Wei Bao

Affiliation School of Computer Science University of Sydney Tel: +61 2 8627 4865 Email: wei.bao@svdnev.edu.au Edge and Cloud Computing, Mobile Networks, Internet of Things, Research Network Optimization, Mobility Management. Interests **EDUCATION** Ph.D. in Electrical and Computer Engineering, 09/2011-12/2015 University of Toronto, Toronto, Canada Supervisor: Ben Liang Thesis Committee: Wei Yu, Jorg Liebeherr, and Jianping Pan (University of Victoria) M.A.Sc in Electrical and Computer Engineering, 09/2009-08/2011 University of British Columbia (UBC), Vancouver, Canada Supervisors: Vincent Wong and Victor Leung B.Eng in Communications Engineering, 09/2005-08/2009 Beijing University of Posts and Telecommunications (BUPT), Beijing, China Ranking: 3rd out of 588. Senior Lecturer at the University of Sydney. 01/2020-Present ACADEMIC EXPERIENCE Lecturer at the University of Sydney. 02/2016-01/2020 Topics: Edge and Cloud Computing, Network Optimization, Mobility Management. 09/2011 - 12/2015Research assistant in Communications Group in the University of Toronto. Thesis: Stochastic analysis and design of heterogeneous broadband wireless networks. Research assistant in Data Communications Group in UBC (Canada). 09/2009-08/2011 Thesis: Modeling, analysis, and enhancement of transmission control protocol. Researcher at Bell Labs, Alcatel-Lucent. 06/2014-08/2014 Industrial EXPERIENCE Topic: Context-aware and location-aware mobile video streaming. Collaborator: Stefan Valentin Honors & Best Paper (top 1) of ACM MSWiM'19 [CORE rank: A]. 2019 AWARDS Best Paper Finalist (top 6) of ACM MobiHoc'18 [CORE rank: A]. 2018 Best Paper Runner-up (top 3) of ACM MSWiM'17 [CORE rank: A]. 2017 Best Paper Award (top 1) of IEEE NCA'16 [CORE rank: A]. 2016 Best-in-Session Presentation Award of IEEE INFOCOM'16 [CORE rank: A*]. 2016 Chinese Government Award for Outstanding Students Abroad. 2015 IEEE INFOCOM'15 Travel Grant [CORE rank: A*]. 2015 Best Paper Award (top 1) of ACM MSWiM'13 [CORE rank: A]. 2013 Ontario Trillium Scholarship (best 75 doctoral students in Ontario). 2011 - 2015National Scholarship Sponsored by P.R.China Ministry of Education (top 1.7%). 2007 Second CI. Australian Research Council (ARC)/Discovery Projects (DP), Grants 2020 - 2022Edge-accelerated deep learning, 390K. Second CI. Australian Research Council (ARC)/Discovery Projects (DP), 2019 - 2021Software-defined provisioning of IoT applications in fog computing systems, 425K. Sole-CI. University of Sydney FEIT Early Career Researcher Development Scheme, 2019 Adaptive deep neural network partition for acceleration in edge and cloud computing environment, 41K

Second CI. NSW Industry and Community Engagement SEED Program,

mobile IoT applications, 170K.

Edge computing-based seamless handover mechanism between access points for

2018

Second CI. University of Sydney DVC Research/Bridging Support Grant,
Robust Internet of Things: Algorithms and systems, 30K.

2018

Third CI. University of Sydney FEIT Major Equipment Scheme, Towards Smart Sydney: University-wide IoT data collection platform, 105K.

Sole-CI. University of Sydney DVC Research/Bridging Support Grant,

Integrating Internet of Things with fog computing for spectrum and energy efficiency, 10K.

CI. University of Sydney DVC Education/Large Educational Innovation Grant, 2017

Designing project-based cross-unit laboratory through cloud computing technologies towards collaborative, authentic and flexible learning, 35K.

Publications

Journal Articles (in reverse chronological order)

- [J20] Abubakar Sadiq Sani, Dong Yuan, **Wei Bao**, Zhao Y. Dong, "A Universally Composable Key Exchange Protocol for Advanced Metering Infrastructure in the Energy Internet," in *IEEE Transactions on Industrial Informatics*, accepted, 2020.
- [J19] Wei Bao, Dong Yuan, Bing Bing Zhou, and Albert Y. Zomaya, "Prune and Plant: Efficient placement and parallelism of virtual network functions," in *IEEE Transactions on Computers*, accepted, 2020. [Impact Factor: 3.131]
- [J18] Shizhe Zang, **Wei Bao**, Phee Lep Yeoh, Branka Vucetic and Yonghui Li, "Filling two needs with one deed: Combo plans for computing-intensive multimedia applications," in *IEEE Journal on Selected Areas in Communications*, vol. 37, no. 7, pp. 1518-1533, Jul. 2019. [Impact Factor: 9.302]
- [J17] Abubakar Sadiq Sani, Dong Yuan, **Wei Bao**, Zhao Y. Dong, Branka Vucetic, and Elisa Bertino, "Universally composable key bootstrapping and secure communication protocols for the energy Internet," in *IEEE Transactions on Information Forensics and Security*, vol. 14, no. 8, pp. 2113-2127, Aug. 2019. [Impact Factor: 6.211]
- [J16] Hazem Ibrahim, **Wei Bao**, and Uyen Trang Nguyen, "Data rate utility analysis for uplink two-hop Internet-of-Things networks," in *IEEE Internet of Things Journal*, vol. 6, no. 2, pp. 3601 3619, Apr. 2019. [Impact Factor: 9.515]
- [J15] Shizhe Zang, **Wei Bao**, Phee Lep Yeoh, Branka Vucetic and Yonghui Li, "Managing vertical handovers in millimeter wave heterogeneous networks," in *IEEE Transactions on Communications*, vol. 67, no. 2, pp. 1629-1644, Feb. 2019. [Impact Factor: 5.69]
- [J14] Chuang Hu, **Wei Bao**, Dan Wang, Yi Qian, Muqiao Zheng, and Shi Wang, "sTube+: An IoT communication sharing architecture for smart after-sales maintenance in buildings," in *ACM Transactions on Sensor Networks*, vol. 14, no. 3-4, pp. 1-29, Dec. 2018. [Impact Factor: 2.312]
- [J13] He Chen, Rana Abbas, Peng Cheng, Mahyar Shirvanimoghaddam, Wibowo Hardjawana, **Wei Bao**, Yonghui Li, and Branka Vucetic, "Ultra-reliable low latency cellular networks: Use cases, challenges and approaches," in *IEEE Communications Magazine*, vol. 56, no. 12, pp. 119-125, Dec. 2018. [Impact Factor: 10.356]
- [J12] Dan Wang, **Wei Bao**, Chuang Hu, Yi Qian, Muqiao Zheng, and Shi Wang, "sTube: An architecture for IoT communication sharing," *IEEE Communications Magazine*, vol. 56, no. 7, pp. 96-101, Jul. 2018. [Impact Factor: 10.356]
- [J11] **Wei Bao** and Ben Liang, "Optimizing cluster size through handoff analysis in user-centric cooperative wireless networks," *IEEE Transactions on Wireless Communications*, vol. 17, no. 2, pp. 766-778, Feb. 2018. [Impact Factor: 6.394]
- [J10] Yucen Nan, Wei Li, **Wei Bao**, Flavia C. Delicato, Paulo F. Pires, and Albert Y. Zomaya, "Cost-effective processing for delay-sensitive applications in cloud of things systems," *Elsevier Journal of Parallel and Distributed Computing*, vol. 112, no. 1, pp. 53-66, Feb. 2018. [Impact Factor: 1.819]
- [J9] **Wei Bao**, He Chen, Yonghui Li, and Branka Vucetic, "Joint rate control and power allocation for non-orthogonal multiple access systems," *IEEE Journal on Selected Areas in Communications*, vol. 35, no. 12, pp. 2798-2811, Dec. 2017. [Impact Factor: 9.302]
- [J8] **Wei Bao**, Dong Yuan, Zhengjie Yang, Shen Wang, Wei Li, Bing Zhou, and Albert Zomaya, "Follow Me Fog: Towards seamless handover timing schemes in fog computing environment," *IEEE Communications Magazine*, vol. 55, no. 11, pp. 72-78, Nov. 2017. [Impact Factor: 10.356]
- [J7] Yucen Nan, Wei Li, **Wei Bao**, Flavia C. Delicato, Paulo F. Pires, Yong Dou, and Albert Y. Zomaya, "Adaptive energy-aware computation offloading for Cloud of Things systems," *IEEE Access*, vol. 5, pp. 23947-23957, Oct. 2017. [Impact Factor: 4.098]

[The above papers are published since I joined USYD.]

[J6] Wei Bao and Ben Liang, "Rate maximization through structured spectrum allocation and user association in heterogeneous cellular networks," *IEEE Transactions on Communications*, vol. 63, no.

- 11, pp. 4510-4524, Nov. 2015.
- [J5] **Wei Bao** and Ben Liang, "Stochastic analysis of uplink interference in two-tier femtocell networks: open versus closed access," *IEEE Transactions on Wireless Communications*, vol. 14, no. 11, pp. 6200-6215, Nov. 2015.
- [J4] **Wei Bao** and Ben Liang, "Stochastic geometric analysis of user mobility in heterogeneous wireless networks," *IEEE Journal on Selected Areas in Communications*, vol. 33, no. 10, pp. 2212-2225, Oct. 2015.
- [J3] Yicheng Lin, **Wei Bao**, Wei Yu, and Ben Liang, "Optimizing user association and spectrum allocation in HetNets: a utility perspective," *IEEE Journal on Selected Areas in Communications*, vol. 33, no. 6, pp. 1025-1039, Jun. 2015.
- [J2] **Wei Bao** and Ben Liang, "Uplink interference analysis for two-tier cellular networks with diverse users under random spatial patterns," *IEEE Transactions on Wireless Communications*, vol. 14, no. 3, pp. 1252-1265, Mar. 2015.
- [J1] **Wei Bao** and Ben Liang, "Insensitivity of user distribution in multicell networks under general mobility and session patterns," *IEEE Transactions on Wireless Communications*, vol. 12, no. 12, pp. 6244-6254, Dec. 2013.

Conference Articles (in reverse chronological order)

- [C33] Canh T. Dinh, Nguyen H. Tran, Tuan Dung Nguyen, **Wei Bao**, Albert Y. Zomaya, and Bing B. Zhou "Federated learning with proximal stochastic variance reduced gradient algorithms," in *Proceedings of International Conference on Parallel Processing (ICPP)*, Edmonton, Canada, Aug. 2020. **CORE Rank: A.**
- [C32] Xiuwen Gong, Dong Yuan, and **Wei Bao**, "Online metric learning for multi-label classification," in *Proceedings of AAAI Conference on Artificial Intelligence*, New York, NY, Feb. 2020. **CORE Rank: A*.**
- [C31] Zizhao Wang, **Wei Bao**, Dong Yuan, Liming Ge, Nguyen H. Tran, and Albert Zomaya, "SEE: Scheduling early exit for mobile DNN inference during service outage," *ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM)*, Miami, Florida, Nov. 2019. **CORE Rank: A.**
- [C30] Weiyu Ju, Dong Yuan, **Wei Bao**, Liming Ge and Bing Bing Zhou, "DeepSave: Saving DNN inference during handovers on the edge," in *ACM/IEEE Symposium on Edge Computing*, Washington, DC, Nov. 2019.
- [C29] Abubakar Sadiq Sani, Dong Yuan, **Wei Bao**, Phee Lep Yeoh, Zhaoyang Dong, Branka Vucetic, and Elisa Bertino, "Xyreum: A high-performance and scalable blockchain for HoT security and privacy," in *Proceedings of IEEE International Conference on Distributed Computing (ICDCS)*, Dallas, TX, Jul. 2019. **CORE Rank: A.**
- [C28] Chuang Hu, **Wei Bao**, Dan Wang, and Fengming Liu, "Dynamic adaptive DNN surgery for inference acceleration on the edge," in *Proceedings of IEEE International Conference on Computer Communications (INFOCOM)*, Paris, France, Apr.–May 2019. **CORE Rank: A*.**
- [C27] Nguyen H. Tran, **Wei Bao**, Minh N.H. Nguyen, Choong Seon Hong, and Albert Y. Zomaya, "Federated learning over wireless networks: Optimization model design and analysis," in *Proceedings of IEEE International Conference on Computer Communications (INFOCOM)*, Paris, France, Apr.—May 2019. **CORE Rank:** A*.
- [C26] Wei Bao, Dong Yuan, Zhengjie Yang, Shen Wang, Bing Bing Zhou, Stewart Adams, and Albert Y. Zomaya, "sFog: Seamless fog computing environment for mobile IoT applications," in Proceedings of ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM), Montreal, Canada, Oct. 2018. CORE Rank: A.
- [C25] Shizhe Zang, **Wei Bao**, Phee Lep Yeoh, Branka Vucetic, and Yonghui Li, "Paying less for more? Combo plans for edge-computing services," in Proceedings of *USENIX Workshop on Hot Topics in Edge Computing (HotEdge)*, Boston, MA, Jul. 2018.
- [C24] **Wei Bao**, Yonghui Li, and Branka Vucetic, "User mobility analysis in disjoint-clustered cooperative wireless networks," in Proceedings of *ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc)*, Los Angeles, CA, Jun. 2018 (Best Paper Finalist). CORE Rank: A.
- [C23] **Wei Bao**, Dong Yuan, Keqi Shi, Weiyu Ju, and Albert Y. Zomaya, "Ins and Outs: Optimal caching and re-caching policies in mobile networks," in Proceedings of *ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc)*, Los Angeles, CA, Jun. 2018. **CORE Rank: A.**
- [C22] Abubakar Sadiq Sani, Dong Yuan, Phee Lep Yeoh, Wei Bao, Shiping Chen, and Branka Vucetic, "A lightweight security and privacy-enhancing key establishment for Internet of Things

- applications," in Proceedings of International Conference on Communications (ICC), Kansas City, MO, May 2018.
- [C21] Chuang Hu, **Wei Bao**, and Dan Wang, "IoT communication sharing: Scenarios, algorithms and implementation," in Proceedings of *IEEE International Conference on Computer Communications* (INFOCOM), Honolulu, HI, Apr. 2018. **CORE Rank:** A*.
- [C20] Wei Bao, Wei Li, Flavia C. Delicato, Paulo F. Pires, Dong Yuan, Bing Bing Zhou, and Albert Y. Zomaya, "Cost-effective processing in fog-integrated Internet of Things ecosystems," in Proceedings of ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM), Miami, FL, Nov. 2017 (Best Paper Runner-up). CORE Rank: A.
- [C19] Chuang Hu, **Wei Bao**, Dan Wang, Qian Yi, Muqiao Zheng, and Shi Wang, "sTube+: An IoT communication sharing architecture for smart after-sales maintenance in buildings," in *Proceedings of ACM International Conference on Systems for Energy-Efficient Built Environments (BuildSys)*, Delft, Netherlands, Nov. 2017. **CORE Rank: A.**
- [C18] Abubakar S. Sani, Dong Yuan, **Wei Bao**, and Zhao Y. Dong, "Towards secure energy Internet communication scheme: An identity-based key bootstrapping protocol supporting unicast and multicast," in *Proceedings of IEEE International Symposium on Network Computing and Applications (NCA)*, Cambridge, MA, Oct. 2017. **CORE Rank: A.**
- [C17] Nor A. Muhammad, He Chen, **Wei Bao**, Yonghui Li, and Branka Vucetic, "Multi-cell coordination via disjoint clustering in dense millimeter wave cellular networks," in Proceedings of *IEEE International Conference on Communications (ICC)*, Paris, France, May 2017.
- [C16] Yucen Nan, Wei Li, **Wei Bao**, Flavia C. Delicato, Paulo F. Pires, and Albert Y. Zomaya, "Cost-effective processing for delay-sensitive applications in cloud of things systems," in *Proceedings of IEEE International Symposium on Network Computing and Applications (NCA)*, Cambridge, MA, Dec. 2016 (Best Paper Award). CORE Rank: A.
- [C15] **Wei Bao** and Ben Liang, "Stochastic geometric analysis of handoffs in user-centric cooperative wireless networks," in *Proceedings of IEEE International Conference on Computer Communications (INFOCOM)*, San Francisco, CA, Apr. 2016. **CORE Rank: A*.**

[The above papers are published since I joined USYD.]

- [C14] **Wei Bao** and Ben Liang, "Handoff rate analysis in heterogeneous wireless networks with Poisson and Poisson cluster patterns," in *Proceedings of ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc)*, Hangzhou, China, Jun. 2015. **CORE Rank: A.**
- [C13] Wei Bao and Stefan Valentin, "Bitrate adaptation for mobile video streaming based on buffer and channel state", in *Proceedings of IEEE International Conference on Communications (ICC)*, London, UK, Jun. 2015.
- [C12] **Wei Bao** and Ben Liang, "Radio resource allocation in heterogeneous wireless networks: a spatial-temporal perspective," in *Proceedings of IEEE International Conference on Computer Communications (INFOCOM)*, Hong Kong, China, Apr. 2015. **CORE Rank: A*.**
- [C11] **Wei Bao** and Ben Liang, "Handoff rate analysis in heterogeneous cellular networks: a stochastic geometric approach," in *Proceedings of the ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM)*, Montreal, Canada, Sep. 2014. **CORE Rank: A**
- [C10] **Wei Bao** and Ben Liang, "Near-optimal spectrum allocation in multi-tier cellular networks with random inelastic traffic," in *Proceedings of IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP)*, Florence, Italy, Apr. 2014.
- [C9] **Wei Bao** and Ben Liang, "Structured spectrum allocation and user association in heterogeneous cellular networks," in *Proceedings of IEEE International Conference on Computer Communications (INFOCOM)*, Toronto, Canada, Apr. 2014. **CORE Rank: A*.**
- [C8] Wei Bao and Ben Liang, "Understanding the benefits of open access in femtocell networks: stochastic geometric analysis in the uplink," in *Proceedings of the ACM International Conference on Modeling, Analysis and Simulation of Wireless and Mobile Systems (MSWiM)*, Barcelona, Spain, Nov. 2013 (Best Paper Award). CORE Rank: A.
- [C7] Wei Bao and Ben Liang, "Uplink interference analysis for two-tier cellular networks with diverse users under random spatial patterns," in *Proceedings of the IEEE/CIC International Conference on Communications in China (ICCC)*, Xian, China, Aug. 2013 (Invited Paper).
- [C6] **Wei Bao** and Ben Liang, "On the insensitivity of user distribution in multicell networks under general mobility and session patterns," in *Proceedings of IEEE International Conference on Computer Communications (INFOCOM)*, Turin, Italy, Apr. 2013. **CORE Rank: A*.**
- [C5] Wei Bao, Vahid Shah-Mansouri, Vincent Wong, and Victor Leung, "TCP VON: joint con-

gestion control and online network coding for wireless networks," in *Proceedings of IEEE Global Communications Conference (Globecom)*, Anaheim, CA, Dec. 2012.

[C4] Wei Bao, Yifei Hao, and Tong Wang, "XOR in hexagram: on the performance of cooperative network coding in polling-based wireless networks," in *Proceedings of IEEE Wireless Communications and Networking Conference (WCNC)*, Cancun, Mexico, Mar. 2011.

[C3] **Wei Bao**, Vincent Wong, and Victor Leung, "A model for steady state throughput of TCP CUBIC," in *Proceedings of IEEE Global Communications Conference (Globecom)*, Miami, FL, Dec. 2010.

[C2] Wei Bao, Wenbo Wang, Hongmei Liu, and Mugen Peng, "Outage probability analysis of linear block network coding (LBNC) in wireless relay networks," in *Proceedings of IEEE Global Communications Conference (Globecom)*, Honolulu, HI, Dec. 2009.

[C1] Hongmei Liu, Gang Chuai, **Wei Bao**, Mugen Peng, and Wenbo Wang, "On performance of multi-timeslots network coding (MTNC) in wireless relay networks," in *Proceedings of IEEE Global Communications Conference (Globecom)*, Honolulu, HI, Dec. 2009.

International Associate Professor Dan Wang

2016-Present

COLLABORATORS Department of Computing, Hong Kong Polytechnic University, Hong Kong.

Topic: Internet of Things and edge computing. Outcome: Joint conference and journal papers.

Professor Yi Qian 2016–Present

Department of Electrical and Computer Engineering, University of Nebraska-Lincoln, USA.

Topic: Internet of Things.

Outcome: Joint conference and journal papers. Co-editorship of IEEE Network (Special Issue in Internet of Things for Smart Cities: Technologies and Applications.)

Associate Professor Uyen Trang Nguyen

2016-Present

Department of Electrical Engineering, York University, Canada.

Topic: 5G network optimization. Outcome: Joint journal paper.

INDUSTRIAL Link Group Proprietary Limited

2019–Present

COLLABORATORS Topic: Machine learning in edge computing.

Chur Technology Proprietary Limited

2018–Present

Topic: Mobility management for edge computing.

Outcome: NSW Industry and Community Engagement SEED Grant (170K).

TEACHINGS University of Sydney (Lecturing)

COMP 5416, 2019-S2, Advanced Network Technologies

COMP 9121, 2019-S2, Design of Networks and Distributed Systems

COMP 5416, 2018-S2, Advanced Network Technologies

COMP 9121, 2018-S2, Design of Networks and Distributed Systems

COMP 5416, 2017-S2, Advanced Network Technologies (Dean's commendation list)

COMP 9121, 2017-S2, Design of Networks and Distributed Systems

COMP 5416, 2016-S2, Advanced Network Technologies (Dean's commendation list)

COMP 9121, 2016-S2, Design of Networks and Distributed Systems (Dean's commendation list)

University of Toronto (Teaching Assistantship)

ECE 361, Spring-2015, Computer Networks

ECE 461, Fall-2014, Internetworking

CSC 358, Spring-2014, Introduction to Computer Networks

ECE 297, Spring-2014, Communication and Design

ECE 361, Fall-2013, Computer Networks

ECE 345, Fall-2012, Algorithms and Data Structures

HDR STUDENT In progress Supervision

Liming Ge (Ph.D., 2020–Present) Zhengjie Yang (Ph.D., 2019–Present) Zizhao Wang (Ph.D., 2019-Present) The Canh Dinh (Ph.D., 2019–Present) Weiyu Ju (Ph.D., 2018–Present) Jiaan Guo (Ph.D., 2017–Present) Shizhe Zang (Ph.D., 2016–Present) Completed Chuang Hu (Ph.D., 2016–2019, external, co-supervise with Dan Wang) Yucen Nan (M.Phil, 2016–2017) In progress Sen Fu (Honours Research Project, 2019–2020) SUPERVISION Completed Liming Ge (Honours Research Project, 2019) James Koungoulos (Honours Research Project, 2018) Sergio Mesina (Honours Research Project, 2018) Seung Jun Lee (Honours Research Project, 2018) Completed Chun Shen (Master Research Pathway Project, 2017–2018) Zhengjie Yang (Master Research Pathway Project, 2017) SUPERVISION Shen Wang (Master Research Pathway Project, 2017) Completed Liming Ge (Summer Research Project, 2018–2019) Ruoyu Zhuang (Summer Research Project, 2017–2018) SUPERVISION Zhengjie Yang (Summer Research Project, 2016–2017) Non-Research Completed (Number Only) 2020-S1: 1 2018-S2: 1 SUPERVISION 2018-S1: 2 2017-S2: 7 2017-S1: 1 TPC member, IEEE ICCCN 2020 Conference, TPC member, IEEE IWQoS 2020 AND GRANT TPC member, IEEE INFOCOM 2019 Guest Editor, IEEE Network, 2018 Special Issue in Internet of Things for Smart Cities: Technologies and Applications Guest Editor, Springer CCF Transactions on Networking, 2018 Special Issue in Edge Computing and Networking Technical Program Committee Chair, IEEE World Forum on Internet of Things, 2018 Wireless Access Technologies and Architectures for IoT Workshop Local Arrangement Chair, Passive and Active Measurement Conference 2017 Publication Chair, Australasian Symposium on Parallel and Distributed Computing 2017

Honours

STUDENT

Research

PATHWAY

STUDENT

Summer Research

STUDENT

Project

STUDENT

JOURNAL,

Services

• IEEE International Conference on Pervasive Intelligence and Computing, 2017 and 2018.

Technical Program Committee (TPC) member:

- IEEE Journal on Selected Areas in Communications, Special Issue in Recent Advances in Heterogeneous Cellular Networks, 2014.
- IEEE Wireless Communications and Networking Conference (WCNC) 2009, 2010, and 2013.

Reviewer:

- IEEE Transactions on Wireless Communications.
- IEEE Transactions on Communications.
- IEEE Transactions on Mobile Computing.
- IEEE/ACM Transactions on Networking.
- IEEE Journal on Selected Areas in Communications.
- IEEE Communications Letters.
- IEEE Communications Magazine.
- Elsevier Ad Hoc Networks.
- Conferences: IEEE INFOCOM, ICDCS, NCA, GLOBECOM, ICC, WCNC, etc.

Grant assessor:

- Australian Research Council/Discovery Projects, 2019.
- Australian Research Council/ Discovery Early Career Researcher Awards, 2019.

University Services	Deputy Program Director of Master of Information Technology and Graduate Diploma in Computing.	2017–Present
	ACM International Collegiate Programming Contest Director of South Pacific Divisional Contest in Sydney Coach of the University of Sydney	2017
	Curriculum design working group of Bachelor of Advanced Computing	2017