

Song Guo

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PERSONAL INFORMATION

Citizenship Canadian

EDUCATION

Ph.D.	Computer Science University of Ottawa, Canada	2001–2005
M.E.	Computer Engineering Beijing University of Posts and Telecommunications, China	1995–1998
B.E.	Computer Engineering Huazhong University of Science and Technology, China	1991–1995

PROFESSIONAL EXPERIENCE

The Hong Kong Polytechnic University

<i>Full Professor</i> , Department of Computing	2016–present
<i>Associate Head</i> (Research and Development), Department of Computing	2019–2021
<i>Director</i> , PolyU Edge Intelligence Lab	2016–present
<i>Leader</i> , Research Group of Networking and Mobile Computing	2019–present

Zero Dynamic Medical Technology

<i>Co-founder, Chief Scientist</i>	2021–present
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Wuhan University

<i>Changjiang Chair Professor</i> (visiting), School of Computer Science	2019–2022
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The University of Aizu

<i>Full Professor</i> , School of Computer Science and Engineering	2014–2016
<i>Senior Associate Professor</i> , School of Computer Science and Engineering	2011–2013
<i>Associate Professor</i> , School of Computer Science and Engineering	2007–2011

University of Northern British Columbia

<i>Assistant Professor</i> , Department of Computer Science	2006–2007
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University of British Columbia

<i>NSERC Postdoctoral Fellow</i> , Department of Electrical and Computer Engineering	2006
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Liska Biometry Inc.

<i>Co-founder, Chief Architect</i>	2001–2006
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RESEARCH INTERESTS

Prof. Guo is the founding director of the Edge Intelligence Lab at The Hong Kong Polytechnic University (PEIL). His research interests are mainly in Edge AI, Data Analytics, Cloud Computing, Wireless Networking, Mobile Computing, and Distributed System. He published many papers in top venues with wide impact in these areas and was recognized as a Highly Cited Researcher (Clarivate Web of Science) for consecutive years. His impactful and pioneering work has been widely reported in public media like Sing Tao Daily (星岛日报), China Daily (中国日报), Xinhua News (新华社), Scientific Chinese (科学中国人), Daily Mail, Mail Online, Tech News, etc.

HONORS AND AWARDS

- Member of Academia Europaea, 2022
- Outstanding Service Award, Satellite and Space Communications Technical Committee, IEEE Communications Society, 2022
- Fellow of the Canadian Academy of Engineering, 2021
- IEEE Fellow (Computer Society), for contributions to high performance and resilient distributed computing, 2020
- Fellow of Asia-Pacific Artificial Intelligence Association (AAIA), 2021
- Highly Cited Researcher, Clarivate Web of Science, 2020 & 2021 & 2022
- Changjiang (Yangtze River) Scholar Award, Ministry of Education, China, 2019
- ACM Distinguished Member, 2021
- Japan Society for the Promotion of Science (JSPS) Fellowship, 2021
- World top 2% scientists by Stanford University, 2020 & 2021
- Faculty Merit Award for Outstanding Achievement in Research and Scholarly Activities, The Hong Kong Polytechnic University, 2022 & 2020
- Faculty of Engineering Research Grant Achievement Award, The Hong Kong Polytechnic University, 2023 & 2022
- Senior Member of the China Computer Federation (CCF), 2020
- 2020 CCF Distinguished Speaker
- IEEE Transactions on Cloud Computing Editorial Excellence and Eminence Award, 2019 & 2020
- Distinguished Lecturer, IEEE Communications Society, 2016-2017
- Outstanding Leadership Award received in the IEEE International Conference on Big Data Intelligence and Computing (DataCom), 2016
- Outstanding Service Award received in the IEEE International Conference on Embedded Software and Systems (ICESS), 2012 & 2010
- Outstanding Leadership Award received in IEEE International Symposium on Parallel and Distributed Processing with Applications (ISPA), 2008
- Funai Information Technology Award, The Funai Foundation for Information Technology, Japan, 2007

INNOVATION AND COMPETITION

- Gold Medal, Advanced Intelligent System for Radiation-free Scoliosis and Posture Evaluation, the 48th International Exhibition of Inventions Geneva (Geneva Inventions Expo), 2023.
- 2nd Runner-Up, Huawei Cloud Developer Competition APAC Final 2022 "Spark Infinity".

- Silver Medal, the 6th China “Internet+” Innovation and Entrepreneurship Competition, as supervisor. In 2020, the competition drew 6.32 million participants, 1.48 million teams, from 4,146 colleges and universities in 124 countries and regions. The quality of the competition hit a record high, and the proportion of silver medals and above awards in the competition was about 0.03%.
- Student Innovation Grand Award, 2021 Hong Kong ICT Awards.
- Silver Medal, Dr. Body: Posture Detection and Rehabilitation Tracking System, the 12th “Challenge Cup” of National College Student Entrepreneurship Plan Competition, as supervisor, 2020.
- Second Prize (semi-finals) and Third Prize (final), Dr. Body: non-radiative bad posture detection and management system, the 4th China Medical Device Innovation and Entrepreneurship Competition for household, traditional Chinese medicine, rehabilitation physiotherapy and sports health equipment, 2021.
- 2020 Hong Kong Social Enterprise Competition Intellectual Property Ambassador Award.
- First Prize of the National Finals of the 2019 SJTU-Weining Health Smart Medical Challenge, Heal Boys: Spine Doctor Non-invasive Spine Three-dimensional Evaluation System.
- First Prize, ComSoc Student Competition 2016, as supervisor.

BEST PAPER AWARDS

- 2020 Best Paper Award for IEEE Transactions on Computers, IEEE Computer Society Publications Board, 2022, for the paper “A Deep Reinforcement Learning based Offloading Game in Edge Computing”, IEEE Transactions on Computers, vol. 69, no. 6, June 2020, pp. 883-893.
- Best Track Paper Award, “An Online Pricing Strategy of EV Charging and Data Caching in Highway Service Stations”, IEEE International Conference on Mobility, Sensing and Networking (MSN), Tokyo, Japan, December 2020.
- Best Paper Award Runner Up, “SkyChain: A Deep Reinforcement Learning-Empowered Dynamic Blockchain Sharding System”, International Conference on Parallel Processing (ICPP), Edmonton, Canada, August 2020.
- 2019 IEEE Systems Journal Best Paper Award, the IEEE Systems Council, for the paper “A Survey on Energy Internet: Architecture, Approach, and Emerging Technologies”, IEEE Systems Journal, vol. 12, no. 3, September 2018, pp. 2403-2416.
- 2019 IEEE ComSoc Technical Committee on Big Data (TCBD) Best Conference Paper Award, “Making Big Data Open in Collaborative Edges: A Blockchain-Based Framework with Reduced Resource Requirements”, IEEE ICC 2018, Kansas City, MO, USA, May 2018.
- 2018 IEEE ComSoc Technical Committee on Green Communications and Computing (TCGCC) Best Magazine Paper Award, for the paper “Green Industrial Internet of Things Architecture: An Energy-efficient Perspective”, IEEE Communications Magazine, vol. 54, no. 12, December 2016, pp. 48-54.
- Best Student Paper Award, “Enhanced Passcode Recognition Based on Press Force and Time Interval”, Asian Conference on Intelligent Information and Database Systems (ACIIDS), Dong Hoi City, Vietnam, March 2018.
- 21st Annual Best of Computing - Notable Books and Articles in Computing of 2016, ACM Computing Reviews, 2017, for the paper “An efficient privacy-preserving ranked keyword search method”, IEEE Transactions on Parallel and Distributed Systems, vol. 27, no. 4, April 2016, pp. 953-961.
- 2017 IEEE Systems Journal Best Paper Award, the IEEE Systems Council, for the paper “Big Data Meet Green Challenges: Big Data toward Green Applications”, IEEE Systems Journal, vol. 10, no. 3, September 2016, pp. 888-900.

- Best Paper Award, “Big Data Analytics for Price Forecasting in Smart Grids” , IEEE Global Telecommunications Conference (Globecom), Washington DC, USA, December 2016.
- Best Paper Award, “Traffic Scheduling for Deep Packet Inspection in Software Defined Networks” , IEEE International Conference on Trust, Security and Privacy in Computing and Communications (TrustCom), Tianjin, China, August 2016.
- Best Paper Award, “Information Management System Used in Network Isolated Environment” , Tohoku-Section Joint Convention of Institutes of Electrical and Information Engineers, August 2016, Sendai, Japan.
- Best Paper Award, “DASN: Demand-addressable Sensor Network for Active Information Acquisition” , ACM International Conference on Ubiquitous Information Management and Communication (IMCOM), Siem Reap, Cambodia, January 2014.
- Best Paper Award, “Architecture-based Performance Evaluation of Genetic Algorithms on Multi/Many-core Systems” , IEEE International Conference on Computational Science and Engineering (CSE), Dalian, China, August 2011.
- Best Paper Award, “Lifetime Approximation Schemes Allow Multicasting with Linear Message Complexity in Wireless Sensor Networks” , IEEE International Conference on High Performance Computing and Communications (HPCC), Dalian, China, September 2008, pp. 703-708.

GRANTS

58. RGC Areas of Excellence Scheme (AoE), “6G: Wireless Access and Connectivity for an Intelligent and Sustainable World” , 2023-2027, Co-PI, 87,304,000 HKD.
57. Postdoc Matching Fund Scheme - Jie ZHANG, 2023-2025, PI, 547,622 HKD.
56. Postdoc Matching Fund Scheme - Ning LI, 2023-2025, PI, 456,030 HKD.
55. RGC General Research Fund (GRF), “Editable Learning with Fast Adaptation over Evolutionary Edges” , 2023-2025, PI, 1,145,729 HKD.
54. RGC General Research Fund (GRF), “A Novel Modelling Approach for Predicting Sewer Failure” , 2023-2025, Co-I, 1,059,605 HKD.
53. RGC General Research Fund (GRF), “Collaborative Training in Resource-constrained Edge Networks via Generative Mutual Knowledge Transfer” , 2022-2024, PI, 1,093,580 HKD.
52. The Key-Area Research and Development Program of Guangdong Province on the New Generation of Artificial Intelligence, Grand Project “The development and application of open edge computing platform for human-machine collaboration” , 2021-2024, Co-PI, 34,000,000 RMB.
51. PolyU Postdoc Matching Fund Scheme - Jinwen LIANG, 2022-2024, PI, 456,286 HKD.
50. PolyU Distinguished Postdoctoral Fellowship Scheme - Jing LI, 2022-2025, PI, 1,288,513 HKD.
49. PolyU Postdoc Matching Fund Scheme - Hao REN, 2022-2023, PI, 365,400 HKD.
48. Public Policy Research Funding Scheme, “Modeling over-tourism in Hong Kong using machine learning and social media data” , 2021-2022, Co-I, 223,100 HKD.
47. PolyU Project of Strategic Importance, “Crowdsourced Mobile Video Analytics for Emerging Realtime Risk Management in Smart Cities” , 2021-2022, PI, 2,000,000 HKD.
46. PolyU Interdisciplinary Research Fund in Smart Cities, “High Definition (HD) Map for Autonomous Driving in Smart Cities” , 2021-2023, Co-I, 1,000,000 HKD.
45. PolyU Research Institute for Sustainable Urban Development (RISUD) Emerging Frontier Area (EFA) Research Project, “Towards a digital-twin system for smart mobility for people with disabilities (PwDs) using 3D LiDAR modeling and urban big data analytics” , Co-I, 2021-2024, 977,000

HKD.

44. PolyU Intra-Faculty Interdisciplinary Project, “Exo-neuro-musculo-skeleton (ENMS) based on Corticomuscular Integrated Control and Cyber Physical Social System (CPSS) for Grouped Tele-rehabilitation of Wrist-Hand after Stroke” , 2021-2022, Co-I, 400,000 HKD.
43. Key Project of Basic Research of Shenzhen Science and Technology Innovation Committee, “Research on Cloud Edge Collaborative Learning Architecture and Key Optimization Theory” , 2021-2023, PI, 2,500,000 CNY.
42. RGC General Research Fund (GRF), “Federated Learning with Non-IID Data over Resource-Constrained Mobile Edge Networks” , 2021-2023, PI, 1,057,394 HKD.
41. Hong Kong Scholars Program, “Federated Learning over Resource-Constrained Mobile Edge Networks” , 2021-2023, PI, 800,000 HKD.
40. NRC (Norwegian Research Council) INTPART (International Partnerships for Excellent Education and Research) Programme, “Transnational Partnership for Excellent Research and Education in Disruptive Technologies for a Resilient Future (DTRF)” , 2020-2023, Co-PI, 5,700,000 NOK.
39. RGC Research Impact Fund (RIF), “Edge Learning: the Enabling Technology for Distributed Big Data Analytics in Cloud-Edge Environment” , 2020-2025, Project Coordinator (PC), 7,640,000 HKD.
38. PolyU Postdoctoral Fellowships Scheme, “Human Tracking with Embedded Sensors on Collaborative Multiple Smart Devices” , 2020-2022, PI, 799,800 HKD.
37. Chinese National Engineering Research Centre (CNERC), “Data Analytics and Machine Learning Algorithms for Smart Transportation Systems” , 2020-2021, PI, 500,000 HKD.
36. RGC General Research Fund (GRF), “Proactive and Cooperative Resource Allocation in Wide-scale Edges” , 2020-2022, PI, 935,141 HKD.
35. PolyU Data Science & AI Lab, “The Enabling Technologies for Mutual Enhancement between Machine Learning and Communication at the Edge” , 2019-2021, PI, 363,000 HKD.
34. Consultancy Project with Esquel Enterprises Limited, “Bitmap Conversion for Label Artwork Patterning” , 2019-2020, PI, 156,000 HKD.
33. RGC Research Impact Fund (RIF), “Tackling Grand Challenges in Food Safety: A Big Data and IoT Enabled Approach” , 2019-2024, Co-PI, 7,748,000 HKD.
32. RGC Collaborative Research Fund (CRF), “Multi-stage Big Data Analytics for Complex Systems: Methodologies and Applications” , 2019-2022, Co-PI, 3,661,193 HKD.
31. PolyU Postdoctoral Fellowships Scheme, “Highly-Efficient Data Dissemination in Mobile Edge Computing Enabled Internet of Vehicles” , 2019-2021, PI, 771,000 HKD.
30. Collaborative Research with Huawei Technologies Co., Ltd., “Ethernet Transport Network Performance Simulation” , 2018-2019, PI, 771,150HKD.
29. NSFC (National Natural Science Foundation of China), General Research, “Edge Intelligence Oriented Resource Management and Deployment Optimization” , 2019-2022, PI, 640,000 RMB.
28. Collaborative Research with Guilin Medical Group, “MioTChain” , 2018 –2019, PI, 1,000,270 HKD.
27. Ministry of Science and Technology (MoST) National Key Technologies R&D Programme on Big Data and Cloud Computing, “General-purpose Computer Technology and System for Graph-oriented Big Data Computing” , 2018-2021, Co-I, 47,000,000 CNY.
26. Ministry of Science and Technology (MoST) National Key Technologies R&D Programme on Big Data and Cloud Computing, “Human-Machine-Things Integrated Cloud Computing Architecture and Platform” , 2018-2021, Co-I, 25,000,000 CNY.

25. Shenzhen Basic Research Funding Scheme, “Task Scheduling of Multi-platform Computing Resources in Mobile Crowdsourcing Networks” , 2018-2019, PI, 300,000 CNY.
24. Hong Kong Innovation and Technology Fund (ITF), “Big Data-Driven Airport Resources Management (BigARM) Engine and Application Tools” , 2018-2019, Co-I, 6,500,000 HKD.
23. Collaborative Research with HK Interactive Lab Limited, “A Rating System for Crypto-Tokens on Block-chain based Platforms” , 2018-2020, Co-I, 1,500,000 HKD.
22. Shanghai Science and Technology Innovation Action Plan - 2018 Hong Kong, Macao and Taiwan Science and Technology Cooperation Project, “Research on Big Data Processing Technology for Smart City Based on Cloud and Fog Hybrid System” , 2018-2021, Co-PI, 400,000 RMB.
21. NRC (Norwegian Research Council) INTPART (International Partnerships for Excellent Education and Research) Programme, “Transnational Partnership for Excellent Research and Education in Big Data and Emergency Management” , 2017-2020, Co-PI, 5,700,000 NOK.
20. PolyU Internal Competitive Research Grant (CRG), “Optimized Request Admissions in NFV-Enabled Software-Defined Networks” , 2017-2019, PI, 105,000 HKD.
19. PolyU Joint Supervision Scheme, “Bandwidth Guaranteed Virtual Network Function Placement on NUMA Machines” , 2017-2018, PI, 154,500 HKD.
18. PolyU COMP Start-up Fund, “Self-adaptive Platform for Big Spatial-Temporal Data Analytics” , 2016-2019, PI, 1,500,000 HKD.
17. JSPS (Japan Society for the Promotion of Science) Grant-in-Aid for Scientific Research, “A WiFi-based Survivor Tracking and Searching System for Disaster Environment” , 2016-2017, PI, 20,000,000 JPY.
16. MIC (Ministry of Internal Affairs and Communication) Strategic Information and Communications Research and Development Promotion Program (SCOPE), “Living Activity and Health Tracking in Smart Home using RF Reflection and Big Data” , PI (2016-2017), Co-PI (2017-2018), 35,000,000 JPY.
15. JST-NSF (Japan Science and Technology Agency and US National Science Foundation), Big Data for Disaster Management, “BDD: Dynamic Evolution of Smart-Phone Based Emergency Communications Network” , 2015-2017, Co-PI, 30,000,000 JPY.
14. JST SIP (Cross-ministerial Strategic Innovation Promotion Program) on Enhancement of Societal Resiliency against Natural Disasters, 2015 –2017, Co-I, 25,000,000 JPY.
13. MIC (Ministry of Internal Affairs and Communication) Strategic Information and Communications Research and Development Promotion Program (SCOPE), “Research and Development of Demand-Addressable Sensor Network” , 2012-2014, Co-PI, 60,000,000 JPY.
12. Fukushima Revitalization Research Fund, “Development of a Resilient Information Management System Applicable under Network-isolated Environment” , 2013 –2014, PI, 10,000,000 JPY.
11. JSPS Grant-in-Aid for Scientific Research, “On Reliable, Secure and Energy-Efficient Computing in Distributed Wireless Sensor Networks” , 2008-2010, PI, 5,000,000 JPY.
10. A3 Foresight Program funded by JSPS (Japan), NSFC (China) and NRF (Korea), 2012 –2014, Co-I, 28,000,000 JPY.
9. NSFC (National Natural Science Foundation of China), General Research, “On Practical Network Coding Techniques for Wireless Networks” , 2014-2016, Co-PI, 800,000 RMB.
8. NSFC (National Natural Science Foundation of China), General Research, “On Environment-Aware, Service-Adaptive and Energy-Efficient Technologies in Mobile Cognitive and Cooperative Communications” , 2014-2016, Co-PI, 800,000 RMB.

7. Joint Research Fund of Olympus Corporation, “Context-Aware System Guaranteeing Quality of Service for a Wide Area” , 2011-2013, PI, 10,000,000 JPY.
6. Grant-in-Aid for JSPS Fellows, “Theory and Key Technologies of Large-scale Mobile Wireless Mesh Sensor Networks” , 2009-2011, Coordinator, 3,000,000 JPY.
5. University of Aizu Competitive Research Fund, 2008-2015, PI, 10,000,000 JPY.
4. Fukushima Revitalization Research Fund, “A Safe and Secure Situation-aware IoT System for Support of the Senior Citizen” , 2012, Co-PI, 3,000,000 JPY.
3. University of Aizu Multi-Lab Research Fund, “New Algorithms/Protocols of Internet of Things and Their Applications to Smart Home/Town for Elderly People” , 2011, Co-PI, 3,000,000 JPY.
2. Joint Research Fund of Olympus Corporation, “New Models of Grid and Ubiquitous Computing for Image Processing” , 2008-2010, PI, 10,000,000 JPY.
1. Professional Development Fund, University of Northern British Columbia, 2006, 2,000 CAD.

SCHOLARLY ADDRESSES

101. Invited Talk, “ChatGPT 的进展及对香港创新发展的机遇和挑战-建立联邦人工智能网络基础设施赋能大湾区智慧社会的展望”, 中国联通与香港科技界共创「人工智能-智慧社会」高峰论坛, Hong Kong, March 10, 2023
100. Invited Talk, “边缘智能赋能智慧城市”, 「香港智能科技青少年万人科普计划」走进全港地区系列之港岛, Hong Kong, March 2, 2023
99. Invited Talk, ChatGPT: Challenges, Opportunities and Responses to AI in University Education, The Hong Kong Polytechnic University, February 16, 2023.
98. Invited Talk, “生成式 AI 的价值与挑战”, 2023 金融科技趋势展望, MIT Technology Review, January 11, 2023
97. Invited Talk, “会聊天的人工智能”, 「香港万人科普计划」院士讲科普活动, Hong Kong, January 7, 2023
96. Keynote, GBA International Artificial Intelligence and Robotics Summit 2022, Hong Kong and Shenzhen, December 20-21, 2022
95. Keynote, Ministry of Education International Industry-University-Research Cooperation Conference on Artificial Intelligence and Data Governance, Zhejiang, China, November 27, 2022
94. Keynote, 18th EAI International Conference on Heterogeneous Networking for Quality, Reliability, Security and Robustness (QSHINE), Chongqing, China, November 26-27, 2022
93. Keynote, International Workshop on Network Intelligent Computing, Central South University, Changsha, China, November 13, 2022
92. Keynote, Yueqi Forum, High-level Talents Sub-Forum in Computer Science - Research Progress in Service Computing, China University of Mining and Technology, Xuzhou, China, November 10, 2022
91. Keynote, International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP), Copenhagen, Denmark, October 10-12, 2022
90. Panelist, Asia Pacific Digital Talent Summit, Huawei Connect 2022, Bangkok, Thailand, September 19, 2022
89. Keynote, 第六届未来网络发展大会, 网络智能与大数据论坛, Nanjing, August 2022
88. Keynote, 香港华为云 & 智慧科技论坛: 云与智慧科技共创香港, Hong Kong, August 2022
87. Keynote, IEEE International Conference on High Performance Switching and Routing (HPSR),

Taicang, China, June 2022

86. Keynote, Workshop on Satellite Mega-Constellations in the 6G Era (6GSATCOMNET), in conjunction with IEEE International Conference on Communications (ICC), Seoul, South Korea, May 16–20, 2022
85. Keynote, AAIA’s Greater Bay Area Artificial Intelligence Online Summit, April 2022
84. Invited Seminar, Suzhou University, April 2022
83. Invited Talk, Frontier Academic Forum, Institute of Cryptography and Data Security, Beijing Institute of Technology, March 2022
82. Invited Talk, Data Science and Analytics Webinar, HKUST (GZ), March 2022
81. Keynote, International Workshop on Edge Computing and Security, Chengdu, China, January 2022
80. Keynote, International Conference on Information and Communication Technologies for Disaster Management (ICT-DM), Hangzhou, China, December 2021
79. Keynote, Expert Workshop on Industrial Intelligent Vision Technology, Shenzhen, China, December 2021
78. Keynote, IEEE International Conference on Wireless Communications and Signal Processing (WCSP), Nanjing, China, October 2021
77. Keynote, IEEE International Conference on Space-Air-Ground Computing (SAGC), Huizhou, China, October 2021
76. Keynote, IEEE International Symposium on Blockchain, September 2021
75. Invited Talk, Wutong Forum, Shenzhen, August 2021
74. Invited Seminar, E4C summer school “From Smart Buildings to Smart Cities” , The Institut Polytechnique de Paris, July 2021
73. Invited Talk, International Symposium on Network Security and Intelligent Communication, Northwestern Polytechnical University , June 2021
72. Keynote, Hong Kong Symposium on Artificial Intelligence and Robotics, May 2021
71. Keynote, IEEE Workshop on Deep Learning, Hong Kong Chapter, March 2021
70. Panelist, Hong Kong Artificial Intelligence and Robotics Conference, March 2021
69. Tutorial, “Edge Learning for Distributed Big Data Analytics: Theory, Algorithm and System Design” , the 22nd International Conference on Distributed Computing and Networking (ICDCN), January 2021
68. Distinguished Lecturer Talk, IEEE VTS Nanjing Chapter, December 2020
67. Keynote, the 8th International Conference on Information Technology: IoT and Smart City (ICIT), December 2020
66. Invited Talk, 2020 Canberra Artificial Intelligence Summer School – “Artificial Intelligence is For Everyone” , December 2020
65. Keynote, 2020 University Alliance of the Silk Road (USAR) Workshop on Security for Cyber Space, Xi’ an Jiao Tong University, November 2020
64. Keynote, “Deep Reinforcement Learning-Empowered Blockchain: Security Challenges and Solutions” , Mainland-Hong Kong research forum on the Advances in Cybersecurity, October 2020
63. Keynote, “Edge Learning and Smart Cities: From Cloud to Edge” , China National Computer Congress (CNCC) Technology Forum on 5G Edge Intelligence and Smart City, October 2020
62. Keynote, the 11th China Computer Federation (CCF) Conference on Service Computing and the 13th International Conference on Service Science, Theme Forum on Internet Services, August 2020

61. Keynote, CCF Computer Architecture Academic Annual Conference on Edge Intelligence and Future Architecture, August 2020
60. Keynote, IEEE INFOCOM Workshop on Intelligent Cloud Computing and Networking (ICCN), Beijing, China, July 2020
59. Keynote, “Breaking through the Intelligent Bottleneck: Challenges and Prospects of Federated Learning Based on Edge Computing”, CCF Young Computer Scientists & Engineers Forum (YOCSEF) Shenzhen Online Forum - Federated Learning: The Last Mile of Artificial Intelligence, March 2020
58. Keynote, International Conference on Blockchain and Trustworthy Systems (BlockSys), Guangzhou, China, December 2019
57. Keynote, IEEE Globecom Workshop on Intelligent and Cognitive Space, Terrestrial and Ocean Internet, Systems and Applications, Waikoloa, USA, December 2019
56. Invited Talk, Wuhan University Artificial Intelligence Research Institute Inaugural Conference and International Symposium on Artificial Intelligence, Wuhan, China, November 2019
55. Invited Talk, Ping An Technology, Shenzhen, China, October 2019
54. Invited Talk, Workshop on Big Data for Emergency Management (BDEM 2019), Sogndal, Norway, October 2019
53. Invited Talk, Beijing University of Posts and Telecommunications, Beijing, China, October 2019
52. Keynote, Cybersecurity and Future Webinar in the Intelligent Era, Tianjin University, Tianjing, China, August 2019
51. Keynote, International Workshop on Intelligent Networks and Edge Computing (INEC), Sun Yat-sen University, Guangzhou, August 2019
50. Invited Talk, Xidian University, July 2019
49. Invited Talk, Xi’an Jiaotong University, July 2019
48. Keynote, International Conference on Data Science and Information Technology (DSIT), Seoul, Korea, July 2019
47. Keynote, 12th EAI International Conference on Mobile Multimedia Communications (MOBIMEDIA 2019), Weihai, China, June 2019
46. Invited Talk, Macquarie University, May 2019
45. Invited Talk, Deakin University, May 2019
44. Keynote, International Conference on Advances in Computer Technology, Information Science and Communications (CTISC), Xiamen, China, March 2019
43. Keynote, Future Internet Forum 2019 (FIF 2019), Dalian, China, January 2019
42. Keynote, International Conference on Information Technology (ICIT), Hong Kong, December 2018
41. Keynote, BUPT Information Technology International Forum for Young Scholars, Beijing, China, December 2018
40. Keynote, IEEE International Workshop on Future Network Computing (FNC), Changsha, China, October 2018
39. Invited Talk, Advanced Technology Forum on Computer Network, School of Information Science and Engineering, Central South University, Changsha, China, October 2018
38. Keynote, IEEE International Conference on Cloud and Big Data Computing (CBDCom), Guangzhou, China, October 2018
37. Keynote, International Conference on Data Science and Information Technology (DSIT), Singapore, July 2018

36. Keynote, International Conference on Mobile Multimedia Communications (MobiMedia), Qingdao, China, June 2018
35. Keynote, International Workshop on Future Advanced Networks Technology (FANT), Shanghai, China, May 2018
34. Keynote, International Conference on Information Science and System (ICISS), Jeju Island, South Korea, April 2018
33. Panellist, IEEE HPCC/SmartCity/DSS, Bangkok, Thailand, December 2017
32. Keynote, International Conference on Heterogeneous Networking for Quality, Reliability, Security and Robustness (Qshine), Dalian, China, December 2017
31. Invited Talk, Forum on Frontier Technology of Data-center and System Software, HUST, Wuhan, December 2017
30. Invited Talk, Forum on Frontier Technology of Internet Plus, CUG, Wuhan, December 2017
29. Keynote, Big Data and Networking, Aizu-Wakamatsu, Japan, November 2017
28. Invited Talk, Forum on Future Computing, Shanghai, China, August 2017
27. Distinguished Lecturer Talks, “Cross-Cloud Resource Management for Big Data” and “Device-to-Device Communication in Cellular Networks” , Universidad Privada Boliviana, Diego Portales University, University of Chile, August 2017
26. Keynote, “Learning based Quality-aware Crowdsourcing” , 2017 Cross-Strait Research Forum, Beijing, China, July 2017
25. Distinguished Lecturer Talks, “Device-to-Device Communication in Cellular Networks” , Auckland University of Technology, Victoria University of Wellington, Massey University, University of Canterbury, New Zealand, July 2017
24. Invited Talk, Hosei University, Tokyo, Japan, November 2016
23. Invited Talk, Forum on Future Computing, Chengdu, China, August 2016
22. Panellist, “Evolution of Cyber-Physical Systems” , IEEE CyberSciTech/DASC/PICom/ DataCom 2016, Auckland, New Zealand, August 2016
21. Keynote, “Traffic-aware Geo-distributed Big Data Analytics with Predictable Performance” , IEEE 2016 CyberSciTech/DASC/PICom/DataCom, Auckland, New Zealand, August 2016
20. Keynote, “Vehicle-Assisted Disaster Management” , International Workshop on Vehicular Networks and Smart Cities, Shanghai, China, June 2016
19. Invited Talk, “Protection of Big Data Privacy” , International Forum on Cyber Security, Beijing, China, June 2016
18. Invited Talk, Beijing University of Posts and Telecommunications, Beijing, China, January 2016
17. Invited Talk, Nanjing University, Nanjing, China, January 2016
16. Keynote, “False-name-proof Auctions for Cloud Resource Allocation” , IEEE SmartCity / Social-Com / SustainCom 2015 International Conferences, Chengdu, China, December 2015
15. Keynote, “ALETHEIA: Robust Large-Scale Spectrum Auctions against False-name Bids” , International Workshop on Emerging Technologies in Mobile Computing and Wireless Communication, Chongqing, China, October 2015
14. Keynote, CCF Technical Committee on Computer Applications Annual Conference, Maoming, China, August 2015
13. Keynote, International Workshop on Network Computing and Data Management, Dalian, China, July 2015
12. Invited Talk, Jinan University, Guangzhou, China, July 2015

11. Invited Talk, Aizu IT AKI Forum, Aizu-Wakamatsu, Japan, October 2014
10. Keynote, International Workshop on Future Trends of Big Data, Systems, and Networking, Melbourne, Australia, September 2014
9. Invited Talk, Huazhong University of Science and Technology, Wuhan, China, September 2014
8. Keynote, CCF Technical Committee on Open Systems Annual Conference, Xiangyang, China, September 2014
7. Invited Presentation, IEEE International Conference on Computer Communications and Networks, Nassau, Bahamas, July 2013
6. Invited Talk, Forum on Future Computing, Shanghai, China, April 2013
5. Invited Presentation, International Conference on Computing, Networking and Communications, San Diego, USA, January 2013
4. Invited Talk, Central South University, Changsha, China, November 2011
3. Invited Talk, University of New South Wales, Canberra Campus, Australia, June 2011
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Conference Papers

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- C236. Jie Zhang, Xiaosong Ma, Song Guo, and Wenchao Xu, “Towards Unbiased Training in Federated Open-world Semi-supervised Learning” , 40th International Conference on Machine Learning (ICML), Hawaii, USA, July 23-29, 2023.
- C235. Feijie Wu, Song Guo, Zhihao Qu, Shiqi He, Ziming Liu, and Jing Gao, “Anchor Sampling for Federated Learning with Partial Client Participation” , 40th International Conference on Machine Learning (ICML), Hawaii, USA, July 23-29, 2023.
- C234. Shijing Yuan, Hongtao Lv, Hongze Liu, Chentao Wu, Song Guo, Zhi Liu, Hongyang Chen and Jie Li, “TradeFL: A Trading Mechanism for Cross-Silo Federated Learning” , 43rd IEEE International Conference on Distributed Computing Systems (ICDCS), Hong Kong, China, July 18-21, 2023.
- C233. Zhenda Xu, Jiahao Hu, Qiang Gao, Donghua Hang, Qihua Zhou, Song Guo, and Aiqian Gan, “Development of Deep Learning Algorithms for Automated Scoliosis and Abnormal Posture Screening Using 2D Back Image” , IEEE International Conference on Multimedia and Expo (ICME), Brisbane, Australia, July 10-14, 2023.
- C232. Quan Chen, Song Guo, Wenchao Xu, Jing Li, Tuo Shi, Zhipeng Cai, and Hong Gao, “Optimizing Average AoI with Directional Charging for Wireless-Powered Network Edge” , IEEE/ACM

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- C231. Yingchun Wang, Jingcai Guo, Jie Zhang, Song Guo, Weizhan Zhang, and Qinghua Zheng, “Towards Fairer and More Efficient Federated Learning via Multidimensional Personalized Edge Models” , International Joint Conference on Neural Networks (IJCNN), Gold Coast, Australia, June 18-23, 2023.
- C230. Yunfeng Fan, Wenchao Xu, Haozhao Wang, Junxiao Wang, and Song Guo, “PMR: Prototypical Modal Rebalance for Multimodal Learning” , IEEE/CVF Computer Vision and Pattern Recognition Conference (CVPR), Vancouver, Canada, June 18-22, 2023.
- C229. Xiaocheng Lu, Song Guo, Ziming Liu, and Jingcai Guo, “Decomposed Soft Prompt Guided Fusion Enhancing for Compositional Zero-Shot Learning” , IEEE/CVF Computer Vision and Pattern Recognition Conference (CVPR), Vancouver, Canada, June 18-22, 2023.
- C228. Ziming Liu, Song Guo, Xiaocheng Lu, Jingcai Guo, Jiewei Zhang, Yue Zeng, and Fushuo Huo, “(ML)²P-Encoder: On Exploration of Channel-class Correlation for Multi-label Zero-shot Learning” , IEEE/CVF Computer Vision and Pattern Recognition Conference (CVPR), Vancouver, Canada, June 18-22, 2023.
- C227. Quan Chen, Kaijia Wang, Song Guo, Tuo Shi, Jing Li, Zhipeng Cai, and Albert Zomaya, “Latency-Optimal Pyramid-based Joint Communication and Computation Scheduling for Distributed Edge Computing” , IEEE Conference on Computer Communications (INFOCOM), New York area, USA, May 17-20, 2023.
- C226. Zicong Hong, Song Guo, Enyuan Zhou, Jianting Zhang, Chen Wuhui, Jinwen Liang, Jie Zhang, and Albert Zomaya, “PROPHET: Conflict-Free Sharding Blockchain via Byzantine-Tolerant Deterministic Ordering” , IEEE Conference on Computer Communications (INFOCOM), New York area, USA, May 17-20, 2023.
- C225. Tao Guo, Song Guo, and Chunxiao Jiang, “pFedPrompt: Learning Personalized Prompt for Vision-Language Models in Federated Learning” , The ACM Web Conference (WWW), Austin, USA, April 30 - May 4, 2023.
- C224. Qihua Zhou, Song Guo, Jun Pan, Jiacheng Liang, Zhenda Xu, and Jingren Zhou, “PASS: Patch Automatic Skip Scheme for Efficient Real-time Video Perception on Edge Devices” , the Thirty-Seventh AAAI Conference on Artificial Intelligence (AAAI), Washington DC, USA, February 7-14, 2023.
- C223. Jingcai Guo, Song Guo, Qihua Zhou, Ziming Liu, Xiaocheng Lu, and Fushuo Huo, “Graph Knows Unknowns: Reformulate Zero-shot Learning as Sample-level Graph Recognition” , the Thirty-Seventh AAAI Conference on Artificial Intelligence (AAAI), Washington DC, USA, February 7-14, 2023.
- C222. Xuan Liu, Siqi Cai, Lin Li, Rui Zhang, and Song Guo, “MGIA: Mutual Gradient Inversion Attack In Multi-modal Federated Learning” , Student Abstract and Poster Program, the Thirty-Seventh AAAI Conference on Artificial Intelligence (AAAI), Washington DC, USA, February 7-14, 2023.
- C221. Yongkang Gong, Haipeng Yao, Zehui Xiong, Song Guo, F. Richard Yu, and Dusit Niyato, “Computation Offloading and Energy Harvesting Schemes for Sum Rate Maximization in SAG Networks” , IEEE Global Telecommunications Conference (Globecom), Rio de Janeiro, Brazil, December 4-8, 2022.
- C220. Xinyuan Qian, Hongwei Li, Meng Hao, Shuai Yuan, Xilin Zhang, and Song Guo, “CryptoFE: Practical and Privacy-Preserving Federated Learning via Functional Encryption” , IEEE Global Telecommunications Conference (Globecom), Rio de Janeiro, Brazil, December 4-8, 2022.

- C219. Yanjun Liu, Hongwei Li, Meng Hao, and Song Guo, “Fast Secure Aggregation for Privacy-Preserving Federated Learning” , IEEE Global Telecommunications Conference (Globecom), Rio de Janeiro, Brazil, December 4-8, 2022.
- C218. Qihua Zhou, Song Guo, Yi Liu, Jie Zhang, Jiewei Zhang, Tao Guo, Zhenda Xu, Zhihao Qu, and Xun Liu, “Hierarchical Channel-spatial Encoding for Communication-efficient Collaborative Learning” , the 36th Annual Conference on Neural Information Processing Systems (NeurIPS), New Orleans, USA, Nov 26 - Dec 4 2022.
- C217. Zhenda Xu, Jiazi Ouyang, Qiang Gao, Aiqian Gan, Qihua Zhou, Jiahao Hu, and Song Guo, “2D Photogrammetry Image of Adolescent Idiopathic Scoliosis Screening Using Deep Learning” , 18th International Symposium on Bioinformatics Research and Applications (ISBRA), Haifa, Israel, November 14-17, 2022.
- C216. Jing Li, Song Guo, Weifa Liang, Quan Chen, Zichuan Xu, and Wenzheng Xu, “SFC-Enabled Reliable Service Provisioning in Mobile Edge Computing via Digital Twins” , IEEE International Conference on Mobile Ad-Hoc and Smart Systems (MASS), Denver, USA, October 20-22, 2022.
- C215. Yuchen Li, Weifa Liang, Jing Li, Xiuzhen Cheng, Dongxiao Yu, Albert Zomaya, and Song Guo, “Energy-Constrained D2D Assisted Federated Learning in Edge Computing” , the 25th ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM), Montreal, Canada, October 24-28, 2022.
- C214. Canlin Li, Huawei Huang, Yetong Zhao, Xiaowen Peng, Ruijie Yang, Zibin Zheng, and Song Guo, “Achieving Scalability and Load Balance across Blockchain Shards for State Sharding” , the 41st International Symposium on Reliable Distributed Systems (SRDS), Vienna, Austria, September 19-22, 2022.
- C213. Rongxin Han, Dezhi Chen, Song Guo, Xiaoyuan Fu, Jingyu Wang, Qi Qi, and Jianxin Liao, “Parallel Network Slicing for Multi-SP Services” , the 51st International Conference on Parallel Processing (ICPP), Bordeaux, France, August 29 - September 1, 2022.
- C212. Xueyang Tang, Song Guo, and Jingcai Guo, “Personalized Federated Learning with Contextualized Generalization” , the 31st International Joint Conference on Artificial Intelligence and the 25th European Conference on Artificial Intelligence (IJCAI-ECAI), Vienna, Austria, July 23-29, 2022.
- C211. Rui Zhang, Song Guo, Junxiao Wang, Xin Xie, and Dacheng Tao, “A Survey on Gradient Inversion: Attacks, Defenses and Future Directions” , the 31st International Joint Conference on Artificial Intelligence and the 25th European Conference on Artificial Intelligence (IJCAI-ECAI), Vienna, Austria, July 23-29, 2022.
- C210. Leijie Wu, Song Guo, Yi Liu, Zicong Hong, Yufeng Zhan, and Wenchao Xu, “Sustainable Federated Learning with Long-term Online VCG Auction Mechanism” , IEEE International Conference on Parallel and Distributed Systems (ICDCS), Bologna, Italy, July 10-13, 2022.
- C209. Quan Chen, Song Guo, Wenchao Xu, Zhipeng Cai, Lianglun Cheng, and Hong Gao, “AoI Minimization Charging at Wireless-Powered Network Edge” , IEEE International Conference on Parallel and Distributed Systems (ICDCS), Bologna, Italy, July 10-13, 2022.
- C208. Feijie Wu, Shiqi He, Song Guo, Zhihao Qu, Haozhao Wang, Weihua Zhuang and Jie Zhang, “Sign Bit is Enough: A Learning Synchronization Framework for Multi-hop All-reduce with Ultimate Compression” , the 59th Design Automation Conference (DAC), San Francisco, USA, July 10-14, 2022.
- C207. Fahao Chen, Peng Li, Celimuge Wu, and Song Guo, “Hare: Exploiting Inter-job and Intra-job Parallelism of Distributed Machine Learning on Heterogeneous GPUs” , the 31st ACM Symposium

on High-Performance Parallel and Distributed Computing (HPDC), Minneapolis, USA, June 27 - July 1, 2022

- C206. Zicong Hong, Song Guo, Rui Zhang, Peng Li, Yufeng Zhan, and Wuhui Chen, “CYCLE: Sustainable Off-Chain Payment Channel Network with Asynchronous Rebalancing”, the 52nd Annual IEEE/IFIP International Conference on Dependable Systems and Networks (DSN), Baltimore, USA, June 27-30, 2022.
- C205. Xiaosong Ma, Jie Zhang, Song Guo, and Wenchao Xu, “Layer-wised Model Aggregation for Personalized Federated Learning”, IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), New Orleans, USA, June 19-24, 2022.
- C204. Yuepeng Li, Deze Zeng, Lin Gu, Kun Wang, and Song Guo, “On the Joint Optimization of Function Assignment and Communication Scheduling toward Performance Efficient Serverless Edge Computing”, IEEE/ACM International Symposium on Quality of Service (IWQoS), June 10-12, 2022.
- C203. Yanjie Dong, Haijun Zhang, Jianqiang Li, F. Richard Yu, Song Guo, and Victor C. M. Leung, “An Online Throughput Maximization Algorithm for Green Coordinated Multi-point Systems”, IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), Singapore, May 22-27, 2022.
- C202. Junxiao Wang, Song Guo, Xin Xie, and Heng Qi, “Protect Privacy from Gradient Leakage Attack in Federated Learning”, IEEE Conference on Computer Communications (INFOCOM), May 2-5, 2022.
- C201. Huawei Huang, Xiaowen Peng, Jianzhou Zhan, Shenyang Zhang, Yue Lin, Zibin Zheng, and Song Guo, “BrokerChain: A Cross-Shard Blockchain Protocol for Account/Balance-based State Sharding”, IEEE Conference on Computer Communications (INFOCOM), May 2-5, 2022.
- C200. Junxiao Wang, Song Guo, Xin Xie and Heng Qi, “Federated Unlearning via Class-Discriminative Pruning”, The Web Conference (WWW), Online, Lyon, France, April 25-29, 2022.
- C199. Jie Zhang, Song Guo, Xiaosong Ma, Haozhao Wang, Wenchao Xu, and Feijie Wu, “Parameterized Knowledge Transfer for Personalized Federated Learning”, 2021 Conference on Neural Information Processing Systems (NeurIPS), December 6-14, 2021.
- C198. Yuepeng Li, Deze Zeng, Lin Gu, Quan Chen, Song Guo, Albert Zomaya, and Minyi Guo, “Lasagna: Accelerating Secure Deep Learning Inference in SGX-enabled Edge Cloud”, ACM Symposium on Cloud Computing (ACM SoCC), November 1-4, 2021.
- C197. Qihua Zhou, Song Guo, Zhihao Qu, Jingcai Guo, Zhenda Xu, Jiewei Zhang, Tao Guo, Boyuan Luo, and Jingren Zhou, “Octo: INT8 Training with Loss-aware Compensation and Backward Quantization for Tiny On-device Learning”, USENIX Annual Technical Conference (USENIX ATC), July 14-16, 2021.
- C196. Yi Liu, Leijie Wu, Yufen Zhan, Song Guo, and Zicong Hong, “Incentive-Driven Long-term Optimization for Edge Learning by Hierarchical Reinforcement Mechanism”, IEEE International Conference on Parallel and Distributed Systems (ICDCS), Virtual, July 7-10, 2021.
- C195. Huawei Huang, Zhenyi Huang, Xiaowen Peng, Zibin Zheng, and Song Guo, “MVCom: Scheduling Most Valuable Committees for the Large-Scale Sharded Blockchain”, IEEE International Conference on Parallel and Distributed Systems (ICDCS), Virtual, July 7-10, 2021.
- C194. Xiang Yang, Qi Qi, Jingyu Wang, Song Guo, and Jianxin Liao, “Towards Efficient Inference: Adaptively Cooperate in Heterogeneous IoT Edge Cluster”, IEEE International Conference on Parallel and Distributed Systems (ICDCS), Virtual, July 7-10, 2021.

- C193. Qiuying Yang, Xuan Liu, and Song Guo, “No Wait, No Waste: A Novel and Efficient Coordination Algorithm for Multiple Readers in RFID Systems” , IEEE/ACM International Symposium on Quality of Service (IWQOS), June 25-28, 2021.
- C192. Jian Zheng, Huawei Huang, Canlin Li, Zibin Zheng, and Song Guo, “Revisiting Double-Spending Attacks on the Bitcoin Blockchain: New Findings” , IEEE/ACM International Symposium on Quality of Service (IWQOS), June 25-28, 2021.
- C191. Zicong Hong, Song Guo, Peng Li, and Wuhui Chen, “Pyramid: A Layered Sharding Blockchain System” , IEEE Conference on Computer Communications (INFOCOM), May 10-13, 2021.
- C190. Lin Gu, Deze Zeng, Jie Hu, Hai Jin, Song Guo, and Albert Zomaya, “Exploring Layered Container Structure for Cost Efficient Microservice Deployment” , IEEE Conference on Computer Communications (INFOCOM), May 10-13, 2021.
- C189. Xin Xie, Xiulong Liu, Song Guo, Heng Qi, and Keqiu Li, “A Lightweight Integrity Authentication Approach for RFID-enabled Supply Chains” , IEEE Conference on Computer Communications (INFOCOM), May 10-13, 2021.
- C188. Wei Yang Lim, Jer Shyuan Ng, Zehui Xiong, Dusit Niyato, Song Guo, Cyril Leung, and Chunyan Miao, “Dynamic Resource Allocation for Hierarchical Federated Learning” , IEEE International Conference on Mobility, Sensing and Networking (MSN), Tokyo, Japan, December 17-19, 2020.
- C187. Zhou Su, Tianxin Lin, Qichao Xu, Nan Chen, Shui Yu and Song Guo, “An Online Pricing Strategy of EV Charging and Data Caching in Highway Service Stations” , IEEE International Conference on Mobility, Sensing and Networking (MSN), Tokyo, Japan, December 17-19, 2020. (Best Track Paper Award)
- C186. Shifu Dong, Deze Zeng, Lin Gu, and Song Guo, “Offloading Federated Learning Task to Edge Computing with Trust Execution Environment” , IEEE International Conference on Mobile Ad-Hoc and Smart Systems (MASS), Delhi NCR, India, December 10-13, 2020.
- C185. Shengli Pan, Peng Li, Deze Zeng, Zhiyong Zhang, Song Guo, and Ying-Chang Liang, “Learning-Based Network Boolean Tomography for Identifying Congested Links with Correlations” , IEEE Global Telecommunications Conference (Globecom), Taipei, Taiwan, December 7-11, 2020.
- C184. Zitong Wang, Deze Zeng, Lin Gu, and Song Guo, “A Game-based Network Slicing and Resource Scheduling for Compute First Networking” , IEEE Global Telecommunications Conference (Globecom), Taipei, Taiwan, December 7-11, 2020.
- C183. Tianle Mai, Haipeng Yao, Zehui Xiong, Song Guo, and Dusit Niyato, “Multi-agent Actor-Critic Reinforcement Learning Based In-network Load Balance” , IEEE Global Telecommunications Conference (Globecom), Taipei, Taiwan, December 7-11, 2020.
- C182. Wenchao Xu, Haibo Zhou, Nan Cheng, Ning Lu, Lijuan Xu, Meng Qin, and Song Guo, “Autonomous Rate Control for Mobile Internet of Things: A Deep Reinforcement Learning Approach” , IEEE Vehicular Technology Conference (VTC) 2020-Fall, Victoria, Canada, November 18 - December 16, 2020.
- C181. Jingcai Guo, Shiheng Ma, Jie Zhang, Qihua Zhou, and Song Guo, “Dual-view Attention Networks for Single Image Super-Resolution” , ACM International Conference on Multimedia (MM), Seattle, USA, October 12-16, 2020.
- C180. Shigeng Zhang, Xuan Liu, Song Guo, Albert Zomaya, and Jianxin Wang, “Why Queue Up? Fast Parallel Search of RFID Tags for Multiple Users” , ACM International Symposium on Theory, Algorithmic Foundations, and Protocol Design for Mobile Networks and Mobile Computing (MobiHoc), Online, October 11-14, 2020.

- C179. Shigeng Zhang, Yinggang Li, Xuan Liu, Song Guo, Weiping Wang, and Jianxin Wang, “Towards Real-time Cooperative Deep Inference over the Cloud and Edge End Devices” , ACM International Joint Conference on Pervasive and Ubiquitous Computing (UbiComp), Cancun, Mexico, September 12-17, 2020.
- C178. Jianting Zhang, Zicong Hong, Xiaoyu Qiu, Yufeng Zhan, Song Guo, and Wuhui Chen, “SkyChain: A Deep Reinforcement Learning-Empowered Dynamic Blockchain Sharding System” , International Conference on Parallel Processing (ICPP), Edmonton, Canada, August 17-20, 2020. (Best Paper Award Runner Up)
- C177. Jiawen Kang, Zehui Xiong, Chunxiao Jiang, Yi Liu, Song Guo, Yang Zhang, Dusit Niyato, Cyril Leung, and Chunyan Miao, “Scalable and Communication-efficient Decentralized Federated Edge Learning with Multi-blockchain Framework” , International Conference on Blockchain and Trustworthy Systems (BlockSys), Dali, China, August 6-7, 2020.
- C176. Keshan Zhang, Huawei Huang, Song Guo, and Xiaocong Zhou, “Blockchain-based Participant Selection for Federated Learning” , International Conference on Blockchain and Trustworthy Systems (BlockSys), Dali, China, August 6-7, 2020.
- C175. Qihua Zhou, Song Guo, Peng Li, Yanfei Sun, Li Li, Minyi Guo, and Kun Wang, “Petrel: Community-aware Synchronous Parallel for Heterogeneous Parameter Server” , IEEE International Conference on Parallel and Distributed Systems (ICDCS), Singapore, July 8-10, 2020.
- C174. Jiawei Wang, Chunxiao Jiang, Linling Kuang, and Song Guo, “Iterative Doppler Frequency Offset Estimation in Low SNR Satellite Communications” , IEEE International Wireless Communications and Mobile Computing Conference (IWCMC), Limassol, Cyprus, June 15-19, 2020.
- C173. Peng Li, Song Guo, and Toshiaki Miyazaki, “Privacy-preserving Payment Channel Networks using Trusted Execution Environment” , IEEE International Conference on Communications (ICC), Dublin, Ireland, June 7-11, 2020.
- C172. Huawei Huang, Sicong Zhou, Jianru Lin, Keshan Zhang, and Song Guo, “Bridge the Trustworthiness amongst Multiple-Party Domains: A Practical Blockchain-based Approach” , IEEE International Conference on Communications (ICC), Dublin, Ireland, June 7-11, 2020.
- C171. Enting Guo, Peng Li, Kun Wang, Huibin Feng, Jingyuan Lu, and Song Guo, “Exploiting Computation Reuse in Cloud-Based Deep Learning via Input Reordering” , IEEE International Conference on Communications (ICC), Dublin, Ireland, June 7-11, 2020.
- C170. Kuljeet Kaur, Sahil Garg, Georges Kaddoum, and Song Guo, “ESP-VDCE: Energy, SLA, and Price-driven Virtual Data Center Embedding” , IEEE International Conference on Communications (ICC), Dublin, Ireland, June 7-11, 2020.
- C169. Wenchao Xu, Haibo Zhou, Tingting Yang, Huaqing Wu, and Song Guo, “Proactive Link Adaptation for Marine Internet of Things in TV White Space” , IEEE International Conference on Communications (ICC), Dublin, Ireland, June 7-11, 2020.
- C168. Yufeng Zhan, Peng Li and Song Guo, “Experience-Driven Computational Resource Allocation of Federated Learning by Deep Reinforcement Learning” , IEEE International Parallel and Distributed Processing Symposium (IPDPS), New Orleans, USA, May 18-22, 2020.
- C167. Zhenda Xu, Yong Zhang, Chunyang Fu, Limin Liu, Cong Chen, Wenchao Xu, and Song Guo, “Back Shape Measurement and Three-Dimensional Reconstruction of Spinal Shape Using One Kinect Sensor” , IEEE International Symposium on Biomedical Imaging (ISBI), Iowa City, USA, April 3-7, 2020.
- C166. Zhi-Jie Wang, Bin Wang, Chunjing Gan, Huazhong Liu, Dingyu Yang, Shiyu Qian and Song Guo,

- “A Solution for High Availability Memory Access” , International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP), Melbourne, Australia, December 9-11, 2019.
- C165. Jingyuan Lu, Peng Li, Kun Wang, Huibin Feng, Enting Guo, Xiaoyan Wang, and Song Guo, “Topology-Aware Job Scheduling for Machine Learning Cluster” , IEEE Global Telecommunications Conference (Globecom), Waikoloa, USA, December 9-13, 2019.
- C164. Jun Du, Chunxiao Jiang, Abderrahim Benslimane, Song Guo, and Yong Ren, “Stackelberg Differential Game Based Resource Sharing in Hierarchical Fog-Cloud Computing” , IEEE Global Telecommunications Conference (Globecom), Waikoloa, USA, December 9-13, 2019.
- C163. Haoge Jia, Zuyao Ni, Chunxiao Jiang, Linling Kuang, Song Guo, and Jianhua Lu, “Enhanced Irregular Repetition Slotted ALOHA with Degree Distribution Adjustment in Satellite Network” , IEEE Global Telecommunications Conference (Globecom), Waikoloa, USA, December 9-13, 2019.
- C162. Wenchao Xu, Song Guo, Haibo Zhou, Shiheng Ma, and Mingli Wu, “A Queueing Analysis of the Opportunistic Vehicle-to-Vehicle Communication” , IEEE Global Telecommunications Conference (Globecom), Waikoloa, USA, December 9-13, 2019.
- C161. Wenchao Xu, Chao Ma, Song Guo, and Haibo Zhou, “Efficient Rate Adaptation for 802.11af TVWS Vehicular Access via Deep Learning” , IEEE Global Telecommunications Conference (Globecom), Waikoloa, USA, December 9-13, 2019.
- C160. Jie Zhang, Song Guo, Deze Zeng, and Zhihao Qu, “Multi-path Routing Oriented Flow Statistics Collection in Software Defined Networks” , IEEE International Conference on Parallel and Distributed Systems (ICPADS), Tianjin, China, December 4-6, 2019.
- C159. Haozhao Wang, Song Guo, and Ruixuan Li, “OSP: Overlapping Computation and Communication in Parameter Server for Fast Machine Learning” , International Conference on Parallel Processing (ICPP), Kyoto, Japan, August 5-8, 2019.
- C158. Jingcai Guo and Song Guo, “AMS-SFE: Towards an Alignment of Manifold Structures via Semantic Feature Expansion for Zero-shot Learning” , IEEE International Conference on Multimedia and Expo (ICME), Shanghai, China, July 8-12, 2019.
- C157. Qihua Zhou, Kun Wang, Song Guo, Haodong Lu, Li Li, Minyi Guo, and Yanfei Sun, “Falcon: Towards Computation-Parallel Deep Learning in Heterogeneous Parameter Server” , IEEE International Conference on Parallel and Distributed Systems (ICDCS), Dallas, USA, July 7-9, 2019.
- C156. Lin Gu, Deze Zeng, Wei Li, Song Guo, Albert Y. Zomaya, and Hai Jin, “Deep Reinforcement Learning based VNF Management in Geo-distributed Edge Computing” , IEEE International Conference on Parallel and Distributed Systems (ICDCS), Dallas, USA, July 7-9, 2019.
- C155. Shiheng Ma, Song Guo, Kun Wang, Weijia Jia, and Minyi Guo, “A Cyclic Game for Joint Cooperation and Competition of Edge Resource Allocation” , IEEE International Conference on Parallel and Distributed Systems (ICDCS), Dallas, USA, July 7-9, 2019.
- C154. Shiheng Ma, Song Guo, Kun Wang, and Minyi Guo, “Service Demand Prediction with Incomplete Historical Data” , IEEE International Conference on Parallel and Distributed Systems (ICDCS), Dallas, USA, July 7-9, 2019.
- C153. Haozhao Wang, Song Guo, Bin Tang, Ruixuan Li, and Chengjie Li, “Heterogeneity-aware Gradient Coding for Straggler Tolerance” , IEEE International Conference on Parallel and Distributed Systems (ICDCS), Dallas, USA, July 7-9, 2019.
- C152. Shigeng Zhang, Chengwei Yang, Xiaoyan Kui, Jianxin Wang, Xuan Liu, and Song Guo, “ReActor: Real-time and Accurate Contactless Gesture Recognition with RFID” , IEEE International Conference on Sensing, Communication and Networking (SECON), Boston, USA, June 10-13, 2019.

- C151. Boyu Dengy, Chunxiao Jiang, Linling Kuang, Ning Ge, Song Guo, and Shanghong Zhao, “Resource Allocation of Multibeam Communication Satellite Systems in the Sparse Network” , IEEE International Conference on Communications (ICC), Shanghai, China, May 20-24, 2019.
- C150. Haipeng Yao, Huiwen Liu, Peiying Zhang, Sheng Wu, Chunxiao Jiang, and Song Guo, “An Intelligent Approach to Energy Efficient Transportation and Qos Routing” , IEEE International Conference on Communications (ICC), Shanghai, China, May 20-24, 2019.
- C149. Jingcai Guo and Song Guo, “Adaptive Adjustment with Semantic Feature Space for Zero-Shot Recognition”, IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), Brighton, UK, May 12-17, 2019.
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- C25. Song Guo, Minyi Guo, and Victor Leung, “A Tradeoff Analysis on Message Complexity and Lifetime Optimality for a Distributed Multicast Algorithm in WSNs”, ACM Symposium on Principles of Distributed Computing (PODC), Toronto, Canada, August 18-21, 2008.
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Communications and Networks (ICCCN), St. Thomas, Virgin Islands, August 3-7, 2008.

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- C11. Song Guo and Oliver Yang, “Effects of Backup Routes and Cache Timeout Mechanism on Reliable Source Routing in Mobile Ad-hoc Networks” , IEEE International Conference on High Performance Switching and Routing (HPSR), Hong Kong, China, May 12-14, 2005, pp. 361-365.
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- C2. Song Guo and Oliver Yang, “Minimum Energy Broadcast Routing in Wireless Multi-hop Networks” , IEEE International Performance Computing and Communications Conference (IPCCC), Phoenix, USA, April 9-11, 2003, pp. 273-280.
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- BC10. Mengqiao Zhang, Junbo Wang, Zixue Cheng, Lei Jing, Yongping Chen, Kaoru Yamagishi, Song Guo, and Anh T. Pham, “A Remote Mutual Situation-Aware Model by Detecting Entrance and Exit Behaviors in Smart Home” , Lecture Notes in Electrical Engineering, vol. 155, Springer-Verlag, 2012, pp. 179-187.
- BC9. Song Guo and An-Ni Shen, “A Compromise-resilient Pair-wise Rekeying Protocol in Hierarchical

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- BC7. Mianxiong Dong, Long Zheng, Song Guo, and Minyi Guo, “Caching in Ubiquitous Computing Environments: Light and Shadow” , Ubiquitous Computing, InTech, 2010, pp. 95-110.
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- BC1. Song Guo and Oliver Yang, “Reliable Routing Algorithm in Mobile Ad Hoc Networks” , Lecture Notes in Computer Science, vol. 2662, Springer-Verlag, 2003, pp. 723-736.

Editorials

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- E33. Kuljeet Kaur, Song Guo, Min Chen, and Danda B. Rawat, “Guest Editorial Special Section on Transfer Learning for 5G-Aided Industrial Internet of Things” , IEEE Transactions on Industrial Informatics, vol. 17, no. 10, October 2021, pp. 7070-7074, DOI: 10.1109/TII.2021.3071310.
- E32. Guangjie Han, Deyu Zhang, Ning Zhang, Song Guo, Geyong Min, Shengrong Bu, and Kanke Gao, “IEEE Access Special Section Editorial: Emerging Trends of Energy and Spectrum Harvesting Technologies” , IEEE Access, vol. 9, 2021, pp. 117673-117678, DOI: 10.1109/ACCESS.2021.3105788.
- E31. Song Guo, Haipeng Yao, Manqing Wu, Sherman Shen, Yuanyuan Yang, and Pascal Lorenz, “Guest Editorial Artificial Intelligence Empowered Future Connection” , IEEE Network, August 2021.
- E30. Song Guo, “EIC Editorial” , IEEE Open Journal of the Computer Society, Volume: 2, pp. 1-2, 2021.
- E29. Song Guo and Baoliu Ye, “Editorial: 5G Wireless Communication Systems and Advanced Image Processing” , Mobile Networks and Applications.
- E28. Sahil Garg, Song Guo, Vincenzo Piuri, Kim-Kwang Raymond Choo, and Balasubramanian Raman, “Guest Editorial Special Issue on Edge-Cloud Interplay Based on SDN and NFV for Next-Generation IoT Applications” , IEEE Internet of Things Journal, vol. 7, no. 7, July 2020, pp. 5690-5694.
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- E26. Sahil Garg, Mohsen Guizani, Song Guo and Christos Verikoukis, “Guest Editorial: Special Section on AI-Driven Developments in 5G-Envisioned Industrial Automation: Big Data Perspective”, IEEE Transactions on Industrial Informatics, vol. 16, no. 2, February 2020, pp. 1291-1295.
- E25. Weizhi Meng, Song Guo, and Zhiyuan Tan, “Security and Privacy for Smart Cities: Challenges and Opportunities” , Elsevier Computers & Electrical Engineering, to appear.
- E24. Qun Jin, Weimin Li, Song Guo, and Sethuraman Panchanathan, “Guest Editorial: Special Issue on Human-Centric Cyber Social Computing” , IEEE Transactions on Computational Social Systems, vol. 6, no. 5, October 2019, pp. 1038-1041.
- E23. Xuan Song, Song Guo, and Haizhong Wang, “Guest editorial: special issue on big data for effective disaster management” , World Wide Web, vol. 22, no. 5, September 2019, pp. 1889-1891.
- E22. Maurizio Casoni, Song Guo, and Abderrahim Benslimane, “Editorial: Emergency Networks and Future Public Safety Systems” , Wireless Communications and Mobile Computing, vol. 2019, Article ID 1647092, <https://doi.org/10.1155/2019/1647092>
- E21. Song Guo, Zhen Liu, and Peng Li, “Editorial: Big Data and Cyber-Physical-Social Computing” , Mobile Networks and Applications, vol. 24, 2019, pp. 1346-1347.
- E20. Flavia C. Delicato, Xiaokang Zhou, Kevin Wang, and Song Guo, “Special Issue: Advances and trends on cognitive cyber-physical systems” , Ad Hoc Networks, vol. 88, May 2019, pp. 1-4.
- E19. Kun Wang, Yan Zhang, Song Guo, Mianxiong Dong, Rose Qingyang Hu, and Lei He, “IEEE Access Special Section Editorial: The Internet of Energy: Architectures, Cyber Security, and Applications” , IEEE Access, vol.6, December 2018, pp.79272-79275.
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- E17. Xiaofei Liao, Song Guo, Deze Zeng, and Kun Wang, ” Guest editorial: Special issue on Big Data Networking”, Peer-to-Peer Networking and Applications, vol. 56, no. 5, September 2018, pp. 989-991.
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- E12. Jinsong Wu, John Thompson, Honggang Zhang, Rangarao Venkatesha Prasad, and Song Guo, “Green Communications and Computing Networks” , IEEE Communications Magazine, vol. 55, no. 5, May 2017, pp. 160-161.
- E11. Deze Zeng, Song Guo, and Bo Li, “Editorial for Special Issue on Social Computing” , Mobile Networks and Applications, vol. 22, no. 2, April 2017, pp. 151-152.

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- E9. Song Guo and Jiajia Liu, “Large-Scale Internet of Things” , IEEE Internet of Things Journal, vol. 3, no. 4, August 2016, pp. 439-440.
- E8. Jinsong Wu, John Thompson, Honggang Zhang, Rangarao Venkatesha Prasad, and Song Guo, “Green Communications and Computing Networks” , IEEE Communications Magazine, vol. 54, no. 5, May 2016, pp. 106-107.
- E7. Song Guo, Shui Yu, Jie Li and Nirwan Ansari, “Big Data for Networking” , IEEE Network, vol. 30, no. 1, January/February 2016, pp. 4-5.
- E6. Song Guo, Yi Pan, and Qiangfu Zhao, “Special Issue on Awareness in Sensor Networks” , International Journal of Sensor Networks, vol. 19, no. 3/4, 2015, pp. 139-140.
- E5. Nei Kato, Song Guo, and Vojislav Mistic, “Emerging Mobile and Ubiquitous Systems - Part II” , IEEE Transactions on Emerging Topics in Computing, vol. 3, no. 3, September 2015, pp. 305-306.
- E4. Nei Kato, Song Guo, and Vojislav Mistic, “Emerging Mobile and Ubiquitous Systems - Part I” , IEEE Transactions on Emerging Topics in Computing, vol. 3, no. 1, March 2015, pp. 5-7.
- E3. Song Guo, “Special Issue on Cyber-Physical Systems” , International Journal of Parallel, Emergent and Distributed Systems, vol. 29, no. 3, 2014, pp. 213-214.
- E2. Song Guo, Hannes Frey, Kato Nei, and Yunhao Liu, “Special Issue on Cyber-Physical Systems (CPS) - Part II” , IEEE Transactions on Emerging Topics in Computing, vol. 1, no. 2, December 2013, pp. 203-206.
- E1. Song Guo, Hannes Frey, Kato Nei, and Yunhao Liu, “Special Issue on Cyber-Physical Systems (CPS) - Part I” , IEEE Transactions on Emerging Topics in Computing, vol. 1, no. 1, June 2013, pp. 6-9.

Patents

- P13. Toshiaki Miyazaki, Peng Li, and Song Guo, “Resilient Information System and its Server/Terminal Devices” , JP6811947B2, Japan, filed on 2015-10-22, granted 2021-01-13, (災害時情報管理システム、これに用いるサーバ装置及び端末装置).
- P12. Song Guo, Haozhao Wang, and Yufeng Zhan, “A gradient transmission method, gradient transmission device and parameter server” , No. 201911268718.8, (一种梯度传输方法, 梯度传输装置及参数服务器).
- P11. Song Guo, Jingcai Guo, and Yufeng Zhan, “Image super-resolution method, image super-resolution device and terminal device” , No. 201911268720.5, (一种图像超分辨率方法、图像超分辨率装置及终端设备).
- P10. Song Guo, Qihua Zhou, and Yufeng Zhan, “Distributed deep learning method, device, parameter server and working node” , No. 201911352575.9, (分布式深度学习方法、装置、参数服务器及工作节点).
- P9. Song Guo, Haozhao Wang, and Yufeng Zhan, “Distributed machine learning communication optimization method, device, server and terminal device” , No. 201911421789.7, (分布式机器学习通信优化方法、装置、服务器及终端设备).
- P8. Song Guo, Shiheng Ma, and Yufeng Zhan, “A kind of traffic flow distribution prediction method, prediction device and terminal equipment” , No. ZL202010037037.7, granted (一种交通流量分布预测方法、预测装置及终端设备).

- P7. Song Guo, Xin Xie, and Yufeng Zhan, “RFID tag identification method, reader, target tag and computer medium”, No. 202010424672.0, (RFID 标签识别方法, 阅读器, 目标标签及计算机介质).
- P6. Song Guo and Yufeng Zhan, “Method and medium for allocating computing resources”, No. 202010123424.2, (一种计算资源的分配方法及介质).
- P5. Song Guo, Haozhao Wang, and Yufeng Zhan, “A distributed machine learning method, device, terminal device and storage medium”, No. 202011016938.4, (一种分布式机器学习方法、装置、终端设备及存储介质).
- P4. Song Guo, Haozhao Wang, and Yufeng Zhan, “A distributed deep learning method, device, terminal device and storage medium”, No. 202011018776.8, (一种分布式深度学习方法、装置、终端设备及存储介质).
- P3. Song Guo, Zicong Hong, and Xin Xie, “A method and system for submitting cross-shard transactions under a sharded blockchain”, No. 202110063950.9, (一种提交分片型区块链下跨片事务的方法及系统).
- P2. Song Guo, Feijie Wu, and Haozhao Wang, “A Federated Learning Approach Based on Machine Heterogeneity”, No. 202110279647.2, (一种基于机器异构性的联邦学习方法).
- P1. Yanjie Dong, Jianqiang Li, Victor Leung, Haijun Zhang, Song Guo, and Fei Yu, “A Carbon-Neutral Precoding Method for Wireless Cooperative Multi-point Transmission Systems”, No.202111100996X, granted, (一种面向无线多点协作传输系统的碳中和预编码方法).

TEACHING

The Hong Kong Polytechnic University

<i>Semester</i>	<i>Course</i>	<i>Title</i>	<i>Level</i>
20-23	COMP5434	Big Data Computing	Master
20-21	COMP6434	Big Data Analytics and Artificial Intelligence	Doctoral
16-22	COMP4434	Big Data Analytics	Senior
16-18	COMP2411	Database Systems	Junior
17-18	COMP2121	E-Business	Junior

The University of Aizu

<i>Semester</i>	<i>Course</i>	<i>Title</i>	<i>Level</i>
08-16	F6	Operating Systems	Senior
08-16	N5	Performance Evaluation	Senior
09-10	SE6	Distributed Computing	Senior
10-16	CAN03	Wireless and Mobile Networks	Graduate
10-16	CAN04	Performance Evaluation of Network Systems	Graduate
09-15	SYA12	Best Practices in Embedded Software Development	Graduate
13-16	CNC03	Selected Topics of Future Internet	Graduate
14-16	RPW	Research Paper Writing Seminar	Graduate

University of Northern British Columbia

<i>Semester</i>	<i>Course</i>	<i>Title</i>	<i>Level</i>
06-07	CPSC 100	Computer Programming	Junior
06-07	CPSC 622	Database Systems	Graduate
06-07	CPSC 643	Mobile Computing	Graduate
06-07	CPSC 250	Applied Business Computing	Junior

ADVISING

- Postdoctoral Fellows: 20+
- PhD Students: 30+
- Master Students: 30+
- Undergraduate Students: 50+

PROFESSIONAL SOCIETY MEMBERSHIPS

- Fellow, the Canadian Academy of Engineering (CAE)
- Fellow, the Institute of Electrical and Electronic Engineers (IEEE)
- Distinguished Member, the Association for Computing Machinery (ACM)
- Member, Academia Europaea (MAE)
- Member, the American Association for the Advancement of Science (AAAS)
- Fellow, Asia-Pacific Artificial Intelligence Association (AAIA)

- Fellow, European Alliance for Innovation (EAI)
- Senior Member, China Computer Federation (CCF)

PROFESSIONAL SERVICE ACTIVITIES

Service for Societies

- Member of Fellow Evaluation Committee, IEEE Communications Society, 2023-2025
- Member of Fellow Evaluation Committee, IEEE Computer Society, 2020-2022
- Steering Committee Member, IEEE Transactions on Cloud Computing, 2022-now
- Co-Chair of Ad Hoc Committee on New Topic Areas, Publications Board, IEEE Computer Society, 2022-now
- Member of Publications Board, IEEE Computer Society, 2020-now
- Member of Transactions Operations Committee, IEEE Computer Society, 2020-now
- Chair of IEEE COMSOC Technical Committee on Satellite and Space Communications (TCSSC), 2020-2022
- Member of IEEE Transactions on Cloud Computing EIC Search Committee, IEEE Computer Society, 2019
- Member of IEEE Transactions on Big Data EIC Search Committee, IEEE Computer Society, 2019
- Chair of IEEE COMSOC Special Interest Group (SIG) on Green Computing and Data Processing, 2017-2022
- Member of Board of Governor, IEEE Communications Society, 2018-2019
- Director of Membership Services, IEEE Communications Society, 2018-2019
- Member of Marketing Standing Committee, IEEE Communications Society, 2018-2021
- Vice Chair of IEEE COMSOC Technical Committee on Green Communications and Computing (TCGCC), 2017-2019
- Secretary of IEEE COMSOC Technical Committee on Big Data (TCBD), 2015-2022
- Member of Education Committee, IEEE Blockchain Initiative, 2018-2019

Service for Review Panels

- Engineering Panel Member, RGC (Research Grants Council), Hong Kong, 2017-2023
- Reviewer, NSFC (National Natural Science Foundation of China), 2021
- Member of China National Science and Technology Experts, 2018-now
- Reviewer, Grants & Fellowships, Fund for Scientific Research - FNRS, Belgium, 2019-2020
- Reviewer, Vici Grant, Dutch Research Council, Netherlands, 2020
- Reviewer, FNR CORE Programme, National Research Fund, Luxembourg, 2019-2020
- Reviewer, OPUS: General Grants, National Science Centre Poland (Poland), 2020
- Reviewer, Wellcome Research Fellowship, Wellcome Trust, United Kingdom, 2020
- Reviewer, Research Proposal at United Arab Emirates University (UAEU), 2020-2022

Journal Editorship

- Editor-in-Chief, IEEE Open Journal of the Computer Society, 2020-now
- Associate Editor, IEEE Transactions on Computers, 2022-now
- Associate Editor, ACM Computing Surveys, 2022-now
- Area Editor, IEEE Open Journal of the Communications Society, 2019-2019

- Associate Editor, IEEE Transactions on Parallel and Distributed Systems, 2011-2015
- Associate Editor, IEEE Transactions on Cloud Computing, 2018-2022
- Associate Editor, IEEE Transactions on Emerging Topics in Computing, 2014-2018
- Associate Editor, IEEE Transactions on Sustainable Computing, 2017-2021
- Associate Editor, IEEE Transactions on Green Communications and Networking, 2016-2021
- Editor, IEEE Internet of Things Journal, 2020-now
- Editor, IEEE Network, 2018-now
- Series Editor, IEEE Communications Magazine, 2016-2018
- Advisory Board Member, Journal of Sensor and Actuator Networks, 2022-now
- Guest Editor, IEEE Transactions on Industrial Informatics, 2019
- Guest Editor, IEEE Journal on Selected Areas in Communications, 2018
- Guest Editor, IEEE Cloud Computing, 2017
- Guest Editor, IEEE Internet of Things Journal, 2016
- Guest Editor, IEEE Network, 2016
- Associate Editor, SN Computer Science, 2019-now
- Editor, Wireless Networks –Springer, 2013-now
- Editorial Board Member, Journal of Smart Cities and Society, IOS Press, 2022-now
- Associate Editor, Aerial and Space Networks, specialty section of Frontiers in Space Technologies, 2020-now
- International Members of the Editorial Committee, Application of Electronic Technique, National Computer System Engineering Research Institute of China, 2018-now

Conference Chairs

2023

- *Symposium Co-Chair*: IEEE/CIC International Conference on Communications in China (ICCC), 2023.
- *Workshop Chair*: International Conference on Computing, Networking and Communications (ICNC), Hawaii, USA, February 20-22, 2023.

2022

- *TPC Co-Chair*: International Symposium on Satellite Communication Systems & Services (SCSS), Jeju, Korea, October 20, 2022.
- *International Liaison Chair*: Chinese Conference on Pattern Recognition and Computer Vision (PRCV), Shenzhen, China, October 14-17, 2022.
- *Program Chair*: International Conference on Artificial Intelligence, Automation and Algorithms (AI2A), Hangzhou, China, July 22-24, 2022.
- *General Chair*: IEEE Conference on Dependable and Secure Computing (DSC), Edinburgh, UK + Virtual, June 22-24, 2022.
- *Program Chair*: International Conference on Intelligent Environments (IE), Biarritz, France, June 20-23, 2022.

2021

- *General Chair*: EAI International Conference on Tools for Design, Implementation and Verification of Emerging Information Technologies (TRIDENTCOM), Melbourne, Australia (online), November 24, 2021.
- *General Chair*: IEEE International Conference on Space-Air-Ground Computing (SAGC), Huizhou, China, October 23-25, 2021.

- *Honorary Chair*: International Conference on Blockchain and Trustworthy Systems (BlockSys), China, August 5-6, 2021.

2020

- *General Chair*: IEEE Computing, Communications and IoT Applications (ComComAp), Beijing, China, December 20-22, 2020.
- *Program Chair*: IEEE International Conference on Parallel and Distributed Systems (ICPADS), Hong Kong, December 2-4, 2020.
- *General Chair*: IEEE International Conference on Cloud Computing (CLOUD), Beijing, China, October 18-24, 2020.
- *Program Chair*: IEEE/CIC International Conference on Communications in China (ICCC), Chongqing, China, August 9-11, 2020.
- *Program Chair*: IEEE International Conference on Fog Computing (ICFC), Sydney, Australia, April 21-24, 2020.
- *Symposium Chair*: International Conference on Computing, Networking and Communications (ICNC), Hawaii, USA, February 17-20, 2020.

2019

- *General Chair*: IEEE International Conference on Cloud Engineering (IC2E), Czech Republic, June 24-27, 2019.
- *Workshop Chair*: IEEE Conference on Computer Communications (INFOCOM), Paris, France, April 29 - May 2, 2019.

2018

- *Program Chair*: International Conference on 5G for Ubiquitous Connectivity (5GU), Nanjing, China, December 4-5, 2018.
- *Symposium Co-Chair*: IEEE International Conference on Communications (ICC), Kansas, USA, May 20-24, 2018.
- *Workshop Chair*: IEEE Conference on Computer Communications (INFOCOM), Honolulu, USA, April 15-19, 2018.
- *Symposium Co-Chair*: International Conference on Computing, Networking and Communications (ICNC), Maui, USA, March 5-8, 2018.

2017

- *Symposium Co-Chair*: IEEE Global Communications Conference (GlobeCom), Singapore, December 4-8, 2017.
- *Workshop Chair*: IEEE International Conference on Mobile Ad-Hoc and Smart Systems (MASS), Orlando, USA, October 22-25, 2017.
- *Symposium Co-Chair*: International Conference on Wireless Communications and Signal Processing (WCSP), Nanjing, China, October 11-13, 2017.
- *Poster Chair*: International Symposium on Reliable Distributed Systems (SRDS), Hong Kong, September 26-29, 2017.
- *General Chair*: IEEE Cyber Science and Technology Congress (CyberSciTech), Orlando, USA, August 12-22, 2017.
- *General Chair*: International Conference on Big Data Science and Engineering (BigDataSE), Sydney, Australia, August 1-4, 2017.
- *Program Chair*: IEEE International Symposium on Future Cyber Security Technologies (FCST), Exeter, United Kingdom, June 21-23, 2017.

2016

- *Program Chair*: IEEE International Conference on High Performance Computing and Communications (HPCC), Sydney, Australia, December 12-14, 2016.
- *General Chair*: IEEE International Symposium on Future Cyber Security Technologies (FCST), Nagasaki, Japan, November 11-13, 2016.
- *Workshop Chair*: IEEE International Conference on Wireless and Mobile Computing, Networking And Communications (WiMob), October 17-19, 2016.
- *Symposium Chair*: IEEE/CIC International Conference on Communications in China (ICCC), Chengdu, China, October 14-17, 2016.
- *Program Chair*: International Conference on Big Data Intelligence and Computing (DataCom), Auckland, New Zealand, August 8-12, 2016.
- *General Chair*: EAI International Conference on Tools for Design, Implementation and Verification of Emerging Information Technologies (TridentCom), Hangzhou, China, June 13-15, 2016.
- *Symposium Co-Chair*: IEEE International Conference on Communications (ICC), Kuala Lumpur, Malaysia, May 23-27, 2016.
- *Track Co-Chair*: IEEE Conference on Vehicular Technology (VTC), Nanjing, China, May 15-18, 2016.
- *Program Chair*: International Workshop on Big Data Sciences, Technologies, and Applications (in conjunction with INFOCOM), San Francisco, USA, April 10-14, 2016.
- *Symposium Chair*: International Conference on Computing, Networking and Communications (ICNC), Kauai, USA, February 15-18, 2016.

2015

- *Symposium Co-Chair*: IEEE Global Communications Conference (Globecom), San Diego, USA, December 6-10, 2015.
- *General Chair*: EAI International Conference on Collaborative Computing: Networking, Applications and Worksharing (CollaborateCom), Wuhan, China, November 10-11, 2015.
- *Symposium Co-Chair*: IEEE Region 10 Symposium (TENSYP), Ahmedabad, India, May 13-15, 2015.
- *Track Chair/Co-Chair*: International Conference on Big Data Computing Service and Applications (BigDataService), Redwood City, USA, March 30 - April 2, 2015.
- *Publicity Chair*: IEEE Wireless Communications and Networking Conference (WCNC), New Orleans, USA, March 9-12, 2015.
- *General Chair*: EAI International Conference on Industrial Networks and Intelligent Systems (INISCOM), Tokyo, Japan, March 2-4, 2015.

2014

- *Program Chair*: IEEE International Workshop on Cloud-integrated Cyber Physical Systems (Cloud-CPS), Singapore, December 15-18, 2014.
- *Symposium Chair*: International Conference on Communications and Networking in China (ChinaCom), Maoming, China, August 14-16, 2014.
- *Program Chair*: IEEE PSATS, International Conference on Ad Hoc Networks and Wireless (AdHocNow), Benidorm, Spain, June 22-27, 2014.

2013

- *Program Chair*: International Conference on Mobility, Sensing and Networking (MSN), Dalian, China, December 11-13, 2013.
- *General Chair*: International Conference on Mobile and Ubiquitous Systems: Computing,

Networking and Services (MobiQuitous), Tokyo, Japan, December 2-4, 2013.

- *Publication Chair*: International Symposium on Embedded Multicore/Many-core Systems-on-Chip (MCSoc), Tokyo, Japan, September 26-28, 2013.

2012

- *Publication Chair*: International Symposium on Embedded Multicore/Many-core Systems-on-Chip (MCSoc), Aizu-Wakamatsu, Japan, September 20-22, 2012.
- *Program Vice-Chair*: International Conference on Advanced Information Networking and Applications (AINA), Fukuoka-shi, Japan, March 26-29, 2012.

2011

- *Program Co-Chair*: IEEE/IFIP International Conference on Embedded and Ubiquitous Computing (EUC), Melbourne, Australia, October 24-26, 2011.
- *Program Chair*: International Workshop on Localized Algorithms and Protocols for Wireless Sensor Networks (LOCALGOS), Barcelona, Spain, June 29, 2011.

2010

- *Program Co-Chair*: The International Conference on Parallel and Distributed Computing, Applications and Technologies (PDCAT), Wuhan, China, December 8-11, 2010.
- *Publicity Co-Chair*: The International Conference on Embedded Software and Systems (ICESS), Bradford, UK, June 29 - July 1, 2010.

2009

- *Program Co-Chair*: IEEE International Symposium on Future Cyber Security Technologies (FCST), Granada, Spain, October 22-25, 2009.

2008

- *International Liaison Co-Chair*: International Conference for Young Computer Scientist (ICYCS), Zhang Jia Jie, China, November 18-21, 2008,

Membership in Technical Program Committees

2024

- IEEE International Conference on Computer Communications (INFOCOM), 2024.

2023

- The 37th International Conference on Neural Information Processing Systems (NeurIPS), New Orleans, USA, December 10-16, 2023.
- International Conference on Computer Vision (ICCV), Paris, France, October 2-6, 2023.
- The 32nd International Joint Conference on Artificial Intelligence (IJCAI), Cape Town, South Africa, August 19-25, 2023.
- The 40th International Conference on Machine Learning (ICML), Hawaii, USA, July 23-29, 2023.
- 43rd IEEE International Conference on Distributed Computing Systems (ICDCS), Hong Kong, July 18-21, 2023.
- IEEE/CVF Computer Vision and Pattern Recognition Conference (CVPR), Vancouver, Canada, June 18-22, 2023.
- IEEE International Conference on Communications (ICC), Rome, Italy, May 28 –June 1, 2023.
- IEEE International Conference on Computer Communications (INFOCOM), New York, China, May 17-20, 2023.

2022

- The 36th International Conference on Neural Information Processing Systems (NeurIPS), New

Orleans, USA, November 28 - December 4, 2022.

- The 17th European Conference on Computer Vision (ECCV) , Tel-Aviv, Israel, October 23-27, 2022.
- The 39th International Conference on Machine Learning (ICML), Baltimore, USA, July 17-23, 2022.
- 42nd IEEE International Conference on Distributed Computing Systems (ICDCS), Bologna, Italy, July 10-13, 2022.
- IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR), New Orleans, USA, June 21-24, 2022.
- IEEE International Conference on Computer Communications (INFOCOM), Virtual Conference, May 2-5, 2022.
- The 20th International Conference on Pervasive Computing and Communications (PerCom), Pisa, Italy, March 21-25, 2022.
- The Thirty-Sixth AAAI Conference on Artificial Intelligence (AAAI), Virtual, February 22 - March 1, 2022.

2021

- IEEE International Conference on Computer Communications (INFOCOM), Virtual Conference, May 10-13, 2021.
- The Thirty-Fifth AAAI Conference on Artificial Intelligence (AAAI), Virtually, February 2-9, 2021.

2020

- The 2020 IEEE Global Communications Conference (IEEE GLOBECOM), Taipei, Taiwan, December 7-11, 2020.
- IEEE International Conference on Computer Communications (INFOCOM), Virtual Conference, July 6-9, 2020.

2019

- IEEE International Conference on Multimedia and Expo (ICME), Shanghai, China, July 8-12, 2019.
- IEEE International Conference on Distributed Computing Systems (ICDCS), Dallas, USA, July 7-9, 2019.
- IEEE International Conference on Communications (ICC), Shanghai, China, May 20-24, 2019.

2018

- IEEE Global Communications Conference (Globecom), Abu Dhabi, UAE, December 9-13, 2018.
- The 14th International Wireless Communications and Mobile Computing Conference (IWCMC), Limassol, Cyprus, June 25-29, 2018.
- IEEE International Conference on Computer Communications (INFOCOM), Honolulu, USA, April 15-19, 2018.

2017

- International Conference on Computer Communication and Networks (ICCCN), Vancouver, Canada, July 31 - August 3, 2017.
- IEEE International Conference on Communications (ICC), Paris, France, May 21-25, 2017.
- IEEE International Conference on Computer Communications (INFOCOM), Atlanta, USA, May 1-4, 2017.
- IEEE Wireless Communications and Networking Conference (WCNC), San Francisco, USA,

March 19-22, 2017.

2016

- IEEE Global Communications Conference (Globecom), Washington, USA, December 4-8, 2016.
- International Conference on Wireless Algorithms, Systems, and Applications (WASA), Bozeman, Montana, USA, August 8-10, 2016.
- International Conference on Computer Communication and Networks (ICCCN), Waikoloa, USA, August 1-4, 2016.
- IEEE International Conference on Distributed Computing Systems (ICDCS), Nara, Japan, June 27-30, 2016.
- IEEE International Conference on Communications (ICC), Kuala Lumpur, Malaysia, May 23-27, 2016.
- IEEE International Conference on Computer Communications (INFOCOM), San Francisco, USA, April 10-15, 2016.
- IEEE Wireless Communications and Networking Conference (WCNC), Doha, Qatar, April 3-6, 2016.
- IEEE International Conference on Pervasive Computing and Communications (PerCom), Sydney, Australia, March 14-19, 2016.
- International Conference on Computing, Networking and Communications (ICNC), Kauai, USA, February 15-18, 2016.

2015

- IEEE International Conference on Parallel and Distributed Systems (ICPADS), Melbourne, Australia, December 14-17, 2015.
- International Conference on Computer Communication and Networks (ICCCN), Las Vegas, USA, August 3-6, 2015.
- IEEE International Conference on Distributed Computing Systems (ICDCS), Columbus, USA, June 29 - July 2, 2015.
- Proceedings of the Sixth International Conference on Computational Creativity (ICCC), Park City, USA, June 29 - July 2, 2015.
- The IEEE International Conference on Communications (ICC), London, UK, June 8-12, 2015.
- IEEE Conference on Computer Communications (INFOCOM), Kowloon, Hong Kong, April 26 - May 1, 2015.
- IEEE Wireless Communications and Networking Conference (WCNC), New Orleans, USA, March 9-12, 2015.

2014

- Annual IEEE International Conference on Computer Communications (INFOCOM), Toronto, Canada, April 27 - May 2, 2014.
- IEEE Global Communications Conference (Globecom), Austin, USA, December 8-12, 2014.
- IEEE International Symposium on Embedded Multicore/Manycore SoCs (MCSoc), Aizu-Wakamatsu, Japan, September 23-25, 2014.
- IEEE International Conference on High Performance Computing and Communications (HPCC), Paris, France, August 20-22, 2014.
- IEEE Wireless Communications and Networking Conference (WCNC), Istanbul, Turkey, April 6-9, 2014.

2013

- IEEE Global Communications Conference (Globecom), Atlanta, USA, December 9-13, 2013.
- IEEE Symposium on Personal, Indoor, and Mobile Radio Communications (PIMRC), London, United Kingdom, September 8-11, 2013.
- The International Wireless Communications and Mobile Computing Conference (IWCMC), Cagliari, Italy, July 1-5, 2013.
- IEEE International Conference on Computer Communications (INFOCOM), Turin, Italy, April 14-19, 2013.
- IEEE Wireless Communications and Networking Conference (WCNC), Shanghai, China, April 7-10, 2013.
- International Conference on Computing, Networking and Communications (ICNC), San Diego, USA, January 28-31, 2013.

2012

- International Conference on Mobile Ad-hoc and Sensor Networks (MSN), Chengdu, China, December 14-16, 2012.
- IEEE International Conference on Mobile Ad hoc and Sensor Systems (MASS), Las Vegas, USA, October 8-11, 2012.
- IEEE Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), Sydney, Australia, September 9-12, 2012.
- International Wireless Communications and Mobile Computing Conference, (IWCMC), Limassol, Cyprus, August 27-31, 2012.
- IEEE International Conference on Communications in China (ICCC), Beijing, China, August 15-18, 2012.
- IEEE Vehicular Technology Conference (VTC Spring), Yokohama, Japan, May 6-9, 2012.
- IEEE Wireless Communications and Networking Conference (WCNC), Paris, France, April 1-4, 2012.
- IEEE International Conference on Computer Communications (INFOCOM), Orlando, USA, March 25-30, 2012.

2011

- ACM Research in Applied Computation Symposium (RACS), Miami, USA, October 19-22, 2011.
- IEEE International Conference on Mobile Ad-hoc and Sensor Systems (MASS), Valencia, Spain, October 17-21, 2011.
- IEEE Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), Toronto, Canada, September 11-14, 2011.
- International Wireless Communications and Mobile Computing Conference (IWCMC), Istanbul, Turkey, July 4-8, 2011.
- IEEE Wireless Communications and Networking Conference (WCNC), Cancun, Mexico, March 28-31, 2011.

2010

- IEEE/IFIP International Conference on Embedded and Ubiquitous Computing (EUC), Hong Kong, December 11-13, 2010.
- IEEE Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), September 26-29, 2010.
- International Symposium on Embedded Multicore SoCs (MCSoc), San Diego, USA, September 13-16, 2010.

- IEEE Wireless Communications and Networking Conference (WCNC), Sydney, Australia, April 18-21, 2010.

2009

- International Symposium on Embedded Multicore/Many-core Systems-on-Chip (MCSoc), Vienna, Austria, September 22-25, 2009.
- IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC), Tokyo, Japan, September 13-16, 2009.

2008

- IEEE/IFIP International Conference on Embedded and Ubiquitous Computing (EUC), Shanghai, China, December 17-20, 2008.
- International Symposium on Embedded Multicore/Many-core Systems-on-Chip (MCSoc), Hanoi, Vietnam, September 12-14, 2008.
- IEEE International Conference on Communications and Networking in China (CHINACOM), Hangzhou, China, August 25-27, 2008.
- IEEE Wireless Communications & Networking Conference (WCNC), Las Vegas, USA, March 31 - April 3, 2008.

2007

- International Conference on Mobile Ad-hoc and Sensor Networks (MSN), Beijing, China, December 12-14, 2007.
- IEEE Global Telecommunications Conference (Globecom) Washington, USA, November 26-30, 2007.
- IEEE ACIS International Conference on Software Engineering, Artificial Intelligence, Networking, and Parallel/Distributed Computing (SNPD), Qingdao, China, July 30 - August 1, 2007.

UNIVERSITY SERVICE ACTIVITIES

The Hong Kong Polytechnic University

- Associate Head, Department of Computing, 2019-2021
- Director of Edge Intelligence Lab, Department of Computing, 2016-present
- Member of Department Management Committee, Department of Computing, 2019-2021
- Member of Faculty Staffing Committee, Faculty of Engineering, 2019-2023
- Leader of Networking and Mobile Computing Research Group, Department of Computing, 2019-present
- Representative for Doctor of FinTech Programme (hosted by Faculty of Business), Department of Computing, 2020-present
- Member of DFinTech Programme Committee, Faculty of Business, 2020-present
- Seminar Coordinator, Department of Computing, 2020-2021
- HKPFS Coordinator, Department of Computing, 2019-2021
- Member of Department Staffing Committee, Department of Computing, 2017-2019
- Member of Department Research Committee, Department of Computing, 2017-2021
- Chair of Department Research Committee, Department of Computing, 2016-2017
- Member of Department Heads Group, Department of Computing, 2016-2017
- Member of Faculty Research Committee, Faculty of Engineering, 2016-2017
- Member of Department Management Committee, Department of Computing, 2016-2017

- Research Club Director of Challengers Program, Department of Computing, 2016-2017

The University of Aizu

- Leader, University Strategic Research Project on Internet-of-Things, 2015-2016
- Member of Graduate School Academic Affairs Committee, 2014-2016
- Member of Super Global University Program Committee, 2014-2016
- Member of Graduate School Entrance Examination Committee, 2012-2016
- Member of Working Group for Internationalization, 2012-2015
- Director, WG of Faculty Colloquium on Collaborative Research Excellence, 2012-2015
- Member of Health and Welfare Guidance Committee, 2010-2012
- Representative of Joint Research Program with Olympus Future Creation Laboratory, 2009-2013
- Founder and Representative of Joint Lab, University of Aizu and Nanjing University, 2009-2016
- Coordinator, Partnership between University of Aizu and Temple University, 2015-2016
- Coordinator, Partnership between University of Aizu and Shanghai Jiao Tong University, 2009-2016
- Coordinator, Partnership between University of Aizu and Nanjing University, 2009-2016
- Coordinator, Partnership between University of Aizu and Huazhong University of Science and Technology with Double Degree Program, 2009-2016
- Coordinator, Partnership between University of Aizu and National Chi Nan University, 2009-2016
- Coordinator, Partnership between University of Aizu and Chaoyang University of Technology, 2009-2016