750,000 (Wayne State University, $150,000).

44. Swedish Council for Working Life and Social Research, "Real-time Psychosocial Assessment and Cardiovascular Reactions: Application of an Interactive Wireless Data Collection System," (Co-PI, PI: Bengt Arnetz), June 2009 - June 2012, 2,100,000 SEK (Wayne State University, 324,000 SEK).

45. NSF, "NOSS: Consistency Model Driven Deceptive Data Detection and Filtering in Wireless Sensor Networks," (Sole PI), August 2007 - May 2011. $200,002.

46. NSF, "**CAREER:** Mechanisms for Resource Sharing in Collaborative High-End Computing Platforms," (PI), April 2007 - April 2012. $465,770 + $121,002 (university match).

47. Chrysler/Bright Star Engineering, "Mobile Sensor Networks for Automotive Diagnostics," (Sole PI), July 2008 - July 2010, $41,000.

48. AtomyNet, "Performance Evaluation of Symmetric and Asymmetric Encryption Algorithms and Exploiting New Potential Applications in Embedded Systems," (Sole PI), October 2005 - September 2006. $58,548

49. Michigan Life Sciences Corridor, "Integration of Bioengineering and Biocomputing to Advance Michigan Computer-Assisted Surgery" August 2003 - July 2007. (PI- Vipin Chaudhary and 7 other Co-PIs, 10% + one 12 month GRA). $3,377,560.

OPEN SOURCE SOFTWARE

1. Disk Failure Predication and Dataset

2. OpenVDAP:Open Vehicular Data Analytics Platform

3. HydraOne: An Indoor Research and Education Platform for CAVs

4. HERO: An Mobile App for Home Emission Read-Out

5. pTop: A process-level power profiling tool

6. Bugu: An application-level power profiler and analyzer for mobile devices

7. CloudAligner: A cloud-based sequence analysis tool

8. SPAN: A software power analyzer

9. RatSim: A Simulator of Rating Algorithms for Reputation Systems

10. SCore: A Cross-layer Sensor Core Library (for TinyOS)

PUBLICATIONS

Books and Reports (8)

1. Sidi Lu and Weisong Shi, *Vehicle Computing: From Traditional Transportation to Computing on Wheels*, Springer, September 2024.

2. Weisong Shi and Liangkai Liu, *Computing Systems. for Autonomous Driving*, Springer, November 2021.

3. Weisong Shi, Fang Liu, Hui Sun, and Qingqi Pei, *Edge Computing* (2nd Edition), Science Press, March 2021.

4. Jie Cao, Quan Zhang, and Weisong Shi, *Edge Computing: A Primer*, Springer, December 2018.

5. Weisong Shi, Fang Liu, Hui Sun, and Qingqi Pei, *Edge Computing*, Science Press, January 2018.

6. Mung Chiang and Weisong Shi (Editors) *NSF Workshop Report on Grand Challenges in Edge Computing*, October 26, 2016. Washington DC.

7. Weisong Shi, *Foundations of Computer Systems Research*, Higher Education Press, 286 pages, October 2010. (Edited)

8. Weisong Shi, *Performance Optimization of Software Distributed Shared Memory Systems*, Higher Education Press, 251 pages, July 2004.

Journal Papers and Magazine Articles (142)

1. Yuankai He and Weisong Shi, "A Vision for Transformative Intersections," IEEE Computer Magazine, Vol. 57, No. 12, December 2024. pp. 58-68.

2. Sidi Lu and Weisong Shi, "Vehicle as a Mobile Computing Platform: Opportunities and Challenges," IEEE Network Magazine, Vol. 38, No. 6, November 2024.

3. Quyuan Luo, Tom H. Luan, Weisong Shi, and Pingzhi Fan, "Heterogeneous Task Oriented Data Scheduling in Vehicular Edge Computing via Deep Reinforcement Learning," accepted by IEEE Transactions on Vehicular Technology. August 2024.

4. Baofu Wu, Ren Zhong, Yuxin Wang, Jian Wan, Jilin Zhang, and Weisong Shi, "VPI: Vehicle Programming Interface for Vehicle Computing," Journal of Computer Science and Technology, Vol. 39, No.1, pp. 22-44, January 2024.

5. Fuxiang Deng, Emil Javanov, Houbing Song, Weisong Shi, Yuan Zhang, Wenyao Xu, "WiLDAR: WiFi Signal-Based Lightweight Deep Learning Model for Human Activity Recognition," IEEE Internet of Things Journal, Vol. 11, No. 2, pp. 2899-2908. January 2024.

6. Liangkai Liu, Yanzhi Wang, and Weisong Shi, "CPT: A Configurable Predictability Testbed for DNN Inference in AVs," Tsinghua Science and Technology (invited). January 2024.

7. Shihong Hu, Zhihao Qu, Bin Tang, Baoliu Ye, Guanghui Li, and Weisong Shi, "Joint Service Request Scheduling and Container Retention in Serverless Edge Computing for Vehicle-Infrastructure Collaboration," accepted by IEEE Transactions on Mobile Computing, October 2023.

8. Hui Sun and Weisong Shi, "Optimal Task Offloading and Trajectory Planning Algorithms for Collaborative Video Analytics with UAV-assisted Edge in Disaster Rescue," accepted by IEEE Transactions on Vehicular Technology, Sep. 2023.

9. Huizi Xiao, Jun Zhao, Jie Feng, Lei Liu, Qingqi Pei and Weisong Shi. "Joint Optimization of Security Strength and Resource Allocation for Computation Offloading in Vehicular Edge Computing," IEEE Transactions on Wireless Communications, Vol. 22, No. 12, pp. 8751-8765, December 2023.

10. William He, Baofu Wu, Zheng Dong, and Weisong Shi, "Towards C-V2X Enabled Collaborative Autonomous Driving," IEEE Transactions on Vehicular Technology. Vol. 72, No. 12, pp. 15450-15462, December 2023.

11. Haitham H. Esmat, Beatriz Lorenzo, and Weisong Shi, "Towards Resilient Network Slicing for Satellite-Terrestrial Edge Computing IoT," IEEE Internet of Things Journal. Vol. 10, No. 16, pp. 14621-14645, August 2023.

12. Sidi Lu, Xin Yuan, Weisong Shi, "Reinforcement Learning for Adaptive Video Compressive Sensing," ACM Transactions on Intelligent Systems and Technology. Vol. 14, No. 5, August 2023.

13. Liangkai Liu, Wei Li, Dawei Wang, Yi Wu, Ruigang Yang and Weisong Shi, "Fuel Rate Predication for Heavy-Duty Trucks," EEE Transactions on Intelligent Transportation Systems (TITS), Vol. 24, No. 8, pp. 8222-8235, August 2023.

14. Hui Sun, Yiru Chen, Kewei Sha, Shaoyuan Huang, Xiaofei Wang, and Weisong Shi, "A Proactive On-Demand Content Placement Strategy in Edge Intelligence Gateways," accepted by IEEE Transactions on Parallel and Distributed Systems (TPDS), Vol. 24, No. 7, pp. 2072-2090, July 2023.

15. Jiashun Suo, Xingzhou Zhang, Weisong Shi, and Wei Zhang, "E3-UAV: An Edge-based Energy-Efficiency Object Detection System for Unmanned Aerial Vehicles," accepted by IEEE Internet of Things Journal. April 2023.

16. Javad Roostaei, Yongli Z. Wager, Weisong Shi, Timothy Dittrich, Carol Miller, and Kishore Gopalakrishnan, "IoT-based Edge Computing (IoTEC) for Improved Environmental Monitoring," accepted by Sustainable Computing: Informatics and Systems, April 2023.

17. Jiashun Suo, Tianyi Wang, Xingzhou Zhang, Haiyang Chen, Wei Zhou, and Weisong Shi, "HIT-UAV: A High-Altitude Infrared Thermal Dataset for Unmanned Aerial Vehicles Object Detection," Scientific Data by Nature Research, February 2023.

18. Huizi Xiao, Lin Cai, Jie Feng, Qingqi Pei, and Weisong Shi, "Resource Optimization of MAB-based Reputation Management for Data Trading in Vehicular Edge Computing," accepted by IEEE Transactions on Wireless Communications, January 2023. DOI: 10.1109/TWC.2022.3233035

19. Quyuan Luo, Tom H. Luan, Weisong Shi, and Pingzhi Fan, "Edge Computing Enabled Energy-Efficient Multi-UAV Cooperative Target Search," IEEE Transactions on Vehicular Technology. Vol. 72, No. 6, pp. 7757-7771, June 2023.

20. Yijing Lin, Zhipeng Gao, Weisong Shi, Qian Wang, Huangqi Li, Miaomiao Wang, Yang Yang, Lanlan Rui, "A Novel Architecture Combining Oracle with Decentralized Learning For IIoT," IEEE Internet of Things Journal, Vol. 10, No. 5, March 2023.

21. Sidi Lu and Weisong Shi, "Vehicle Computing: Vision and Challenges," Journal of Information and Intelligence, Vol. 1, No. 1, January 2023.

22. Quyuan Luo, Tom H. Luan, Weisong Shi, and Pingzhi Fan, "Deep Reinforcement Learning Based Computation Offloading and Trajectory Planning for Multi-UAV Cooperative Target Search," accepted in IEEE Journal on Selected Areas in Communications Special Issue on Multi-Tier Computing for Next Generation Wireless Networks. October 2022.

23. Zheng Dong, Yan Lu, Guangmo Tong, Yuanchao Shu, Shuai Wang and Weisong Shi, "Watchdog: Real-time Vehicle Tracking on Geo-distributed Edge Nodes," accepted by ACM Transactions on Internet of Things. July 2022.

24. Sidi Lu, Yongtao Yao, Bing Luo, Zhifeng Yu, Dalong Li, and Weisong Shi, "EdgeWare: Toward Extensible and Flexible Middleware for Connected Vehicle Services," CCF Transactions on High Performance Computing, May 2022, DOI: 10.1007/s42514-022-00100-4.

25. Lanyu Xu, Arun Iyengar and Weisong Shi, "NLUBroker: A QoE-driven Broker System for Natural Language Understanding Services," ACM Transactions on Internet Technology. Vol. 22, No. 3, August 2022.

26. Hui Sun, Bo Zhang, Xiuye Zhang, Ying Yu, Kewei Sha, Weisong Shi, "FlexEdge: Dynamic Task Scheduling for a UAV-based On-Demand Mobile Edge Server," IEEE Internet of Things Journal. Vol. 9, No. 17, September 2022. pp. 15983-16005.

27. Yang Ming, Chenhao Wang, Hang Liu, Yi Zhao, Jie Feng, Ning Zhang, Weisong Shi, "Blockchain-Enabled Efficient Dynamic Cross-Domain Deduplication in Edge Computing," IEEE Internet of Things Journal. Vol. 9, No. 17, September 2022. 15639-15656.

28. Shihong Hu, Weisong Shi, and Guanghui Li. "CEC: A Containerized Edge Computing Framework for Dynamic Resource Provisioning," accepted by IEEE Transactions on Mobile Computing. January 2022.

29. Blesson Varghese, Nan Wang, David Bermbach, Cheol-Ho Hong, Eyal de Lara, Weisong Shi, Christopher Stewart, "A Survey on Edge Performance Benchmarking," ACM Computing Surveys, Vol. 54, No. 3, April 2022.

30. Sidi Lu, Baofu Wu, Xiaoda Cong, Yongtao Yao and Weisong Shi, "SafeCampus: Multimodal-based Campus-wide COVID-19 Risk Prediction," IEEE Internet Computing Magazine, Vol. 25, No. 1, pp. 60-67, January/February 2022.

31. Zhenyu Fan, Wang Yang, Fan Wu, Jing Cao, and Weisong Shi, "Serving at the Edge: An Edge Computing Service Architecture Based on ICN," ACM Transactions on Internet Technology. Vol. 22, No. 1, 2022.

32. Huizi Xiao, Qingqi Pei, Xifei Song, Weisong Shi, "Authentication Security Level and Resource Optimization of Computation Offloading in Edge Computing Systems," accepted by IEEE Internet of Things, December 2021.

33. Cong Gao, Geng Wang, Weisong Shi, Zhongmin Wang and Yanping Chen, "Autonomous Driving Security: State-of-the-Art and Challenges," accepted by IEEE Internet of Things Journal. November 2021.

34. Yongtao Yao, Tony Geara and Weisong Shi, "Impact of COVID19 on City-Scale Transportation and Safety: An Early Experience from Detroit," accepted by Elsevier Smart Health, September 2021.

35. Shihong Hu, Guanghui Li and Weisong Shi, "LARS: A Latency-aware and Real-time Scheduling Framework for Edge-enabled Internet of Vehicles," accepted by IEEE Transactions on Services Computing, August 2021.

36. Quyuan Luo, Shihong Hu, Changle Li, Guanghui Li, and Weisong Shi, "Resource Scheduling in Edge Computing: A Survey," IEEE Communications Surveys and Tutorials, Vol. 23, No. 4, pp. 2131-2165. 2021

37. Tianze Wu, Baofu Wu, Sa Wang, Liangkai Liu, Shaoshan Liu, Yungang Bao, Weisong Shi, "Oops! It's Too Late. Your Autonomous Driving System Needs a Faster Middleware," IEEE Robotics and Automation Letters (RA-L), Vol. 6, No. 4, pp. 7301-7308. October 2021.

38. Quyuan Luo, Changle Li, Tom H. Luan and Weisong Shi, "Self-Learning based Computation Offloading for Internet of Vehicles: Model and Algorithm," accepted by IEEE Transactions on Wireless Communications, Vol. 20, No. 9, September 2021. pp. 5913-5925.

39. Liangkai Liu, Shaoshan Liu and Weisong Shi, "4C: A Computation, Communication, and Control Co-Design Framework for CAVs," IEEE Wireless Communication Magazine, Special Issue on Emerging Visual IoT Technologies for Future Communications and Networks, Vol. 28, No. 4, August 2021. pp. 42-48.

40. Huizi Xiao; Jun Zhao; Qingqi Pei; Jie Feng; Lei Liu; Weisong Shi, "Vehicle Selection and Resource Optimization for Federated Learning in Vehicular Edge Computing," accepted by IEEE Transactions on Intelligent Transportation Systems (TITS), June 2021. ,

41. Blesson Varghese, Eyal de Lara, Aaron Ding, Cheol-Ho Hong, Flavio Bonomi, Schahram Dustdar, Paul Harvey, Peter Hewkin, Weisong Shi, Mark Thiele, Peter Willis, "Revising the Arguments for Edge Computing Research," IEEE Internet Computing, Nov/December, 2021.

42. Yanming Chen, Xiang Wen, Yiwen Zhang, and Weisong Shi, "CCPrune: Collaborative Channel Pruning for Learning Compact Convolutional Networks," Neurocomputing, Vol. 451, September 2021, pp. 35-45.

43. Qingyang Zhang, Hong Zhong, Weisong Shi, Lu Liu, "A Trusted and Collaborative Framework for Deep Learning in IoT," Computer Networks, Vol. 193, July 2021.

44. Mohit Kumar, Saurabh Gupta, Tirthak Patel, Michael Wilder, Weisong Shi, Song Fu, Christian Engelmann, Devesh Tiwari, "Study of Interconnect Errors, Network Congestion, and Applications Characteristics for Throttle Prediction on a Large Scale HPC System," Journal of Parallel and Distributed Computing, Vol. 153, July 2021, pp. 29-43.

45. Liangkai Liu, Sidi Lu, Ren Zhong, Baofu Wu, Yongtao Yao, Qingyang Zhang, Weisong Shi, "Computing Systems for Autonomous Driving: State-of-the-Art and Challenges," IEEE Internet of Things Journal, Vol. 8, No. 8, April 2021. pp. 6469-6486.

46. Sidi Lu and Weisong Shi, "The Emergence of Vehicle Computing," IEEE Internet Computing Magazine, May/June 2021.

47. Quyuan Luo, Changle Li, Tom H. Luan, Weisong Shi, "Minimizing the Delay and Cost of Computation Offloading for Vehicular Edge Computing," accepted by IEEE Transactions on Services Computing, March 2021.

48. Qingyang Zhang, Hong Zhong, Jie Cui, Lingmei Ren and Weisong Shi, "AC4AV: A Flexible and Dynamic Access Control Framework for Connected and Autonomous Vehicles," IEEE Internet of Things Journal, Vol. 8, No. 3, Feb. 2021, pp.1946-1958.

49. Congfeng Jiang, Yitao Qiu, Weisong Shi, Zhefeng Ge, Jiwei Wang, Shenglei Chen, Christophe Cerin, Zujie Ren, Guoyao Xu and Jiangbin Lin, "Characterizing Co-located Workloads in Alibaba Cloud Datacenters," accepted by IEEE Transactions on Cloud Computing. October 2020.

50. Sidi Lu, Yongtao Yao and Weisong Shi, "CLONE: Collaborative Learning on the Edges," IEEE Internet of Things Journal, accepted, October 2020.

51. Yanming Chen, Chao Li, Luqi Gong, Xiang Wen, Yiwen Zhang, Weisong Shi, "A Deep Neural Network Compression Algorithm based on Knowledge Transfer for Edge Devices," accepted by Elsevier Computer Communications, September 2020.

52. Quyuan Luo, Changle Li, Tom Luan, Weisong Shi, "Collaborative Data Scheduling for Vehicular Edge Computing via Deep Reinforcement Learning," IEEE Internet of Things Journal, Vol. 7, No. 10, October. 2020. pp.9637-9650.

53. Kaile Xiao, Weisong Shi, Zhipeng Gao, Congcong Yao, Xuesong Qiu, "DAER: A Resource Pre-allocation Algorithm of Edge Computing Server using Blockchain in Intelligent Driving," IEEE Internet of Things Journal, Vol. 7, No. 10, October 2020. pp. 9291-9302.

54. Quyuan Luo, Changle Li, Tom Luan, Weisong Shi, "EdgeVCD: Intelligent Algorithm Inspired Content Distribution in Vehicular Edge Computing Network," IEEE Internet of Things Journal, Vol. 7, No. 6, June 2020. pp.5562-5579.

55. Jie Tang, Shaoshan Liu, Liangkai Liu, Bo Yu, and Weisong Shi, "LoPECS: A Low-Power Edge Computing System for Real-Time Autonomous Driving Services," IEEE Access, Vol. 8, pp. 30467-30479, Feb. 2020.

56. Kaile Xiao, Zhipeng Gao, Weisong Shi, Xuesong Qiu, Yang Yang, Lanlan Rui, "EdgeABC: An Architecture for Task Offloading and Resource Allocation in the Internet of Things," accepted by Future Generation Computer Systems, February 2020.

57. Hui Sun, Weisong Shi, Xu Liang and Ying Yu, "VU: Edge Computing-Enabled Video Usefulness Detection and Its Application in Large-Scale Video Surveillance Systems," IEEE Internet of Things Journal, Vol. 7, No. 2, pp. 800-817, February 2020.

58. Congfeng Jiang, Tiantian Fan, Honghao Gao, Weisong Shi, Liangkai Liu, Christophe Cerin, Jian Wan, "Energy-Aware Edge Computing: A Survey,", Computer Communications, Vol. 151, No. 1, February 2020. pp. 556-580.

59. Sa Wang, Yan-Hai Zhu, Shan-Pei Chen, Tian-Ze Wu, Wen-Jie Li, Xu-Sheng Zhu, Hai-Yang Ding, Wei-Song Shi, Yun-Gang Bao, "A Case for Adaptive Resource Management in Alibaba Datacenter Using Neural Networks," Journal of Computer Science and Technology, Vol. 35, No.1, Jan. 2020. pp. 209-220.

60. Jie Tang, Shaoshan Liu, Jie Cao, Dawei Sun, Bollin Ding, Jean-Luc Gaudiot, Weisong Shi, "π-Hub: Large-Scale Video Learning, Storage, and Retrieval on Heterogeneous Hardware Platforms," Future Generation Computer Systems, Vol. 102, January 2020, pp. 514-523.

61. Weisong Shi, George Pallis and Zhiwei Xu, "Edge Computing," Proceedings of the IEEE, Vol. 107, No. 8, August, 2019. pp. 1474-1481.

62. Shaoshan Liu, Liangkai Liu, Jie Tang, Bo Yu, Yifan Wang, and Weisong Shi, "Edge Computing for Autonomous Driving: Opportunities and Challenges," Proceedings of the IEEE, Vol. 107, No. 8, August, 2019. pp. 1697-1716. .

63. Zhenyu Ning, Fengwei Zhang, Weisong Shi, "A Study of Using TEE on Edge Computing," Journal of Computer Research and Development, Vol. 56, No. 7, pp. 1441-1453. July 2019.

64. Yao Zhang, Changle Li, Tom H. Luan, Yuchuan Fu, Weisong Shi, and Lina Zhu, "A Mobility-Aware Vehicular Caching Scheme in Content Centric Networks: Model and Optimization," IEEE Transactions on Vehicular Technology, Vol. 68, No. 4, pp. 3100-3112, April 2019.

65. Hui Sun, Wei Liu, Jianzhong Huang and Weisong Shi, "Collaborative Compaction Optimization System using Near-Data Processing for LSM-tree-based Key-Value Stores," Journal of Parallel and Distributed Computing (JPDC), May, 2019.

66. Congfeng Jiang, Guangjie Han, Jiangbin Lin, Gangyong Jia, Weisong Shi and Jian Wan, "Characteristics of Co-allocated Online Services and Batch Jobs in Internet Data Centers: A Case Study from Alibaba Cloud," IEEE Access, January 2019.

67. Weisong Shi, Xingzhou Zhang, Yifan Wang and Qingyang Zhang, "Edge Computing: State-of-the-Art and Future Directions," Journal of Computer Research and Development, Vol. 56, No. 1, January 2019.

68. Lingmei Ren, Qingyang Zhang, Weisong Shi, and Yanjun Peng, "Edge-based Personal Computing Services: Fall Detection as a Pilot Study," accepted by Springer Computing, 2019.

69. Hui Sun, Guodong Chen, Jianzhong Huang, Xiao Qin, Weisong Shi, "CalmWPC: A Buffer Management to Calm Down Write Performance Cliff for NAND Flash-based Storage Systems," Future Generation Computer Systems, 2019, 90, 461-476.

70. Qingyang Zhang, Quan Zhang, Weisong Shi and Hong Zhong, "Distributed Collaborative Execution on the Edges and Its Application on AMBER Alert," IEEE Internet of Things Journal, Vol. 5, No. 5, October 2018.

71. Hui Sun, Wei Liu, Zhi Qiao, Song Fu and Weisong Shi, "DStore: A Holistic Key-Value Store Exploring Near-Data Processing and On-Demand Scheduling for Compaction Optimization," in IEEE Access, Vol. 6, pp. 61233-61253, 2018.

72. Quan Zhang, Qingyang Zhang, Weisong Shi and Hong Zhong, "Firework: Data Processing and Sharing for Hybrid Cloud-Edge Analytics," IEEE Transactions on Parallel and Distributed Systems, Vol. 29, No. 9, September 2018. pp. 2004-2017.

73. Kewei Sha, Wei Wei, Andrew T. Yang, Zhiwei Wang and Weisong Shi, "On Security Challenges and Open Issue in Internet of Things," Future Generation Computer Systems, Vol. 83, June 2018. pp. 326-337.

74. Youhuizi Li, Mohit Kumar and Weisong Shi, "Falcon: An Ambient Temperature Aware Thermal Control Policy for IoT Gateways," Sustainable Computing: Informatics and Systems, Vol. 16, December 2017, pp. 48-55.

75. Zujie Ren, Weisong Shi, Jian Wan, Feng Cao and Jiangbin Lin, "Realistic and Scalable Benchmarking Cloud File Systems: Practices and Lessons from AliCloud," IEEE Transactions on Parallel and Distributed Systems (TPDS), Vol. 28, No. 11, November 2017, pp.3272-3285.

76. Congfeng Jiang, Dongyang Ou, Yumei Wang, Xindong You, Jilin Zhang, Jian Wan, Bing Luo and Weisong Shi, "Energy Efficiency Comparison of Hypervisors," accepted by Sustainable Computing: Informatics and Systems, October 2017.

77. Yan Hu, Weisong Shi and Xiaohui Hu, "Mitigating Data Sparsity Using Similarity Reinforcement Enhanced Collaborating Filtering," ACM Transactions on Internet Technology (TOIT), Vol. 17, No. 3, July 2017.

78. Weisong Shi, Hui Sun, Jie Cao, Quan Zhang and Wei Liu, "Edge Computing — An Emerging Computing Model for the Internet of Everything Era, " Journal of Computer Research and Development, Vol. 54, No. 5, pp. 907-924, May 2017. (in Chinese)

79. Weisong Shi, Jie Cao, Quan Zhang, Youhuizi Li and Lanyu Xu, "Edge Computing: Vision and Challenges," IEEE Internet of Things Journal, Vol. 3, No. 5, October 2016, pp. 637-646.

80. Weisong Shi and Schahram Dustdar, "The Promise of Edge Computing," IEEE Computer Magazine, Vol. 29, No. 5, pp. 78-81. May 2016.

81. Bing Luo, Shinan Wang, Weisong Shi and Yanfei He, "eCope: Workload-aware Elastic Customization for Power Efficiency of High-End Servers," IEEE Transactions on Cloud Computing, Vol. 4, No. 2, April-June 2016.

82. Quan Zhang and Weisong Shi, "Energy-Efficient Workload Placement in Enterprise Datacenters," IEEE Computer, Vol. 29, No. 2, pp. 46-52, 2016.

83. Shinan Wang, Bing Luo, Weisong Shi and Devesh Tiwari, "Application Configuration Selection for Energy-Efficient Execution on Multicore Systems," Journal of Parallel and Distributed Computing, Vol. 87, January 2016, pp. 43-54.

84. Michelle Rogers, Guoyao Xu, Shawn McElmurry, Weisong Shi, Caisheng Wang, Stephen Miller, Yang Wang and Cheng-Zhong Xu, "HERO: A Smart-Phone Application for Location Based Emissions Estimates," Sustainable Computing: Informatics and Systems, Vol. 8, pp. 3-7, December 2015.

85. Lena Mashayekhy, Mahyar Movahed Nejad, Daniel Grosu, Quan Zhang and Weisong Shi, "Energy-aware Scheduling of MapReduce Jobs for Big Data Applications," IEEE Transactions on Parallel and Distributed Systems," Vol. 26, No. 10, October 2015.

86. Lingmei Ren and Weisong Shi, "Chameleon: Personalized and Adaptive Fall Detection of Elderly People in Home-based Environments," accepted by International Journal of Sensor Networks (IISNet), January 2015.

87. Quan Zhang, Grace Metri, Sudharsan Raghavan and Weisong Shi, "RESCUE: An Energy-Aware Scheduler for Cloud Environments," Sustainable Computing: Informatics and Systems special issue on Energy-Aware Resource Management and Scheduling (EARMS), Volume 4, Issue 4, December 2014, Pages 215 - 224.

88. Pradeep M. Hettiarachchi, Nathan Fisher, Masud Ahmed, Le Yi Wang, Shinan Wang and Weisong Shi, "The Design and Analysis of Thermal-Resilient Hard-Real-Time Systems," ACM Transactions on Embedded Computing Systems, Volume 13, Issue 5s, November 2014 Article No. 146.

89. Yong Xi, Loren Schwiebert and Weisong Shi, "Privacy Preserving Shortest Path Routing with an Application to Navigation," Pervasive and Mobile Computing, Vol. 13, August 2014. pp. 142-149.

90. Youhuizi Li, Hui Chen and Weisong Shi, "Power Behavior Analysis of Mobile Applications using Bugu," Sustainable Computing: Informatics and Systems, Volume 4, Issue 3, September 2014, Pages 183-195.

91. Mark A. Lumley, Weisong Shi, Clairy Wiholm, Richard B. Slatcher, Helene Sandmark, Shinan Wang, Anders Hytter and Bengt B. Arnetz "The Relationship of Chronic and Momentary Work Stress to Cardiac Reactivity in Women Managers: Feasibility of a Smart Phone-Assisted Assessment System," Psychosomatic Medicine: Journal of Biobehavioral Medicine, 76:512-518, 2014.

92. Zujie Ren, Jian Wan, Weisong Shi, Xianghua Xu and Min Zhou, "Workload Analysis, Implications and Optimization on a Production Hadoop Cluster: A Case Study on Taobao," IEEE Transactions on Services Computing, Vol. 7, No. 2, April-June 2014. pp.307-321.

93. Tung Nguyen and Weisong Shi, "MapReduce in the Cloud: Data Location-Aware Virtual Machine Scheduling," ZTE Communications, Vol. 5, No. 4, December 2013.

94. Jianfeng Zhan, Lei Wang, Xiaona Li, Weisong Shi, Chuliang Weng and Wenyao Zhang, Cost-aware Cooperative Resource Provisioning for Heterogeneous Workloads in Data Centers, IEEE Transactions on Computers, Vol. 62, No. 11, November 2013. pp. 2155-2168.

95. Tung Nguyen, Jingwen Zhang and Weisong Shi, SPBD: Streamlining Big Data Processing in Cloud Environments, ZTE Communications, Vol. 5, No. 2 June 2013.

96. Sheng Gao, Jianfeng Mao, Weisong Shi, Guoxing Zhan and Cong Sun, "TrPF:A Trajectory Privacy-Preserving Framework for Participatory Sensing," IEEE Transactions on Information Forensics and Security, Vol. 8, No. 6, June 2013. pp.874-887.

97. Lingjun Fan, Yuanchao Xu, Weisong Shi, Dongrui Fan and Jie Lou, "Hybrid Approach of Filtering Unnecessary Way Accesses for Set-Associate Caches," Chinese Journal of Computers, Vol. 36, No. 4, April 2013.

98. Sheng Gao, Jianfeng Ma, Weisong Shi and Guoxing Zhan, "LTPPM: Location and Trajectory Privacy Protection Mechanism in Participatory Sensing," accepted by Wireless Communication and Mobile Computing. Oct 2012.

99. Quan Zhang, Lingmei Ren and Weisong Shi, "HONEY: A Multimodality Fall Detection and Telecare System," Telemedicine and e-Health, Vol. 19, No. 5, May 2013, pp. 415-29.

100. Guoxing Zhan and Weisong Shi, "LOBOT: Low-Cost, Self-Contained Localization of Small-Sized Ground Robotic Vehicles," IEEE Transactions on Parallel and Distributed Systems, Vol. 24, No. 4, April 2013. (**Spotlight paper of April 2013**).

101. Ying Song, Yuzhong Song and Weisong Shi, "A Two-Tiered On-Demand Resource Allocation Mechanism for VM-Based Data Centers,"IEEE Transactions on Services Computing, Vol. 6, No. 1, January 2013, pp. 116-129.

102. Tung Nguyen and Weisong Shi, "Improving Resource Efficiency in Data Centers using Reputation-based Resource Selection," Sustainable Computing: Informatics and Systems, Vol. 2, No. 3, September 2012. pp. 138-150.

103. Hui Chen, Youhuizi Li and Weisong Shi, "Fine-Grained Power Management Using Process-level Profiling," Sustainable Computing: Informatics and Systems, Vol. 2, No.1, March 2012. pp.33-42.

104. Huajian Mao, Nong Xiao, Weisong Shi and Yutong Lu, "Wukong: A Cloud-Oriented File Service for Mobile Internet Devices," Journal of Parallel and Distributed Computing, Vol. 72, No. 2, February 2012. pp. 171-184.

105. Tieying Zhang, Xueqi Cheng, Jianming Lv, Zhenghua Li and Weisong Shi," Providing Hierarchical Lookup Service for P2P-VoD Systems," ACM Transactions on Multimedia Computing, Communications and Applications, Vol. 8, No.1, February 2012.

106. Guoxing Zhan, Weisong Shi and Julia Deng, "Design, Implementation and Evaluation of TARF: A Trust-Aware Routing Framework for Dynamic WSNs," IEEE Transactions on Dependable and Secure Computing, Vol. 9, No.2, March/April 2012. Pp. 184-197.

107. Lei Wang, Jianfeng Zhan, Weisong Shi and Yi Liang, "In Cloud, Can Scientific Communities Benefit from the Economies of Scale?" IEEE Transactions on Parallel and Distributed Systems, , Vol. 23, No. 2, Feb. 2012, pp. 296-303.

108. Guoxing Zhan, Weisong Shi and Julia Deng, SensorTrust: "A Resilient Trust Model for Wireless Sensing Systems," Elsevier Pervasive and Mobile Computing, Vol. 7, No. 4, August 2011, pp. 509-522.

109. Xu Liu, Jianfeng Zhan, Kunlin Zhan, Weisong Shi, Lin Yuan, Dan Meng and Lei Wang, "Automatic Performance Debugging of SPMD-style Parallel Programs, " Journal of Parallel and Distributed Computing, Vol. 71, No. 7, July 2011.

110. Tung Nguyen, Weisong Shi and Douglas Ruden, "CloudAligner: A Fast and Full-Featured MapReduce based Tool for Sequence Mapping," BMC Research Notes, 4:171 June 2011.

111. Shinan Wang, Hui Chen and Weisong Shi, "SPAN: A Software Power Analyzer for Multicore Computer Systems," Elsevier Sustainable Computing: Informatics and Systems, Vol. 1, No.1, pp. 23-34, January 2011.

112. Zhifeng Yu, Chenjia Wang and Weisong Shi, "Failure-aware Workflow Scheduling in Cluster Environments," Springer Cluster Computing Journal, Volume 13, No. 4, 2010, pp. 421-434.

113. Zhifeng Yu and Weisong Shi, "Queue Waiting Time Aware Dynamic Workflow Scheduling in Multicluster Environments," Journal of Computer Science and Technology, Vol. 25, No. 4, July 2010, March 2010.

114. Kewei Sha, Shinan Wang and Weisong Shi, "RD^4: Role-Differentiated Cooperative Deceptive Data Detection and Filtering in VANETs," IEEE Transactions on Vehicular Technology, Vol. 59, No. 3, pp. 1183-1190, March 2010.

115. Zhengqiang Liang and Weisong Shi, "A Reputation-driven Scheduler for Autonomic and Sustainable Resource Sharing in Grid Computing," Journal of Parallel and Distributed Computing, Vol. 70, No. 2, pp. 111-125, February 2010.

116. Zhengqiang Liang and Weisong Shi, "TRECON: A Trust-based Economic Framework for Efficient Internet Routing," IEEE Transactions on Systems, Man and Cybernetics, part A, Vol. 40, No. 1., pp. 52-67, January 2010.

117. Jayashree Ravi, Zhifeng Yu and Weisong Shi, "A Survey on Dynamic Web Content Generation and Delivery Techniques," Elsevier Journal of Network and Computer Applications, Vol. 32, 2009, pp. 943-960.

118. Junzhao Du, Weisong Shi, and Kewei Sha, "Asymmetry-Aware Link Layer Services in Wireless Sensor Networks," Journal of Embedded Computing, Vol. 3, No. 2, pp. 141-154, 2009.

119. Yong Xi, Kewei Sha, Weisong Shi, Loren Schwiebert and Tao Zhang, "Probabilistic Adaptive Anonymous Authentication in Vehicular Networks," Journal of Computer Science and Technology, Vol. 23, No. 6, pp. 916-928, November 2008.

120. Junzhao Du and Weisong Shi, "App-MAC:An Application-Aware Event-Oriented MAC Protocol for Multimodality WSNs," IEEE Transactions on Vehicular Technology, Vol. 57, No. 6, November 2008.

121. Kewei Sha and Weisong Shi, "Consistency-Driven Data Quality Management in Networked Sensor Systems," Journal of Parallel and Distributed Computing, Vol. 68, No. 9, pp. 1207-1221, September 2008.

122. Yong Xi, Weisong Shi, and Loren Schwiebert, "Mobile Anonymity of Dynamic Groups in Vehicular Networks," Security and Communication Networks, Vol. 1, No. 3, May 2008. pp. 219-231.

123. Hanping Lufei, Weisong Shi and Vipin Chaudhary "Adaptive Secure Access to Remote Services in Mobile Environments," IEEE Transactions on Services computing, Vol. 1, No. 1, January-March 2008, pp. 49-61.

124. Zhengqiang Liang and Weisong Shi, "Analysis of Recommendations on Trust Inference in Open Environments," Performance Evaluation Journal, Vol. 65, No. 2, pp. 99-128, February 2008.

125. Hanping Lufei and Weisong Shi, "Energy-aware QoS for Application Sessions Across Multiple Protocol Domains in Mobile Computing," Elsevier Computer Networks, Vol. 51, No. 11, 3125-3141, August 2007.

126. Kewei Sha, Junzhao Du, and Weisong Shi, "WEAR: A Balanced, Fault-Tolerant, Energy-Efficient Routing Protocol for Wireless Sensor Networks," International Journal of Sensor Networks (IJSNet), Vol. 1, No. 2, 2006.

127. Hanping Lufei and Weisong Shi, "Fractal: A Mobile Code Based Framework for Dynamic Application Protocol Adaptation in Pervasive Computing," Journal of Parallel and Distributed Computing, Vol. 66, No. 7, pp. 887-906, July 2006.

128. Gulsheen Kaur, JunTan, Mohammed Alam, Vipin Chaudhary, Dingguo Chen, Ming Dong, Hazem Eltahawy, Farshad Fotouhi, Christopher Gammage, Jason Gong, William Grosky, Murali Guthikonda, Jingwen Hu, DevkanakJeyaraj, Xin Jin, Albert King, Joseph Landman, Jong Lee, Qing Huang Li, Hanping Lufei, Michael Morse, Jignesh patel, Ishwar Sethi, Weisong Shi, King Yang, Zhimin Zhang, "CASMIL: A Comprehensive Software/Toolkit for Image-Guided Neurosurgeries," International Journal of Medical Robotics and Computer Assisted Surgery, Vol. 2, Issue 2, Pages 123-138, June 2006.

129. Weisong Shi and Yonggen Mao, "Performance Evaluation of Peer-to-Peer Web Caching Technologies," Journal of Systems and Software, Vol. 79, No. 5, pp. 714-726, May 2006.

130. Zhengqiang Liang and Weisong Shi, "Enforcing Cooperative Resource Sharing in Untrusted Peer-to-Peer Environment," accepted by *ACM Journal of Mobile Network and Applications (MONET)* with special issue on Non-Cooperative Wireless Networking and Computing, Vol. 10, No. 6, pp. 771-783, December 2005.

131. Weisong Shi, Sharun Santhosh, and Hanping Lufei, "Secure Application-Aware Service Differentiation in Public Area Wireless Networks," Journal of Computer Science and Technology, Vol. 20, No. 5, pp. 676-688, Sept. 2005.

132. Kewei Sha and Weisong Shi, "Modeling the Lifetime of Wireless Sensor Networks," Journal of Sensor Letters, Vol. 3, pp. 126-135, 2005.

133. Daniel Brodie, Amrish Gupta, and Weisong Shi, "Accelerating Dynamic Web Content Delivery using Keyword-based Fragment Detection," Vol. 4, No. 1, pp. 079-099, 2005, Journal of Web Engineering.

134. Jayashree Ravi, Weisong Shi, and Cheng-Zhong Xu, "Personalized Email Management at Network Edges," IEEE Internet Computing, Vol. 9, No. 2, March/April, 2005.

135. Weisong Shi, Eli Collins, and Vijay Karamcheti, "Modeling Object Characteristics of Dynamic Web Content", Journal of Parallel and Distributed Computing (JPDC), Vol. 63, No. 10, pages 963-980, October, 2003.

136. Weiwu Hu, Weisong Shi, and Zhimin Tang, "Optimizing the Home-based Software DSM Protocol," *Cluster Computing: The Journal of Networks, Software and Applications*, Baltzer Science Publishers, 2001.

137. Weisong Shi and Zhimin Tang, " Load Balancing in Home-based Software DSMs," *Special Issue of International Journal of Foundations of Computer Science*, World Scientific Publishing Co. Inc., Vol. 12, No. 3, pp. 307-324, USA, June, 2001.

138. Weisong Shi and Zhimin Tang, "Using Confidence Interval to Summarize the Evaluating Results of DSM Systems," *Journal of Computer Science and Technology*, Vol 15, No. 1, 2000, Science Press of China and Allerton Press, Inc, New York, USA.

139. Weisong Shi, Weiwu Hu, and Zhimin Tang, "Where Does the Time Go in Software DSM System: Experiences with JIAJIA? " *Journal of Computer Science and Technology*, Vol. 14, No. 3, pp. 193-205, May, 1999, Science Press of China and Allerton Press, Inc, New York, USA.

140. Weiwu Hu, Weisong Shi, Zhimin Tang and Ming Li, "A Lock-based Cache Coherence for Scope Consistency," *Journal of Computer Science and Technology*, Vol. 13, No. 2, pp. 97-110, March, 1998, Science Press of China and Allerton Press, Inc, New York, USA.

141. Weiwu Hu, Weisong Shi, and Zhimin Tang, "A Framework for Memory Consistency Models," *Journal of Computer Science and Technology*, Vol. 13, No.2, pp.110-124, March, 1998, Science Press of China and Allerton Press, Inc, New York, USA.

142. Weisong Shi and Weiwu Hu, "An Innovative Cache Coherence Scheme for Directory-based Shared Memory Multiprocessors," *ACM Computer Architecture News*, Vol. 25, No. 5, pp. 2-9, December, 1997.

Referred Conference and Workshop Publications (182)

1. Arpan Bhattacharjee, Zheyuan Xu, Vikas Vyas and Weisong Shi, "ReLES-OTA: A Reinforcement-Learning Enhanced Scalable Over-the-Air Update Approach for CAVs," in Proceedings of the Third IEEE International Conference on Mobility: Operations, Services, and Technologies (MOST), Newark, DE, May 4-6, 2025.

2. Ren Zhong, Zhaofeng Tian, Qiren Wang, Mingyu Guo and Weisong Shi, "Design and Implementation of A Voice Controlled Indoor Autonomous Robot Kit," in Proceedings of the Third IEEE International Conference on Mobility: Operations, Services, and Technologies (MOST), Newark, DE, May 4-6, 2025.

3. Qiren Wang, Yongtao Yao and Weisong Shi, "Edge-Assisted Object Perception for Autonomous Vehicles under Challenging Exposure and Blur Conditions," in Proceedings of the Third IEEE International Conference on Mobility: Operations, Services, and Technologies (MOST), Newark, DE, May 4-6, 2025.

4. Daniel Ma, Ren Zhong and Weisong Shi, "ICanC: Improving Camera-based Object Detection and Energy Consumption in Low-illumination Environments," in Proceedings of the Third IEEE International Conference on Mobility: Operations, Services, and Technologies (MOST), Newark, DE, May 4-6, 2025.

5. Zhaofeng Tian, Lichen Xia and Weisong Shi, "Slope Considered Online Nonlinear Trajectory Planning with Differential Energy Model for Autonomous Driving," in Proceedings of the Third IEEE International Conference on Mobility: Operations, Services, and Technologies (MOST), Newark, DE, May 4-6, 2025.

6. Zhaofeng Tian, Lichen Xia, and Weisong Shi, "EMATO: Energy-Model-Aware Trajectory Optimization for Autonomous Driving," in Proceedings of the 2025 IEEE International Conference on Robotics and Automation, May 19-23, 2025. Atlanta, USA.

7. Lichen Xia, Xing Gao, and Weisong Shi, "Investigating Security Threats in Multi-Tenant ROS2 Systems," in Proceedings of the 2025 IEEE International Conference on Robotics and Automation, May 19-23, 2025. Atlanta, USA.

8. Junquan Chen, Xingzhou Zhang, Wei Zhou, and Weisong Shi, "TA-ASF: Attention-sensitive Token Sampling and Fusing for Visual Transformer Models on the Edge," in Proceedings of the 9th ACM/IEEE Symposium on Edge Computing (SEC), December 4-7, 2024, Rome, Italy.

9. Yichen Luo, Yongtao Yao, Junzhou Chen, Sidi Lu, and Weisong Shi, "An Efficient Data Transmission Framework for Connected Vehicles," in Proceedings of the 9th ACM/IEEE Symposium on Edge Computing (SEC), December 4-7, 2024, Rome, Italy.

10. Ren Zhong, Zhaofeng Tian, Jinghui Liao, and Weisong Shi, "Autonomous Shuttle Operation for Vulnerable Populations: Lessons and Experiences," in Proceedings of the 10th IEEE International Conference on Collaboration and Internet Computing (CIC), Washington DC, Oct 28-30, 2024.

11. Chao Wu, Yifan Gong, Liangkai Liu, Mengquan Li, Yushu Wu, Xuan Shen, Zhimin Li, Geng Yuan, Weisong Shi and Yanzhi Wang, "AyE-Edge: Automated Deployment Space Search Empowering Accuracy yet Efficient Real-Time Object Detection on the Edge," in Proceedings of the 43rd ACM/IEEE International Conference on Computer-Aided Design(ICCAD), New Jersey, USA, Oct. 27-31 2024.

12. Tianze Wu, Sa Wang, Yungang Bao, and Weisong Shi, "Tentacles: A Middleware with Multi-Network Communication Reliability for Vehicle-Infrastructure Cooperative Autonomous Driving," in Proceedings of the 2024 IEEE 100th Vehicular Technology Conference(VTC), Washington DC, Oct. 7-10, 2024.

13. Yuxin Wang, William He, Ruijun Wang, and Weisong Shi, "Quantitative Analysis of Storage Requirement for Autonomous Vehicles," in Proceedings of the 16th ACM Workshop on Hot Topics in Storage and File Systems(HotStorage), San Clara, CA, July 8-9, 2024.

14. Jinghui Liao, Borui Gong, Wenhai Sun, Fengwei Zhang, Zhenyu Ning, Man Ho Allen Au, Weisong Shi, "BFTRAND: Low-Latency Random Number Provider for BFT Smart Contracts," in Proceedings of the 54th IEEE/IFIP International Conference on Dependable Systems and Networks (DSN), Brisbane, Australia, June 24-27, 2024.

15. Jinghui Liao, Niusen Chen, Lichen Xia, Bo Chen, Weisong Shi, FSPDE: A Full Stack Plausibly Deniable Encryption System for Mobile Devices, in Proceedings of the 14th ACM Conference on Data and Application Security and Privacy (CODASPY), Porto, Portugal, June 19-21, 2024.

16. Raef Abdallah, Prabhjot Kaur, and Weisong Shi, "Enhancing Intersection Safety: A Fusion of Historical and Real-Time Data For Route Planning," in Proceedings of the Second IEEE International Conference on Mobility: Operations, Services, and Technologies (MOST). May 1-3, 2024. Dallas, USA.

17. Zhaofeng Tian, Xingyu Zhou, and Weisong Shi, "Unguided Self-exploration in Narrow Spaces with Safety Region Enhanced Reinforcement Learning for Ackermann-steering Robots," in Proceedings of the Second IEEE International Conference on Mobility: Operations, Services, and Technologies (MOST). May 1-3, 2024. Dallas, USA.

18. Zhaofeng Tian, William He, Boyang Tian, Ren Zhong, Erfan Foorginejad, and Weisong Shi, "ICAT: An Indoor Connected and Autonomous Testbed for Vehicle Computing," in Proceedings of the Second IEEE International Conference on Mobility: Operations, Services, and Technologies (MOST). May 1-3, 2024. Dallas, USA.

19. Arpan Bhattacharjee, Hamza Mahmood, Sidi Lu, Nejib Ammar, Akila Ganlath, Weisong Shi, "Edge-Assisted Over-the-Air Software Updates," in Proceedings of the 9th IEEE International Conference on Collaboration and Internet Computing (CIC), Atlanta, GA. Nov. 1-3, 2023.

20. Liangkai Liu, Yanzhi Wang and Weisong Shi, "Understanding Time Variations of DNN Inference in Autonomous Driving," in Proceedings of the Fourth Workshop on Benchmarking Machine Learning Workloads on Emerging Hardware (MLBench), June 8, 2023, Miami, FL USA.

21. Ren Zhong, Liangkai Liu, and Weisong Shi, "SLAM Sharing Among Heterogeneous Sensors," in Proceedings of the First IEEE International Conference on Mobility: Operations, Services, and Technologies (MOST). May 17-19, 2023. Detroit, USA.

22. Sanjith Udupa, Liangkai Liu, and Weisong Shi, "FollowMe: A Robust Framework for the Guidance of Sensorless Indoor Mobile Robots," in Proceedings of the First IEEE International Conference on Mobility: Operations, Services, and Technologies (MOST). May 17-19, 2023. Detroit, USA.

23. Yongtao Yao, Nejib Ammar, and Weisong Shi, "FLOW: A Scalable Multi-Model Federated Learning Framework on the Wheels," in Proceedings of the First IEEE International Conference on Mobility: Operations, Services, and Technologies (MOST). May 17-19, 2023. Detroit, USA.

24. Liangkai Liu, Ren Zhong, Aaron Willcock, Nathan Fisher, and Weisong Shi, "An Open Approach to Energy-Efficient Autonomous Mobile Robots," in Proceedings of 2023 IEEE International Conference on Robotics and Automation (ICRA), May 29 - June 2, 2023, London, UK.

25. Liangkai Liu, Zheng Dong, Yanzhi Wang, and Weisong Shi, "Prophet: A Predictable Real-time Perception Pipeline for AVs," in Proceedings of the 2022 IEEE Real-Time Systems Symposium (RTSS), December 5-8, 2022. Houston, USA.

26. Soumyanil Banerjee, Ming Dong, and Weisong Shi, "Spatial-Temporal Synchronous Graph Transformer Network (STSGT) for COVID-19 Forcasting," in Proceedings of the 7th IEEE/ACM International Conference on Connected Health (CHASE), Nov. 17-19, 2022. Washington, D.C.

27. Prabhjot Kaur, Qifan Wang, and Weisong Shi, "Fall Detection from Audios with Audio Transformers," in Proceedings of the 7th IEEE/ACM International Conference on Connected Health (CHASE), Nov. 17-19, 2022. Washington, D.C.

28. Sidi Lu, Ren Zhong, and Weisong Shi, "Teleoperation Technologies for Enhancing Connected and Autonomous Vehicles," in Proceedings of the19th IEEE International Conference on Mobile Ad-Hoc and Smart Systems (MASS'22), October 20-22, 2022, Denver, CO, USA.

29. Yusen Wu, JInghui Liao, Phuong Nguyen, Weisong Shi, Yelena Yesha, "Bring Trust to Edge: Secure and Decentralized IoT Framework with BFT and Permissioned Blockchain??? in Proceedings of IEEE International Conference on Edge Computing and Communication (Edge 2022), July 12-15, 2022. Hybrid. Spain.

30. Baofu Wu, Yuankai He, Zheng Dong, Jian Wan, Jilin Zhang, and Weisong Shi, "To Turn or Not To Turn, SafeCross is the Answer," in Proceedings of the 42nd IEEE International Conference on Distributed Computing Systems (ICDCS), July 10-13, 2022. Bologna, Italy.

31. Zhaofeng Tian and Weisong Shi, "Design and Implementation of an Enhanced Simulator for Autonomous Delivery Robot," in Proceedings of the fifth International Conference on Connected and Autonomous Driving (MetroCAD), April 28-29, 2022, Detroit, USA.

32. Sidi Lu, Nejib Ammar, Akila Ganlath, Haoxin Wang, and Weisong Shi, "A Comparison of End-to-End Architectures for Connected Vehicles," in Proceedings of the fifth International Conference on Connected and Autonomous Driving (MetroCAD), April 28-29, 2022, Detroit, USA.

33. Zhe Jiang, Kecheng Yang, Neil Audsley, Nathan Fisher, Weisong Shi, and Zheng Dong, "BlueScale: A Scalable Memory Architecture for Predictable Real-Time Computing on Highly Integrated SoCs," Proceedings of the 59th ACM/IEEE Design Automation Conference (DAC), July 2022.

34. Jinghui Liao, Fengwei Zhang, Wenhai Sun, and Weisong Shi, "Speedster: An Efficient Multi-party State Channel via Enclaves," in Proceedings of the 17th ACM ASIA Conference on Computer and Communications Security (AsiaCCS 2022), May 30 - June 3, 2022. Nagasaki, Japan. Hybrid.

35. Fuxun Yu, Di Wang, Yinpeng Chen, Nikolaos Karianakis, Tong Shen, Pei Yu, Dimitrios Lymberopoulous, Sidi Lu, Weisong Shi, Xiang Chen "SC-UDA: Style and Content Gaps aware Unsupervised Domain Adaptation for Object Detection," in Proceedings of the IEEE Winter Conference of Applications on Computer Vision(WACV), January 4-8, 2022, Waikoloa, Hawaii.

36. Jinghui Liao, Bo Chen and Weisong Shi, "TrustZone Enhanced Plausibly Deniable Encryption System for Mobile Device," in Proceedings of the Fourth ACM/IEEE Workshop on Security and Privacy in Edge Computing (EdgeSP), December 17, 2021. San Jose, USA.

37. Lanyu Xu, Arun Iyengar, Weisong Shi, "ChatCache: A Hierarchical Semantic Redundancy Cache System for Conversational Services at Edge," in Proceedings of the IEEE International Conference on Cloud Computing (Cloud), Sep. 5-10, 2021. (Virtual).

38. Robert Reynolds, Ana Djuric, Meina Zhu, Weisong Shi, Thomas Palazzolo, "Using Cobots, Virtual Worlds, and Edge Intelligence to Support On-Line Learning," in Proceedings of the 23rd International Conference on Human-Computer Interaction (HCI), July 24-29, 2021, Washington DC, USA.

39. Huizi Xiao, Qingyang Zhang, Qingqi Pei, and Weisong Shi, "Privacy-Preserving Neural Network Inference Framework via Homomorphic Encryption and SGX," in Proceedings of the 41st IEEE International Conference on Distributed Computing Systems (ICDCS), July 7-10, 2021. Virtual.

40. Niusen Chen, Bo Chen, and Weisong Shi, "MobiWear: A Plausibly Deniable Encryption System for Wearable Mobile Devices." The First EAI International Conference on Applied Cryptography in Computer and Communications (AC3 '21), Xiamen, China, May 2021 (Best Paper Award).

41. Prabhjot Kaur, Samira Taghavi, Zhaofeng Tian, and Weisong Shi, "A Survey on Simulators for Testing Self-Driving Cars," in Proceedings of 4th International Conference on Connected and Autonomous Driving (MetroCAD), April 29, 2021.

42. Raef Addallah and Weisong Shi, "SafeOverPass: An Edge-based Low-Clearance Overpass Warning System," in Proceedings of 4th International Conference on Connected and Autonomous Driving (MetroCAD), April 29, 2021.

43. Sidi Lu, Xin Yuan and Weisong, "An Integrated Framework for Compressive Imaging Processing on CAVs" in Proceedings of the Fifth ACM/IEEE Symposium on Edge Computing (SEC), November 11-13, 2020.

44. Lanyu Xu, Arun Iyengar and Weisong, "CHA: A Caching Framework for Home-based Voice Assistant Systems," in Proceedings of the Fifth ACM/IEEE Symposium on Edge Computing (SEC), November 11-13, 2020.

45. Samira Taghavi and Weisong Shi, "EdgeMask: An Edge-based Privacy Preserving Service for Video Data Sharing," in Proceedings of the 3rd Workshop on Security and Privacy in Edge Computing (EdgeSP), Nov. 13, 2020.

46. Bodong Shang, Shiyan Liu, Sidi Lu, Yang Yi, Weisong Shi, and Lingjia Liu, "A Cross-Layer Optimization Framework for Distributed Computing in IoT Networks," in Proceedings of the 1st Workshop on Edge Computing and Communications (EdgeComm), Nov. 13, 2020.

47. Liangkai Liu, Baofu Wu, Weisong Shi, "A Comparison of Communication Mechanisms in Vehicular Edge Computing," in Proceedings of the 3rd USENIX Hot Topics in Edge Computing (HotEdge), July 14, 2020.

48. Mohit Kumar, Liangkai Liu, Xingzhou Zhang, Yifan Wang, Weisong Shi, "Energy-Efficient Machine Learning on the Edges," in Proceedings of the 2nd workshop on Parallel AI and Systems for the Edge (PAISE), May 22, 2020.

49. Zheng Dong, Weisong Shi, Guangmo Tong, Kecheng Yang, "Collaborative Autonomous Driving: Vision and Challenges," in Proceedings of the third IEEE International Conference on Connected and Autonomous Driving, Feb. 27-28, 2020, Detroit, MI. USA.

50. Tianze Wu, Yifan Wang, Weisong Shi, Joshua Lu, "HydraMini: An FPGA-based Affordable Research and Education Platform for Autonomous Driving," in Proceedings of the third IEEE International Conference on Connected and Autonomous Driving, Feb. 27-28, 2020, Detroit, MI. USA.

51. Luodai Yang, Qian Jian, Ruijun Wang, Jie Cao, Weisong Shi, "HydraView: A Synchronized $360°$-View of Multiple Sensors for Autonomous Vehicles," in Proceedings of the third IEEE International Conference on Connected and Autonomous Driving, Feb. 27-28, 2020, Detroit, MI. USA.

52. Sidi Lu, Bing Luo, Tirthak Patel, Yongtao Yao, Devesh Tiwari, Weisong Shi, "Making Disk Failure Predictions SMARTer!" in Proceedings of 18th USENIX Conference on File and Storage Technologies (FAST), Feb. 24-27, 2020, Santa Clara, CA.

53. Liangkai Liu, Jiamin Chen, Marco Brocanelli and Weisong Shi,"E2M: An Energy-Efficient Middleware for Computer Vision Applications on Autonomous Mobile Robots," in Proceedings of the fourth ACM/IEEE Symposium on Edge Computing(SEC), November 7-9, 2019, Arlington, VA, USA.

54. Xingzhou Zhang, Mu Qiao, Liangkai Liu, Yunfei Xu and Weisong Shi, "Collaborative Cloud-Edge Computation for Personalized Driving Behavior Modeling," in Proceedings of the fourth ACM/IEEE Symposium on Edge Computing(SEC), November 7-9, 2019, Arlington, VA, USA.

55. Bing Luo and Weisong Shi, "Pelican: Power Scheduling for QoS in Large-scale Data Centers with Heterogeneous Workloads,"in Proceedings of the Tenth International Green and Sustainable Computing Conference (IGSC), October 21-24, 2019, Alexandria, USA.

56. Mohit Kumar and Weisong Shi, "Energy Consumption Analysis of Java Command-line Options," in Proceedings of the Tenth International Green and Sustainable Computing Conference (IGSC), October 21-24, 2019, Alexandria, USA.

57. Hui Sun, Wei Liu, Weisong Shi, "Near-Data Processing-Enabled and Time-Aware Compaction Optimization for LSM-tree-based Key-Value Stores," in Proceedings of the 48th International Conference on Parallel Processing, August 5-8, 2019. Kyoto, Japan.

58. Yifan Wang, Liangkai Liu, Xingzhou Zhang, Weisong Shi, "HydraOne: An Indoor Experimental Research and Education Platform for CAVs,", in Proceedings of the 2nd USENIX Workshop on Hot Topics in Edge Computing (HotEdge), July 9, 2019, Renton, WA, USA.

59. Sidi Lu, Yongtao Yao, Weisong Shi, "Collaborative Learning on the Edges: A Case Study on Connected Vehicles," in Proceedings of the 2nd USENIX Workshop on Hot Topics in Edge Computing (HotEdge), July 9, 2019, Renton, WA, USA.

60. Lanyu Xu, Arun Iyengar, Weisong Shi, "NULBroker: A Flexible and Responsive Broker for Cloud-based Natural Language Understanding Services," in Proceedings of the 11th USENIX Workshop on Hot Topics in Cloud Computing (HotCloud), July 8, 2019, Renton, WA, USA.

61. Xingzhou Zhang, Yifan Wang, Sidi Lu, Liangkai Liu, Lanyu Xu, Weisong Shi, "OpenEI: An Open Framework for Edge Intelligence," in Proceedings of the 39th IEEE International Conference on Distributed Computing Systems (ICDCS), Vision/Blue Sky Track, July 7-10, 2019, Dallas, USA.

62. Song Huang, Shuwen Liang, Song Fu, Weisong Shi, Devesh Tiwari and Hsing-bung Chen, "Characterizing Disk Health Degradation and Proactively Protecting Against Disk Failures for Reliable Storage Systems," in Proceedings of the 16th IEEE International Conference on Autonomic Computing (ICAC), Umea, Sweden, June 16-20, 2019.

63. Liangkai Liu, Xingzhou Zhang, Qingyang Zhang, Andrew Weinert, Yifan Wang and Weisong Shi, "AutoVAPS: An IoT-Enabled Public Safety Service on Vehicles," in Proceedings of the 4th Workshop on Science of Smart City Operations and Platforms Engineering (SCOPE), April 15-18, 2019.

64. Yifan Wang, Shaoshan Liu, Xiaopei Wu and Weisong Shi, "CAVBench: A Benchmark Suite for Connected and Autonomous Vehicles," in Proceedings of the ACM/IEEE Symposium on Edge Computing 2018 (SEC), Bellevue, WA, Oct 25-27, 2018.

65. Liangkai Liu, Xingzhou Zhang, Mu Qiao and Weisong Shi, "SafeShareRide: Edge-based Attack Detection in Ridesharing Services," in Proceedings of the ACM/IEEE Symposium on Edge Computing 2018 (SEC), Bellevue, WA, Oct 25-27, 2018.

66. Qingyang Zhang, Hong Zhong, Jiaoren Wu, and Weisong Shi, "How Edge Computing and Initial Congestion Window Affect Latency of Web-based Services: Early Experiences with Baidu," in Proceedings of the first Hot Topics in Web of Things (HotWoT), in conjunction with SEC, Oct. 27, 2018. Bellevue, WA.

67. Zhenyu Ning, Jinghui Liao, Fengwei Zhang, and Weisong Shi, "Preliminary Study of Trusted Execution Environments on Heterogeneous Edge Platforms," in Proceedings of the 1st Workshop on Security and Privacy in Edge Computing (EdgeSP), Oct. 27, 2018. Bellevue, WA.

68. Jie Tang, Shaoshan Liu, Songwen Pei, Stephane Zuckerman, Chen Liu, Weisong Shi, and Jean-Luc Gaudiot, "Teaching Autonomous Driving Using a Modular and Integrated Approach," in Proceedings of the 42nd IEEE International Conferences on Computers, Software & Applications (COMPSAC), July 23-27, 2018. Tokyo, Japan.

69. Liangkai Liu, Xingzhou Zhang, Mu Qiao, and Weisong Shi, "SafeShareRide: Edge-based Attack Detection in Ridesharing Services," in Proceedings of USENIX Workshop on Hot Topics in Edge Computing (HotEdge), July 10, 2018.

70. Xingzhou Zhang, Yifan Wang, and Weisong Shi, "pCAMP: Performance Comparison of Machine Learning Packages on the Edges," in Proceedings of USENIX Workshop on Hot Topics in Edge Computing (HotEdge), July 10, 2018.

71. Youdong Chen, Qiangguo Feng, and Weisong Shi, "An Industrial Robot System Based on Edge Computing: An Early Experience," in Proceedings of USENIX Workshop on Hot Topics in Edge Computing (HotEdge), July 10, 2018.

72. Qingyang Zhang, Yifan Wang, Xingzhou Zhang, Liangkai Liu, Xiaopei Wu, Weisong Shi and Hong Zhong, "OpenVDAP: An Open Vehicular Data Analytics Platform for CAVs," in Proceedings of the 38th IEEE International Conference on Distributed Computing Systems (ICDCS), Vision/Blue Sky Track, July 2-5, 2018, Vienna, Austria.

73. Mohit Kumar, Devesh Tiwari, Saurabh Gupta, Tirthak Patel, Weisong Shi, Song Fu, Christian Engelmann, "Understanding and Analyzing Interconnect Errors and Network Congestion on a Large Scale HPC System," in Proceedings of the 48th IEEE/IFIP International Conference on Dependable Systems and Networks (DSN 2018), Luxembourg, June 25-28, 2018.

74. Mohit Kumar, Youhuizi Li and Weisong Shi, "Energy Consumption in Java: An Early Experience," in Proceedings of the 8th International Green and Sustainable Computing Conference (IGSC), Orlando, FL, Oct 23-25, 2017.

75. Shanhe Yi, Zijiang Hao, Qingyang Zhang, Quan Zhang, Weisong Shi and Qun Li, "LAVEA: Latency-aware Video Analytics on Edge Computing Platform," in Proceedings of ACM/IEEE Symposium on Edge Computing (SEC), San Jose, Oct 12-14, 2017.

76. Xiaopei Wu, Robert Dunne, Qingyang Zhang and Weisong Shi, "Edge Computing Enabled Smart Firefighting: Opportunities and Challenges," in Proceedings of 4th HotWeb, in conjunction with SEC 2017, San Jose, Oct 14, 2017.

77. Raef Abdallah, Lanyu Xu and Weisong Shi, "Lessons and Experiences of a DIY Smart Home," in Proceedings of 1st SmartIoT Workshop, in conjunction with SEC 2017, San Jose, Oct 14, 2017.

78. Hui Sun, Xu Liang and Weisong Shi, "Video Usefulness and Its Application in Large-Scale Video Surveillance Systems: An Early Experience," in Proceedings of 1st SmartIoT Workshop, in conjunction with SEC 2017, San Jose, Oct 14, 2017.

79. Xiaopei Wu, Robert Dunne, Zhifeng Yu and Weisong Shi, "STREMS: A Smart Real-time Solution Toward Enhancing EMS Prehospital Quality," in Proceedings of 2nd IEEE/ACM International Conference on Connected Health (CHASE), Philadelphia, July 17-19, 2017.

80. Zhenyu Ning, Fengwei Zhang, Weisong Shi and Larry Shi, "Position Paper: Challenges Toward Securing Hardware-assisted Execution Environments," in Proceedings of Hardware and Architectural Support for Security and Privacy (HASP), in conjunction with ISCA, Toronto, Canada, June 25, 2017.

81. Jie Cao, Lanyu Xu, Raef Abdallah and Weisong Shi, "$EdgeOS_H$: A Home Operating System for Internet of Everything," in Proceedings of the 37th IEEE International Conference on Distributed Computing Systems (ICDCS), Vision/Blue Sky Track, June 5-8, Atlanta, USA

82. Congfeng Jiang, Yumei Wang, Dongyang Ou, Bing Luo and Weisong Shi, "Energy Proportional Servers: Where Are We in 2016?" in Proceedings of 37th IEEE International Conference on Distributed Computing Systems (ICDCS), June 5-8, 2017, Atlanta, USA.

83. Quan Zhang, Mu Qiao, Ramani Routray, and Weisong Shi, "H2O: A Hybrid and Hierarchical Outlier Detection Method for Large Scale Data Protection," in Proceedings of IEEE BigData 2016, Washington D.C., USA. Dec. 5-8, 2016.

84. Youhuizi Li, Weisong Shi, Congfeng Jiang, Jilin Zhang and Jian Wan, "Energy Efficiency Analysis of Heterogeneous Platforms: Early Experiences," in Workshop Proceedings of the 7th International Green and Sustainable Computing Conference, Hangzhou, China, Nov. 7-9, 2016.

85. Congfeng Jiang, Dongyang Ou, Yumei Wang, Xindong You, Jilin Zhang, Jian Wan, Bing Luo and Weisong Shi, "Energy Efficiency Comparison of Hypervisors," in Proceedings of the 7th International Green and Sustainable Computing (IGSC), Hangzhou, China. Nov. 7-9, 2016.

86. Qingyang Zhang, Zhifeng Yu, Weisong Shi and Hong Zhong, "Demo Abstract: EVAPS: Edge Video Analysis for Public Safety," in Proceedings of 1st IEEE/ACM Symposium on Edge Computing (SEC), Washington DC, Oct 27-28, 2016.

87. Quan Zhang, Xiaohong Zhang, Weisong Shi, Qingyang Zhang and Hong Zhong, "Firework: Big Data Sharing and Processing in Collaborative Edge Environment," in Proceedings of 4th IEEE Workshop on Hot Topics in Web Systems and Technologies, Washington DC, Oct. 24-25, 2016.

88. Quan Zhang, Yang Song, Ramani R. Routray and Weisong Shi, Adaptive Block and Batch Sizing for Batched Stream Processing System, in Proceedings of 13th IEEE International Conference on Autonomous Computing (ICAC), July 19-22nd, 2016.

89. Zujie Ren, Biao Xu, Weisong Shi, Yongjian Ren, Feng Cao and Jiangbin Lin, "iGen: A Realistic Request Generator for Cloud File Systems Benchmarking," in Proceedings of IEEE CLOUD 2016, July 27-July 2 , 2016. San Francisco, USA.

90. Guosai Wang, Shuhao Wang, Bing Luo, Weisong Shi, Yinghang Zhu, Wenjun Yang, Dianming Hu, Longbo Huang, Xin Jin, Wei Xu, "Increasing Large-Scale Data Center Capacity by Statistical Power Control," in Proceedings of EuroSys 2016. London UK, April 18-21, 2016.

91. Lingmei Ren, Zhifeng Yu, Weisong Shi and Zhen Liu, "ALARM: A Novel Fall Detection Algorithm based on Personalized Threshold," in Proceedings of 2015 IEEE 17th International Conference on e-Health Networking, Applications and Services (HealthCom), Oct 14-16, 2015.

92. Jie Cao, Mingyang Xu, Weisong Shi, Zhifeng Yu, Abdulbaset Salim and Paul Kiilgore, "MyPalmVein: A Palm Vein-based Low-cost Mobile Identification System For Wide Age Range," in Proceedings of 2015 IEEE 17th International Conference on e-Health Networking, Applications and Services (HealthCom), Oct 14-16, 2015.

93. Song Huang, Song Fu, Quan Zhang and Weisong Shi, "Characterizing Disk Failures with Quantified Disk Degradation Signatures: An Early Experience," in Proceedings of 2015 IEEE International Symposium on Workload Characterization (IISWC2015), Atlanta, GA. Oct 4-6, 2015.

94. Grace Metri, Weisong Shi and Monica Brockmeyer, "Energy-Efficiency Comparison of Mobile Platforms and Applications: A Quantitative Approach," in Proceedings of the Sixteenth Workshop on Mobile Computing Systems and Applications (ACM HotMobile 2015), Sante Fe, Feb. 12-13, 2015.

95. Jie Cao, Lingmei Ren, Weisong Shi and Zhifeng Yu, "A Framework for Component Selection in Collaborative Sensing Application Development," in Proceedings of 10th IEEE Conference on Collaborative Computing: Networking, Applications and Worksharing, Oct 22-25, 2014. Miami, USA.

96. Youhuizi Li, Bing Luo, Hui Chen and Weisong Shi, "One Charge for One Week: Hype or Reality?" in Proceedings of the 2014 International Green Computing Conference (IGCC), Dallas, TX USA, November 3-5, 2014.

97. Zujie Ren, Weisong Shi and Jian Wan,"Towards Realistic Benchmarking in Cloud File Systems: Early Experiences," in Proceedings of 2014 IEEE International Symposium on Workload Characterization (IISWC '14), Raleigh, NC, Oct. 26-28, 2014.

98. Grace Metri, Weisong Shi, Monica Brockmeyer and Abhishek Agrawal, "BatteryExtender: An Adaptive User-Guided Tool for Power Management of Mobile Devices," accepted by 2014 ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp 2014), Seattle, USA, Sep. 13-17, 2014. (**Best Paper Nominee Award**).

99. Guisi Ni, Weisong Shi and Prashant Mahajan, "Appurtenant: Enhancing Completeness and Efficiency of Bidirectional Patient-Physician Communication Using Automatic Speech Recognition," in Proceedings of Mobile Augmented Reality and Robotic Technology-based Systems (MARS 2014), in conjunction with MobiSys, June 16, 2014, Bretton Woods, NH.

100. Lena Mashayekhy, Mahyar Nejad, Daniel Grosu, Dajun Lu and Weisong Shi, "Energy-aware Scheduling of MapReduce Jobs," in Proceedings of IEEE BigData 2014 (Research Track), June 27-July 2, 2014, Anchorage, Alaska, USA.

101. Shinan Wang, Weisong Shi and Bing Luo, "CPT: An Energy Efficiency Model for Multicore Computer Systems," in Proceedings of the 5th Workshop on Energy-Efficient Design (WEED), in conjunction with ACM/IEEE ISCA-39, Tel-Aviv, Israel, June 23, 2013.

102. Shinan Wang, Youhuizi Li, Lingjun Fan and Weisong Shi, "Safari: Function-level Power Analysis using Automatic Instrumentation," in Proceedings of 3rd International Conference on Energy-aware Computing (ICEAC), December 3-5, 2012. Cyprus.

103. Grace Metri, Abhishek Agrawal, Ramesh Peri and Weisong Shi, "What is Eating UP Battery Life on My Smarthopone: A Case Study, " in Proceedings of the 3rd International Conference on Energy-aware Computing (ICEAC), December 3-5, 2012. Cyprus.

104. Zujie Ren, Xianghua Xu, Jian Wang, Weisong Shi and Min Zhou, "Workload Characterization on a Production Hadoop Cluster: A Case Study on Taobao," in Proceedings of IEEE International Symposium on Workload Characterization, November 4-6, 2012. San Diego, CA. (**Best Paper Award**)

105. Lingjun Fan, Yuanchao Xu, Weisong Shi, Dongrui Fan and Jie Lou, "Low Power Cache Architecture with Hybrid Approach of Filtering Unnecessary Way Access," in Proceedings of 2012 National Annual Conference on High Performance Computing (HPCChina), Oct 27-31, 2012. ZhangJiaJie, Hunan, China. (**Best Paper Award**).

106. Grace Metri, Soumyasudharsan Srinivasaraghavan and Weisong Shi, "Experimental Analysis of Application Specific Energy Efficiency of Data Centers with Heterogeneous Servers," in Proceedings of IEEE Cloud 2012, June 24-29, Honolulu, Hawaii.

107. Lingmei Ren, Quang Zhang and Weisong Shi, "Low-Power Fall Detection in Home-based Environments," in Proceedings of the 2nd ACM Mobihoc Workshop on Pervasive Wireless Healthcare, June 11-14, 2012, SC, USA.

108. Pradeep M. Hettiarachchi, Nathan Fisher, Masud Ahmed, Le Yi Wang, Shinan Wang and Weisong Shi, "The Design and Analysis of Thermal-Resilient Hard-Real-Time Systems," in Proceedings of the 18th IEEE Real-Time and Embedded Technology and Applications Symposium (RTAS 2012), Beijing, China, April 16-19, 2012.

109. Sheng Gao, Jianfeng Ma, Weisong Shi and Guoxing Zhan, "Towards Location and Trajectory Privacy Protection in Participatory Sensing," Proceedings of MobiCASE 2011 (6 pages poster), Los Angles, USA, Oct 24-27, 2011.

110. Dajun Lu, Guoxing Zhan, Shinan Wang, Weisong Shi, Clairy Wiholm and Bengt B. Arnetz, StressBar: A System for Stress Information Collection, in Proceedings of the Wireless Health 2011, La Jolla, CA, Oct 11-13, 2011.

111. Delyan Raychev, Youhuizi Li and Weisong Shi, "The Seventh Cell of a Six-Cell Battery," in Proceedings of the third Workshop on Energy-Efficient Design (WEED 2011), June 5, 2011, in conjunction with ISCA 2011.

112. Safwan Al-Omari and Weisong Shi, "Incremental Sensor Node Deployment for Low Cost and Highly Available WSNs," in Proceedings of MSN 2010, December 20-22, 2010, Hangzhou, China.

113. Shinan Wang, Weisong Shi, Bengt B. Arnetz and Clairy Wiholm, "SPARTAN: A Framework for Smart Phone Assisted Real-Time Healthcare Network Design," in Proceedings of CollaborateCom 2010, Chicago, Oct 2010.

114. Tung Nguyen and Weisong Shi, "Improving Resource Efficiency in Data Centers using Reputation-based Resource Selection," in "The Work in Progress in Green Computing" (WIPGC) workshop, in conjunction with IEEE the first International Green Computing Conference (IGCC), August 15-18, 2010, Chicago, USA.

115. Tung Nguyen, Anthony Cutway and Weisong Shi, "Differentiated Replication Strategy in Data Centers," in Proceedings of the 7th IFIP International Conference on Network and Parallel Computing (NPC 2010), Sep 13-15, 2010, Zhenzhou, China.

116. Huajian Mao, Nong Xiao, Weisong Shi, Yutong Lu, "Wukong: A Cloud-Oriented File Service for Mobile Internet Devices," in Proceedings of the 7th International Conference on Services Computing (SCC 2010), July 5-10, 2010., Miami, USA.

117. Guoxing Zhan, Weisong Shi and Hongmei Deng, "TARF: A Trust-Aware Routing Framework for Wireless Sensor Networks," in Proceedings of 7th European Conference on Wireless Sensor Networks (EWSN), Feb. 17-19, 2010.

118. Lei Wang, Jianfeng Zhan, Weisong Shi, Yi Liang, and Lin Yuan, "In Cloud, Do MTC or HTC Service Providers Benefit from the Economics of Scale?" in Proceedings of 2nd Workshop on Many-Task Computing on Grids and Supercomputers, Co-located with ACM/IEEE SC09, Portland, Oregon, November 16, 2009.

119. Brandon Szeliga, Tung Nguyen and Weisong Shi, "DiSK: A Distributed Shared Disk Cache for HPC Environments," in Proceedings of the 5th CollaborateCom, Washington D.C., Nov 12-14, 2009.

120. Guoxing Zhan, Weisong Shi and Julia Deng, "SensorTrust: A Resilient Trust Model for Wireless Sensing Systems," in Proceedings of the ACM SenSys 2009 (poster abstract), Berkeley, CA, November 4-6, 2009.

121. Thanh Do, Suhib Rawshdeh and Weisong Shi, "pTop: A Process-level Power Profiling Tool," in Proceedings of the 2nd Workshop on Power Aware Computing and Systems (HotPower'09), Big Sky, MT, October 10, 2009.

122. Ying Song, Yanwei Zhang, Yuzhong Sun and Weisong Shi, "Utility Analysis for Internet-Oriented Consolidation in VM-based Data Centers," in Proceedings of the 2009 IEEE International Conference on Cluster Computing (Cluster 2009), New Orleans, Aug. 31 - Sep. 4, 2009.

123. Shinan Wang, Kewei Sha and Weisong Shi, "Role-based Deceptive Data Detection and Filtering in WSNs," in Proceedings of the 8th ACM/IEEE International Conference on Information Processing in Sensor Networks (IPSN 2009) (two page summary), April 13-16, 2009, San/Francisco.

124. Weisong Shi and Shinan Wang, "Building Self Adaptive Cyber-Physical Systems Using Unreliable Components," position paper in National Workshop for Research on High Confidence Transportation Cyber-Physical Systems: Automotive, Aviation & Rail, Nov. 18-20, 2008.

125. Kewei Sha, Guoxing Zhan, Safwan Al-Omari, Tim Calappi, Weisong Shi and Carol Miller, "Data Quality and Failures Characterization of Sensing Data in Environmental Applications," in Proceedings of CollaborateCom 2008, November 2008.

126. Zhifeng Yu and Weisong Shi, "A Planner-Guided Scheduling Strategy for Multiple Workflow Applications," in Proceedings of the fourth International Workshop on Scheduling and Resource Management for Parallel and Distributed Systems, in conjunction with ICPP 2008, September 8, 2008.

127. Hanping Lufei, Weisong Shi and Vipin Chaudhary, "Adaptive Secure Access to Remote Services," in Proceedings of the 8th IEEE International Conferences on Services Computing, Honolulu, Hawaii, July 8-11, 2008.

128. Kewei Sha, Guoxing Zhan, Weisong Shi, Mark Lumley, Clairy Wiholm and Bengt Arnetz, "SPA: A Smart Phone Assisted Chromic Illness Self-Management System with Participatory Sensing," in Proceedings of ACM HealthNet 2008, in conjunction with ACM/USENIX MobiSys 2008, Breckenridge, Colorado, June 17, 2008.

129. Brandon Szeliga, John Cavicchio and Weisong Shi, "DIMM: A Distributed Metadata Management for Data-Intensive HPC Environments," in Workshop on Data-Aware Distributed Computing, in conjunction with HPDC 2008, Boston, June 24, 2008

130. Carol J. Miller, Weisong Shi, and Donald Carpenter, "Bridge Scour Assessment Using the SESAMES Sensor System," accepted by he 2nd International Workshop on Opto-electronic Sensor-based Monitoring in Geo-engineering (OSMD), Nanjing, China, Oct 18-19, 2007.

131. Safwan Al-Omari and Weisong Shi, "Availability Modeling and Analysis of Autonomous In-Door WSNs," in Proceedings of the 4th IEEE International Conference on Mobile Ad-Hoc and Sensor Systems (MASS), Pisa, Itlay, Oct 8-11, 2007. (Accept rate: 25%, 67 out of 265).

132. Safwan Al-Omari and Weisong Shi, "A Novel Topology Discovery Service for Self-Organized WSNs," in Proceedings of 2nd International Conference on Wireless Algorithms, Systems, and Applications (WASA 2007), Chicago, IL, August 2007.

133. Feng Chen, Song Jiang, Weisong Shi, and Weikuan Yu, "FlexFetch: A History-Aware Scheme for I/O Energy Saving in Mobile Computing," in Proceedings of ICPP 2007, September 10-14, 2007. Xi'an, China.

134. Safwan Al-Omari and Weisong Shi, "Towards Highly-Available WSNs for Assisted Living," in Proceedings of HealthNet 2007, in conjunction with USENIX/ACM MobiSys 2007, June 11-14, San Juan. (Accept rate: 24%, 12 out of 50).

135. Kewei Sha and Weisong Shi, "Modeling Data Consistency in Wireless Sensor Networks," in Workshop Proceedings of ICDCS 2007 (WWASN 2007), Toronto, June 25-29, 2007.

136. Zhifeng Yu and Weisong Shi, "An Adaptive Rescheduling Strategy for Grid Workflow Applications," in Proceedings of the 21st IPDPS 2007, Long Beach, Mar 26 -30, 2007. (Accept rate: 26%)

137. Yong Xi, Kewei Sha, Weisong Shi, Loren Schwiebert, and Tao Zhang, "Enforcing Privacy Using Symmetric Random Key-Set in Vehicular Networks," in Proceedings of the 8th International Symposium on Autonomous Decentralized Systems (ISADS), Sedona AZ, March 21-23, 2007.

138. Junzhao Du and Weisong Shi, "An Application-aware Event-Oriented MAC Protocol in Multimodality Wireless Sensor Networks," in Proceedings of the 2nd International Conference on Mobile Ad-hoc and Sensor Networks (MSN 2006), December 13-15, 2006. Hong Kong. (Accept rate: 30%)

139. Safwan Al-Omari and Weisong Shi, "Redundancy Aware Topology Management in Wireless Sensor Networks," in Proceedings of the 2nd IEEE CollaborateCom, Atlanta, November 17-20, 2006.

140. Kewei Sha, Yong Xi, Weisong Shi, Loren Schwiebert, and Tao Zhang, "Adaptive Privacy-Preserving Authentication in Vehicular Networks," in Proceedings of IEEE International Workshop on Vehicle Communication and Applications, Beijing, Oct 27, 2006.

141. Zhengqiang Liang and Weisong Shi, "TRECON: A Framework for Enforcing Trusted ISP Peering," in Proceedings of the 15th IEEE International Conference on Computer Communications and Networks (ICCCN '06), Arlington, Oct 9-11, 2006.

142. Hui Liu, Hanping Lufei, Weisong Shi, and Vipin Chaudhary, " Towards Ubiquitous Access of Computer-Assisted Surgery Systems," in Proceedings of the 28th Annual International Conference IEEE Engineering in Medicine and Biology Society, New York, August 30 — September 3, 2006.

143. Safwan Al-Omari, Junzhao Du, and Weisong Shi, "Score: A Sensor Core Framework for Cross-Layer Design (extended abstract)," in Proceedings of the 3rd International Conference on Quality-of-Service in Wired/Wireless Networks (QShine 2006), Waterloo, Canada, August 7-9, 2006.

144. Hanping Lufei and Weisong Shi, "e-QoS: Energy-aware QoS for Application Sessions Across Multiple Protocol Domains in Mobile Computing," in Proceedings of the 3rd International Conference on Quality-of-Service in Wired/Wireless Networks (QShine 2006), Waterloo, Canada, August 7-9, 2006.

145. Kewei Sha and Weisong Shi, "On the Effects of Consistency in Data Operations in Wireless Sensor Networks," in IEEE 12th International Conference on Parallel and Distributed Systems (ICPADS '2006), Minneapolis, USA, July 12-15, 2006.

146. Hanping Lufei, Weisong Shi, and Vipin Chaudhary, "M-CASEngine: A Collaborative Environment for Computer Assisted Surgery," in *Proceedings of 2006 Computer Assisted Radiology and Surgery 20th International Congress and Exhibition*, Osaka, Japan, July 2006.

147. Kewei Sha, Weisong Shi, and Orlando Watkins, "Using Wireless Sensor Networks for Fire Rescue Applications: Requirements and Challenges," in Proceedings of the IEEE EIT 2006, East Lansing, May 7-10, 2006.

148. Yong Xi, Loren Schwiebert, and Weisong Shi, "Preserving Privacy in Monitoring-based Wireless Sensor Networks," in *Proceedings of the 2nd IEEE International Workshop on Security in Systems and Networks (SSN '06)*, Rhode Island, Greece, April 25-29 2006.

149. Zhengqiang Liang and Weisong Shi, "Performance Evaluation of Different Recommendations Aggregation Schemes in Reputation Systems," in *Proceedings of the first IEEE International Conference on Collaborative Computing: Networking, Applications, and Worksharing (CollaborateCom '05)*, San Jose, December 19-21, 2005

150. Junzhao Du, Weisong Shi, and Kewei Sha , "Asymmetry-Aware Link Quality Services in Wireless Sensor Networks," in *Proceedings of the 2005 IFIP International Conference on Embedded and Ubiquitous Computing (EUC-05)*, Nagasaki, Japan, December 6-9, 2005.

151. Sharun Santhosh and Weisong Shi, "A Semantic-based Cache Replacement Algorithm for Mobile File Access," in *Proceedings of the MobEA-III — Customer focused mobile services,* in conjunction with WWW 2005, May 10, 2005.

152. Hanping Lufei and Weisong Shi, "Fractal: A Mobile Code Based Framework for Dynamic Application Protocol Adaptation in Pervasive Computing," in *Proceedings of 19th IEEE International Parallel and Distributed Processing Symposium*, Denver, CO, April 2005. (**The Best Paper Award**).

153. Carol J. Miller, Weisong Shi, Safwan Al-Omari, and Mike. Firestone, "Wireless Sensor Networks for Containment System Monitoring," Poster Presentation at Engineering Society of Detroit Waste Management Conference, March, 2005.

154. Zhengqiang Liang and Weisong Shi, "PET: A PErsonalized Trust Model with Reputation and Risk Evaluation for P2P Resource Sharing," in *Proceedings of 38th Hawaii International Conference on System Science (HICSS'05)*, January, 2005.

155. Kewei Sha and Weisong Shi, "Revisiting the Lifetime of Wireless Sensor Networks," in *Proceedings of ACM SenSys'04 (two page summary)*, Baltimore, MD, November 3-5, 2004.

156. Hanping Lufei, Weisong Shi, and Lucia Zamorano, Communication Optimization for Image Transmission in Computer-Assisted Surgery, Technical Report MIST-TR-2004-007, March 2004. Accepted by the 2004 Congress of Neurological Surgeons Annual Meeting (abstract presentation), San Francisco, October 2004.

157. Hanping Lufei, Weisong Shi, and Lucia Zamorano, "On the Effects of Bandwidth Reduction Techniques in Distributed Applications," in *Proceedings of International Conference on Embedded and Ubiquitous Computing (EUC-04)*, Aizu, Japan, August 2004. (Accept rate: 25%)

158. Weisong Shi, Sivakumar Sellamuthu, Kewei Sha, and Loren Schwiebert, "QueryAgent: A General Query Processing Tool for Sensor Networks," in *Proceedings of the International Workshop on Ad Hoc and Sensor Networks,* in conjunction with 2004 International Conference on Parallel Processing (ICPP-2004), August 2004, Montreal Canada.

159. Hanping Lufei, Sivakumar Sellamuthu, Sharun Santhosh, and Weisong Shi, "Application-Aware Service Differentiation in PAWNs," in *Proceedings of the 2004 ICPP*, August 2004, Montreal, Canada.

160. Daniel Brodie, Amrish Gupta, and Weisong Shi, "Accelerating Dynamic Web Content Delivery Using Keyword-based Fragment Detection," in *Proceedings of the 4th International Conference on Web Engineering (ICWE 2004)*, July 28-30, 2004, Munich. (Accept ratio: 13%) (**The Best Paper Award**)

161. Zhaoming Zhu, Yonggen Mao, and Weisong Shi, "Workload Characterization of Uncacheable HTTP Traffic," in *4th International Conference on Web Engineering (ICWE 2004)*, July 28-30, 2004, Munich. (short paper accept ratio: 32%)

162. Weisong Shi, Sharun Santhosh, and Hanping Lufei, "Cegor: An Adaptive Distributed File System for Heterogeneous Network Environments," in *Proceedings of the 10th IEEE International Conferences on Parallel and Distributed Systems (ICPADS),* July 7-9, 2004. California. (accept ratio: 30%)

163. Yonggen Mao, Zhaoming Zhu,and Weisong Shi, "Peer-to-Peer Web Caching: Hype or Reality?" in *Proceedings of the 10th IEEE International Conferences on Parallel and Distributed Systems (ICPADS)*, July 7-9, 2004. California. (accept ratio: 30%).

164. Zhaoming Zhu and Weisong Shi, "HALF: A Highly Accurate Landmark-Free Localization Algorithm for Wireless Sensor Networks," in the fifth ACM International Symposium on Mobile Ad Hoc Networking and Computer (MobiHoc poster), May 24-26, 2004, Tokyo, Japan.

165. Daniel Brodie, Amrish Gupta, and Weisong Shi, "Keyword-based Fragment Detection for Dynamic Web Content Delivery," in *Proceedings of 2004 World Wide Web Conference (poster)*, May 17-22, 2004, New York. (accept ratio: 50%).

166. Vikrant Mastoli, Valmik Desai, and Weisong Shi, "SEE: A Service Execution Environment for Edge Computing," in *Proceedings of 2003 IEEE Workshop on Internet Applications*, Jun 23-24, 2003.

167. Weisong Shi, Kandarp Shah, Yonggen Mao and Vipin Chaudhary, "Tuxedo: A Peer-to-Peer Caching System," in *Proceedings of 2003 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA'03)*, June 23-26, 2003, Las Vegas, Nevada, USA.

168. Weisong Shi, Eli Collins and Vijay Karamcheti, "Modeling Object Characteristics of Dynamic Web Content," in Proceedings of the IEEE Globecom 2002 conference, Taipei, China, November 17-21, 2002. (The full version is available as NYU computer science department technical report TR2001-822).

169. Weisong Shi, Randy Wright, Eli Collins and Vijay Karamcheti, " Workload Characterization of a Personalized Web Site —- and Its Implications for Dynamic Content Caching," in Proceedings of the 7th International Conference on Web Content Caching and Distribution (WCW'02), Boulder, Colorado, August 14-16, 2002. (The full version is available as NYU computer science department technical report TR2002-829, April, 2002).

170. Weisong Shi, Eli Collins and Vijay Karamcheti, "DYCE: Model-based Emulation Dynamic Web Content," in *Poster Proceedings of the 11th International World Wide Web Conference (WWW 2002)*, Hawaii, May 7-11, 2002.

171. Weisong Shi and Vijay Karamcheti, "CONCA: An Architecture for Consistent Nomadic Content Access," *Proceedings of workshop on Caching, Coherence, and Consistency (WC3 '01)*, Sorrento, Italy, June, 2001.

172. Xiaodong Fu, Weisong Shi, Anatoly Akkerman and Vijay Karamcheti, "CANS: Composable, Adaptive Network Services Infrastructure," in *Proceedings of the 3rd USENIX Symposium on Internet Technologies and Systems (USITS'01)*, San Francisco, March 2001.

173. Zhiyu Zhou, Weisong Shi and Zhimin Tang, "A Novel Multicast Scheme to Reduce Cache Invalidation Overheads in DSM Systems," in *Proceedings of the 19th IEEE International Performance, Computing and Communication Conference(IPCCC'2000)*, February 20-22, 2000, Phoenix, AZ, USA.

174. Weisong Shi and Zhimin Tang, "Affinity-based Self Scheduling for Software Shared Memory System,", in *Proceedings of 6th International Conference on High Performance Computing(HiPC'99)*, December 17-20, Calcutta, India.

175. Weisong Shi, Yongjie Mao, and Zhimin Tang, "Communication Substrate for Software DSMs," in *Proceedings of the 11th IASTED International Conference on Parallel and Distributed Computing and Systems*, November 3-6, 1999, MIT, Boston, USA.

176. Weiwu Hu, Weisong Shi, and Zhimin Tang, "Write Detection in Home-based Software DSMs," P. Amestoy, et.al (eds),*EuroPar'99 Parallel Processing*, Lecture Notes in Computer Science, No. 1685, Springer-Verlag, pp. 909-914.

177. Weiwu Hu, Weisong Shi, and Zhimin Tang, "Home Migration in Home-based Software DSMs," in *Proceedings of ACM 1st Workshop on Software DSMs (WSDSM), in conjunction with 13rd ICS'99*, Rhodes, Greece, June, 1999.

178. Weisong Shi and Zhimin Tang, "Dynamic Computation Scheduling for Load Balancing in Home-based Software DSMs," in *Proceedings of the 1999 International Symposium on Parallel Architectures, Algorithms and Networks (I-SPAN'99)*, IEEE CS Press, Perth, Australia, pp.248-253, June, 1999.

179. Weiwu Hu, Weisong Shi, Zhimin Tang, "JIAJIA: An SVM System Based on A New Cache Coherence Protocol," In *Proceedings of the High Performance Computing and Networking (HPCN'99)*, April, 1999, LNCS 1593, pp. 463-472, Springer, Amsterdam, Netherlands.

180. Weisong Shi, Jifu Ma(*), and Zhimin Tang, "High Efficient Parallel Computation of Resonant Frequencies of Waveguided Loaded Cavities on JIAJIA Software DSM System,"((*) Pennsylvania State University. Electrodynamics Communication Research Laboratory.) In *Proceedings of the High Performance Computing and Networking (HPCN'99)*, April, 1999, LNCS 1593, pp. 1147-1150, Amsterdam, Netherlands.

181. Weiwu Hu, Weisong Shi and Zhimin Tang, "Reducing System Overheads in Home-based Software DSMs," In *Proceedings of the 13th IEEE International Parallel Processing Symposium & 10th Symposium on Parallel and Distributed Processing(IPPS/SPDP'99)*, IEEE CS Press, pp. 167-173, April, 1999, San Juan, Puerto Rico.

182. M.Rasit.Eskicioglu(*), T. Anthony Marsland(*), Weiwu Hu, Weisong Shi, "Evaluation of JIAJIA Software DSM System on High Performance Architectures", In *Proceedings of the 32nd Hawaii International Conference on System Sciences(HICSS-32)*, Hawaii, U.S.A, January, 1999.((*) University of Alberta).

Chapters (8)

1. Sidi Lu, Ren Zhong, and Weisong Shi, "Teleoperation for Complementing and Enhancing Autonomous Vehicles," Autonomous Vehicles and Systems, Taylor & Francis Group, Feb. 2024.

2. Zujie Ren, Xiaohong Zhang and Weisong Shi, Resource Scheduling in Data-Centric Systems, in Handbook on Data Centers, S. U. Khan and A. Y. Zomaya, Eds., March 17, 2015, pp. 1307-1330, Springer-Verlag, New York, USA.

3. Tieying Zhang, Xueqi Cheng and Weisong Shi, P2P Streaming Content Delivery Systems, Next Generation Content Delivery Infrastructures: Emerging Paradigms and Technologies, edited by Giancarlo Fortino and Carlos E. Palau, IGI Global, 2012.

4. Hui Chen and Weisong Shi, "Power Measuring and Profiling: State-of-the-Art", Handbook on Energy-aware and Green Computing, edited by Ishfaq Ahmad and Sanjay Ranka, Chapman and Hall/CRC Press Taylor and Francis Group LLC. Early 2011.

5. John P. Walters, Zhengqiang Liang, Weisong Shi, and Vipin Chaudhary, "Wireless Sensor Networks Security: A Survey," in Security In Distributed, Grid, and Pervasive Computing, Yang Xiao (Eds), Auerbach Publications, pp. 367-410, April 2007.

6. Hanping Lufei and Weisong Shi, "An Adaptive Encryption Protocol in Mobile Computing," book chapter of Mobile/Wireless Network Security, edited by Y. Xiao, S. Sheng, and D. Zhu, Springer 2007. (invited)

7. Kewei Sha, Weisong Shi, and Sivakumar Sellamuthu, "Load Balanced Query Protocols for Wireless Sensor Networks," book chapter of the book "Sensor Networks Operations," edited by Shashi Phoha, Thomas F. La Porta and Christopher Griffin, Wiley-IEEE Press, pp. 264-291, May 2006.

8. Haiying Shen, Aaron. Brodie, Cheng-Zhong Xu and Weisong Shi, "Scalable and Secure Overlay Networks," book chapter of "Theoretical and Algorithmic Aspects of Sensor, Ad Hoc Wireless and Peer-to-Peer Networks," CRC Press, June 2005.