Wee Peng Tay

Address:
Nanyang Technological University
50 Nanyang Avenue
Blk S2.1, Singapore 639798

Phone: +65 67906280
E-mail: wptay@ntu.edu.sg
https://personal.ntu.edu.sg/wptay

Contents

1 General Information

1.1 Academic Qualifications

- **Ph.D.** in Electrical Engineering and Computer Science, 2008
  Massachusetts Institute of Technology, USA
  Topic: Decentralized Detection in Resource-limited Sensor Network Architectures
  Advisors: John Tsitsiklis and Moe Z. Win
- **MS** in Electrical Engineering, 2002
  Stanford University, USA
- **BS** in Mathematics and Electrical Engineering with *distinction*, 2002
  Stanford University, USA

1.2 Awards and Honors

- **Outstanding Editorial Board Member Award**, 2023.
  IEEE Transactions on Signal and Information Processing Over Networks.
- **Excellent Paper Award**, International Conference on Smart Power & Internet Energy Systems, 2022.
- **IEEE Signal Processing Society Young Author Best Paper Award**, 2016.
  Awarded with Jack Ho. I am a co-author of the paper and the main supervisor of Jack.
- **Early Career Teaching Excellence Award**, 2016.
  School of Electrical and Electronic Engineering, Nanyang Technological University. In recognition of tenure-track assistant professors who have consistently demonstrated excellent teaching.
- **Tan Chin Tuan Exchange Fellowship in Engineering**, 2015.
- **Best Student Paper Award**, 46th Asilomar Conference on Signals, Systems, and Computers, 2012.
  The Asilomar Conference on Signals, Systems, and Computers is a prestigious conference in signal processing and computer systems, and is technically co-sponsored by the IEEE Signal Processing Society.
- **Frederick Emmons Terman Engineering Scholastic Award, Stanford University**, 2002.
  Awarded to the top engineering students.
- **President's Award, Stanford University**, 1999.
  Awarded to top students for academic excellence.

1.3 Work Experience

- Sep. 2023 – present, Professor of Signal and Information Processing, School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore
- Sep. 2017 – Aug. 2023, Associate Professor (with tenure), School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore
- Mar. 2010 – Aug. 2017, Assistant Professor, School of Electrical and Electronic Engineering, Nanyang Technological University, Singapore
- Oct. 2008 – Mar. 2010, Associate, Quantitative Strategy, Morgan Stanley Asia Limited, Hong Kong
- Feb. 2008 – Sep. 2008, Associate, Quantitative Credit Research, Lehman Brothers Asia Limited
- Sep. 2004 – Dec. 2007, Research Assistant/Teaching Assistant, Massachusetts Institute of Technology
- Aug. 2002 – Jul. 2004, Various industry/academic positions due to scholarship bond, Singapore/US

1.4 Consulting Experience

- Apr. 2010 – Mar. 2012, Financial Modelling, Morgan Stanley Asia Limited

1.5 Professional Memberships

- Senior Member, IEEE

2 Research Activities

2.1 Ongoing Research Grants

- PI, "Generalized Message Passing for Federated Learning in Multi-Access Edge Computing", Future Communications Program, Jun. 2022 – May 2025, S$461,538

2.2 Completed Research Grants

- PI, "Project Ananke 2: Aerial-Ground Place Recognition for Drones", DSO National Laboratories, Jul. 2024 – Dec. 2024, S$50,000
- PI, "Project Ananke: Robust Multi-Modal Neural Diffusion for Light-Weight Drone Perception", DSO National Laboratories, Jul. 2023 – Jun. 2024, S$100,000
- PI, "Project LOCUS: RF Localization Using Donor Signals", DSO National Laboratories, Sep. 2022 – Nov. 2024, S$499,999.50
- PI, "Graph Signal Processing for High Dimensional Structures and Spaces", Ministry of Education Academic Research Fund Tier 2, Nov. 2021 – Oct. 2024, S$567,972
- PI, "Research and Applications of 5G-V2X Communication and Computing", NI Singapore Ltd, Oct. 2020 – Oct. 2022, S$120,000
- PI, "5G-V2X Communication Trial and Use Cases Development", M1 Limited, Jan. 2020 – Dec. 2023, S$98,040
- PI, "End to End Learned Localization for AV", NRF/Continental Corp Lab/NTU, Dec. 2019 – Nov. 2022, S$595,909
- PI, "Next-Generation V2X Network Architecture and Ecosystem for Smart Mobility", A*Star Industry Alignment Fund - Pre Positioning (IAF-PP), Nov. 2019 – Oct. 2023, S$21,240,000
- Co-PI, "Design and Reinforcement Security on Smart Grids Against Cyber-Physical Attack", NRF, Oct. 2019 – Mar. 2023, S$271,700 (total grant: S$997,460)
- PI, "Decentralized Privacy for the Internet of Things: Theory and Algorithms", Ministry of Education Academic Research Fund Tier 2, May 2019 – Jul. 2022, S$568,512
- Co-PI, "Outdoor Geo-Localization and Navigation Using DVB and LTE Signals-of-Opportunity in GPS-denied Environments", Ministry of Defence, Aug. 2018 – Aug. 2020, S$300,000 (total grant: S$1,200,000)
- PI, "Relative Positions Determination Using Communication Signals", Defence Science Organization National Laboratories, Aug. 2018 – Apr. 2020, S$479,159
- PI, "Energy Efficient Resilient Distributed Inference", NRF/Delta Electronics Corp Lab/NTU, Jul. 2016 – Aug. 2020, S$434,600
- PI, "Fake News Detection: A Graph Signal Processing And Learning Approach", Ministry of Education Academic Research Fund Tier 1, Nov. 2017 – Jul. 2019, S$80,000

- Co-PI, "Project Moscato: A Holistic Approach to Combatting Insider Threats", Ministry of Defence, Dec. 2015 – Jun. 2019, S$308,000 (total grant: S$4,762,600)
- Co-PI, "UWB Based Collaborative Decentralised Localisation", NRF/ST Dynamics Corp Lab/NTU, Jul. 2015 – Jun. 2019, S$427,400 (total grant: S$1,187,000)
- Co-PI, "Feasibility Study of Multi-Function Millimeter-Wave RaCoPo System", Huawei International Pte. Ltd., Oct. 2017 – Apr. 2019, S$148,944 (total grant: S$417,600)
- PI, "Multi-Target Track Before Detect On TDOA-FDOA Based Measurements", Defence Science Organization National Laboratories, Mar. 2015 – Feb. 2016, S$100,000
- PI, "Robust Learning in Social Networks: Fundamental Limits and Strategies", Ministry of Education Academic Research Fund Tier 2, Jan. 2015 – Jun. 2018, S$652,998
- Co-PI, "Development of NTU/NXP-Intelligent Transport System Test-Bed", Economic Development Board, Dec. 2014 – Nov. 2019, S$2,568,300 (total grant: S$14,098,000)
- PI, "Identifying Infection Sources in a Network", Ministry of Education Academic Research Fund Tier 2, Apr. 2014 – Mar. 2017, S$507,593
- Co-PI, "Project Urban-Nav: Urban Outdoor Navigation of Unmanned Platform under a GPS Challenged Environment", Defence Research and Technology Office, Dec. 2013 – Feb. 2017, S$223,000 (total grant: S$1,854,000)
- PI, "GPS Free TDOA/FDOA Geolocation and Tracking II", Defence Science Organization National Laboratories, Mar. 2013 – Nov. 2015, S$236,500
- PI, "Project Technifibre: Cooperative and Distributed Tracking in Urban Environments", Defence Science and Technology Agency, May 2012 – May 2015, S$622,725
- PI, "Intelligent Information Fusion and Inference in Sensor Networks", Ministry of Education Academic Research Fund Tier 1, Mar. 2011 – Feb. 2014, S$100,000
- PI, "UWB Monitoring System for Sleep Studies", Nanyang Institute of Technology in Health and Medicine, Jul. 2011 – Jan. 2013, S$70,000
- PI, "GPS Free TDOA/FDOA Geolocation and Tracking", Defence Research and Technology Office, Nov. 2011 – Nov. 2012, S$65,200
- PI, "Distributed Signal Processing and Algorithms for Decentralized Decision Making and Computation in Sensor Networks", NTU Startup Grant, Mar. 2010 – Mar. 2013, S$100,000

2.3 Published/Accepted Journal Papers

J1. Y. Yuan, W. Li, Y. Liang, W. P. Tay, W. Gao, and F. Shen, "Lane-aware dynamic spatio-temporal transformer for unimodal trajectory prediction," *IEEE Transactions on Intelligent Vehicles*, in press

J2. X. Ran, W. P. Tay, and C. H. T. Lee, "Uncertain interval-based risk dispatch approach of power systems under an unified framework of multiple uncertainties," *IEEE Transactions on Industrial Informatics*, vol. 21, no. 3, pp. 2053 – 2063, Mar. 2025

J3. V. Mohan, W. P. Tay, and A. Basu, "Towards neuromorphic compression based neural sensing for next-generation wireless implantable brain machine interface," *Neuromorphic Computing and Engineering*, vol. 5, no. 1, p. 014004, Jan. 2025

J4. S. H. Lee, F. Ji, and W. P. Tay, "Node-specific space selection via localized geometric hyperbolicity in graph neural networks," *Transactions on Machine Learning Research*, 2024. [Online]. Available: `https://openreview.net/forum?id=tHteJFeN1y`

J5. S. Wang, Q. Kang, R. She, K. Zhao, Y. Song, and W. P. Tay, "PRFusion: Toward effective and robust multi-modal place recognition with image and point cloud fusion," *IEEE Transactions on Intelligent Transportation Systems*, vol. 25, no. 12, pp. 20 523 – 20 534, 2024

J6. F. Ji, X. Jian, and W. P. Tay, "Modeling sparse graph sequences and signals using generalized graphons," *IEEE Transactions on Signal Processing*, vol. 72, pp. 5048 – 5064, 2024

J7. Y. Lu, F. Ji, and W. P. Tay, "Heterogeneous graph adaptive flow network," *Transactions on Machine Learning Research*, 2024. [Online]. Available: `https://openreview.net/forum?id=usvg3yhjAx`

J8. X. Ran, W. P. Tay, and C. H. T. Lee, "Robust data-driven adversarial false data injection attack detection method with deep Q-network in power systems," *IEEE Transactions on Industrial Informatics*, vol. 20, no. 8, pp. 10 405 – 10 418, 2024

J9. X. Liu, Y. Yuan, T. Zhang, G. Cui, and W. P. Tay, "Integrated transmit waveform and RIS phase shift design for LPI detection and communication," *IEEE Transactions on Wireless Communications*, vol. 23, no. 6, pp. 5663 – 5679, Jun. 2024

J10. X. Jian, W. P. Tay, and Y. Eldar, "Kernel based reconstruction for generalized graph signal processing," *IEEE Transactions on Signal Processing*, vol. 72, pp. 2308 – 2322, 2024

J11. A. Darendeli, A. Sun, and W. P. Tay, "The geography of corporate fake news," *PLOS ONE*, vol. 19, no. 4, pp. 1 – 28, Apr. 2024

J12. Q. Kang, W. P. Tay, R. She, S. Wang, X. Liu, and Y.-R. Yang, "Multi-armed linear bandits with latent biases," *Information Sciences*, vol. 660, p. 120103, 2024

J13. R. She, Q. Kang, S. Wang, W. P. Tay, K. Zhao, Y. Song, T. Geng, Y. Xu, D. N. Navarro, and A. Hartmannsgruber, "PointDifformer: Robust point cloud registration with neural diffusion and transformer," *IEEE Transactions on Geoscience and Remote Sensing*, vol. 62, pp. 1 – 15, 2024

J14. R. She, Q. Kang, S. Wang, Y.-R. Yang, K. Zhao, Y. Song, and W. P. Tay, "RobustMat: Neural diffusion for street landmark patch matching under challenging environments," *IEEE Transactions on Image Processing*, vol. 32, pp. 5550 – 5563, 2023

J15. R. She, Q. Kang, S. Wang, W. P. Tay, Y. L. Guan, D. N. Navarro, and A. Hartmannsgruber, "Image patch-matching with graph-based learning in street scenes," *IEEE Transactions on Image Processing*, vol. 32, pp. 3465 – 3480, 2023

J16. F. Ji, W. P. Tay, and A. Ortega, "Graph signal processing over a probability space of shift operators," *IEEE Transactions on Signal Processing*, vol. 71, pp. 1159 – 1174, 2023

J17. W. Zhang, Z. Wang, and W. P. Tay, "Approximate maximum-likelihood RIS-aided positioning," *IEEE Transactions on Wireless Communications*, vol. 22, no. 12, pp. 8859 – 8875, Dec. 2023

J18. H. Cheng, J. T. Zhou, W. P. Tay, and B. Wen, "Graph neural networks with triple attention for few-shot learning," *IEEE Transactions on Multimedia*, vol. 25, pp. 8225 – 8239, 2023

J19. X. Liu, Y. Yuan, T. Zhang, G. Cui, and W. P. Tay, "LPI radar signal design resistant to identification by ESM systems," *IEEE Transactions on Aerospace and Electronic Systems*, vol. 59, no. 6, pp. 9233 – 9246, Dec. 2023

J20. P. Lin, C. Deng, Y. Yang, C. H. T. Lee, and W. P. Tay, "Resilience-oriented control for cyber-physical hybrid energy storage systems using a semi-consensus scheme: Design and practice," *IEEE Transactions on Industrial Electronics*, vol. 70, no. 3, pp. 2508 – 2519, Mar. 2023

J21. X. Jian and W. P. Tay, "Wide-sense stationarity in generalized graph signal processing," *IEEE Transactions on Signal Processing*, vol. 70, pp. 3414 – 3428, 2022

J22. Y. Yan, I. Bajaj, R. Rabiee, and W. P. Tay, "A tightly coupled integration approach for cooperative positioning enhancement in DSRC vehicular networks," *IEEE Transactions on Intelligent Transportation Systems*, vol. 23, no. 12, pp. 23 278 – 23 294, Dec. 2022

J23. J. Yang and W. P. Tay, "An unsupervised Bayesian neural network for truth discovery in social networks," *IEEE Transactions on Knowledge and Data Engineering*, vol. 34, no. 11, pp. 5182 – 5195, Nov. 2022

J24. A. B. Bhutto, X. S. Vu, E. Elmroth, W. P. Tay, and M. Bhuyan, "Reinforced transformer learning for VSI-DDoS detection in edge clouds," *IEEE Access*, vol. 10, pp. 94 677–94 690, 2022

J25. Q. Kang and W. P. Tay, "Task recommendation in crowdsourcing based on learning preferences and reliabilities," *IEEE Transactions on Services Computing*, vol. 15, no. 4, pp. 1785–1798, 2022

J26. F. Ji, Pratibha, and W. P. Tay, "Unlimited dynamic range signal recovery for folded graph signals," *Signal Processing*, vol. 198, p. 108574, 2022

J27. F. Ji, G. Kahn, and W. P. Tay, "Signal processing on simplicial complexes with vertex signals," *IEEE Access*, vol. 10, pp. 41 889 – 41 901, 2022

J28. C. Wang, W. P. Tay, Y. Wei, and Y. Wang, "Privacy-preserving distributed projection LMS for linear multitask networks," *IEEE Transactions on Signal Processing*, vol. 69, pp. 6530 – 6545, 2021

J29. W. Zhang and W. P. Tay, "Cost-efficient RIS-aided channel estimation via rank-one matrix factorization," *IEEE Wireless Communications Letters*, vol. 10, no. 11, pp. 2562 – 2566, Nov. 2021

J30. T. S. Lau and W. P. Tay, "Asymptotically optimal sampling policy for quickest change detection with observation-switching cost," *IEEE Transactions on Signal Processing*, vol. 69, pp. 1332 – 1346, 2021

J31. C. X. Wang, Y. Song, and W. P. Tay, "Arbitrarily strong utility-privacy tradeoff in multi-agent systems," *IEEE Transactions on Information Forensics and Security*, vol. 16, pp. 671 – 684, 2021

J32. Y. Song, C. X. Wang, and W. P. Tay, "Compressive privacy for a linear dynamical system," *IEEE Transactions on Information Forensics and Security*, vol. 15, pp. 895 – 910, 2020

J33. M. Sun and W. P. Tay, "On the relationship between inference and data privacy in decentralized IoT networks," *IEEE Transactions on Information Forensics and Security*, vol. 15, pp. 852 – 866, 2020

J34. M. Sun and W. P. Tay, "Decentralized detection with robust information privacy protection," *IEEE Transactions on Information Forensics and Security*, vol. 15, pp. 85–99, 2020

J35. X. Liu, W. P. Tay, Z.-W. Liu, and G. Xiao, "Quasi-synchronization of heterogeneous networks with a generalized Markovian topology and event-triggered communication," *IEEE Transactions on Cybernetics*, vol. 50, no. 10, pp. 4200 – 4213, Oct. 2020

J36. F. Ji, W. Tang, W. P. Tay, and E. K. P. Chong, "Network topology inference using information cascades with limited statistical knowledge," *Information and Inference: A Journal of the IMA*, vol. 9, no. 2, pp. 327 — 360, Jun. 2020

J37. F. Ji and W. P. Tay, "A Hilbert space theory of generalized graph signal processing," *IEEE Transactions on Signal Processing*, vol. 67, no. 24, pp. 6188 – 6203, Dec. 2019

J38. X. He, W. P. Tay, H. Lei, M. Sun, and Y. Gong, "Privacy-aware sensor network via multilayer nonlinear processing," *IEEE Internet of Things Journal*, vol. 6, no. 6, pp. 10 834 – 10 845, Dec. 2019

J39. F. Wen, H. Wymeersch, B. Peng, W. P. Tay, H. C. So, and D. Yang, "A survey on 5G massive MIMO localization," *Digital Signal Processing*, vol. 94, pp. 21 – 28, Nov. 2019

J40. Q. Kang and W. P. Tay, "Sequential multi-class labeling in crowdsourcing," *IEEE Transactions on Knowledge and Data Engineering*, vol. 31, no. 11, pp. 2190 – 2199, Nov. 2019

J41. T. S. Lau and W. P. Tay, "Quickest change detection in the presence of a nuisance change," *IEEE Transactions on Signal Processing*, vol. 67, no. 20, pp. 5281 – 5296, Oct. 2019

J42. L. Ma, W. P. Tay, and G. Xiao, "Iterative expectation maximization for reliable social sensing with information flows," *Information Sciences*, vol. 501, pp. 621 – 634, Oct. 2019

J43. J. Yang, J. Wang, and W. P. Tay, "Using social network information in community-based Bayesian truth discovery," *IEEE Transactions on Signal and Information Processing over Networks*, vol. 5, no. 3, pp. 525 – 537, Sep. 2019

J44. R. Rabiee, X. Zhong, Y. Yan, and W. P. Tay, "LaIF: A lane-level self-positioning scheme for vehicles in GNSS-denied environments," *IEEE Transactions on Intelligent Transportation Systems*, vol. 20, no. 8, pp. 2944 – 2961, Aug. 2019

J45. F. Ji, W. Tang, and W. P. Tay, "On the properties of Gromov matrices and their applications in network inference," *IEEE Transactions on Signal Processing*, vol. 67, no. 10, pp. 2624 – 2638, May 2019

J46. G. Yang, W. P. Tay, Y. L. Guan, and Y.-C. Liang, "Optimal power allocation for diffusion-type sensor networks with wireless information and power transfer," *IEEE Access*, vol. 7, pp. 32 408 – 32 422, Mar. 2019

J47. T. S. Lau, W. P. Tay, and V. V. Veeravalli, "A binning approach to quickest change detection with unknown post-change distribution," *IEEE Transactions on Signal Processing*, vol. 67, no. 3, pp. 609 – 621, Feb. 2019

J48. W. Tang, F. Ji, and W. P. Tay, "Estimating infection sources in networks using partial timestamps," *IEEE Transactions on Information Forensics and Security*, vol. 13, no. 2, pp. 3035 – 3049, Dec. 2018

J49. J. Yang, X. Zhong, and W. P. Tay, "A dynamic Bayesian nonparametric model for blind calibration of sensor networks," *IEEE Internet of Things Journal*, vol. 5, no. 5, pp. 3942 – 3953, Oct. 2018

J50. M. Z. A. Bhotto and W. P. Tay, "Non-Bayesian social learning with observation reuse and soft switching," *ACM Transactions on Sensor Networks*, vol. 14, no. 2, pp. 14:1–14:21, Jun. 2018

J51. M. Sun, W. P. Tay, and X. He, "Toward information privacy for the Internet of Things: A non-parametric learning approach," *IEEE Transactions on Signal Processing*, vol. 66, no. 7, pp. 1734 – 1747, Apr. 2018

J52. F. Quitin, P. De Doncker, F. Horlin, and W. P. Tay, "Virtual multi-antenna array for estimating the direction of a transmitter: system, bounds and experimental results," *IEEE Transactions on Vehicular Technology*, vol. 67, no. 2, pp. 1510 – 1520, Feb. 2018

J53. Y. Yu, G. Xiao, G. Li, W. P. Tay, and H. F. Teoh, "Opinion diversity and community formation in adaptive networks," *Chaos: An Interdisciplinary Journal of Nonlinear Science*, vol. 27, no. 20, p. 103115, Oct. 2017

J54. W. Luo, W. P. Tay, and M. Leng, "On the universality of Jordan centers for estimating infection sources in tree networks," *IEEE Transactions on Information Theory*, vol. 63, no. 7, pp. 4634 – 4657, Jul. 2017

J55. F. Ji, W. P. Tay, and L. Varshney, "An algorithmic framework for estimating rumor sources with different start times," *IEEE Transactions on Signal Processing*, vol. 65, no. 10, pp. 2517 – 2530, May 2017

J56. J. Tang, W. P. Tay, T. Q. S. Quek, and B. Liang, "System cost minimization in cloud RAN with limited fronthaul capacity," *IEEE Transactions on Wireless Communications*, vol. 16, no. 5, pp. 3371 – 3384, May 2017

J57. Y. Wang, W. P. Tay, and W. Hu, "A multitask diffusion strategy with optimized inter-cluster cooperation," *IEEE Journal of Selected Topics in Signal Processing*, vol. 11, no. 3, pp. 504 – 517, Mar. 2017

J58. M. Leng, W. P. Tay, F. Quitin, C. Cheng, S. G. Razul, and C. M. S. See, "Anchor-aided joint localization and synchronization using SOOP: Theory and experiments," *IEEE Transactions on Wireless Communications*, vol. 15, no. 11, pp. 7670 – 7685, Nov. 2016

J59. Y. Zhang, W. P. Tay, K. H. Li, M. Esseghir, and D. Gaiti, "Learning temporal-spatial spectrum reuse," *IEEE Transactions on Communications*, vol. 64, no. 7, pp. 3092 – 3103, Jul. 2016

J60. W. Luo, W. P. Tay, and M. Leng, "Infection spreading and source identification: A hide and seek game," *IEEE Transactions on Signal Processing*, vol. 64, no. 16, pp. 4228 – 4243, Aug. 2016

J61. J. Ho, W. P. Tay, T. Q. S. Quek, and E. K. P. Chong, "Robust decentralized detection and social learning in tandem networks," *IEEE Transactions on Signal Processing*, vol. 63, no. 19, pp. 5019 – 5032, Oct. 2015, **IEEE Signal Processing Society Young Author Best Paper Award**

J62. J. Tang, W. P. Tay, and T. Q. S. Quek, "Cross-layer resource allocation with elastic service scaling in cloud radio access network," *IEEE Transactions on Wireless Communications*, vol. 14, no. 9, pp. 5068 – 5081, Sep. 2015

J63. W. Hu and W. P. Tay, "Multi-hop diffusion LMS for energy-constrained distributed estimation," *IEEE Transactions on Signal Processing*, vol. 63, no. 15, pp. 4022 – 4036, Aug. 2015

J64. W. Xu, F. Quitin, M. Leng, W. P. Tay, and S. G. Razul, "Distributed localization of a RF target in NLOS environments," *IEEE Journal on Selected Areas in Communications*, vol. 33, no. 7, pp. 1 – 14, Jul. 2015

J65. W. P. Tay, "Whose opinion to follow in multihypothesis social learning? A large deviations perspective," *IEEE Journal of Selected Topics in Signal Processing*, vol. 9, no. 2, pp. 344 – 359, Mar. 2015

J66. M. Leng, W. P. Tay, T. Q. S. Quek, and H. Shin, "Distributed local linear parameter estimation using Gaussian SPAWN," *IEEE Transactions on Signal Processing*, vol. 63, no. 1, pp. 244 – 257, Jan. 2015

J67. Y. Zhang, W. P. Tay, K. H. Li, and D. Gaiti, "Distributed boundary estimation for spectrum sensing in cognitive radio networks," *IEEE Journal on Selected Areas in Communications*, vol. 32, no. 11, pp. 1961 – 1973, Nov. 2014

J68. W. Luo, W. P. Tay, and M. Leng, "How to identify an infection source with limited observations," *IEEE Journal of Selected Topics in Signal Processing*, vol. 8, no. 4, pp. 586 – 597, Aug. 2014

J69. J. Tang, W. P. Tay, and Y. Wen, "Dynamic request redirection and elastic service scaling in cloud-centric media networks," *IEEE Transactions on Multimedia*, vol. 16, no. 5, pp. 1434 – 1445, Aug. 2014

J70. M. Leng, W. P. Tay, C. M. S. See, S. G. Razul, and M. Z. Win, "Modified CRLB for cooperative geolocation of two devices using signals of opportunity," *IEEE Transactions on Wireless Communications*, vol. 13, no. 7, pp. 3636 – 3649, Jul. 2014

J71. W. Hu and W. P. Tay, "An integer linear programming approach for a class of bilinear integer programs," *Operations Research Letters*, vol. 42, no. 3, pp. 226 —- 230, May 2014

J72. W. Luo, W. P. Tay, and M. Leng, "Identifying infection sources and regions in large networks," *IEEE Transactions on Signal Processing*, vol. 61, no. 11, pp. 2850 – 2865, Jun. 2013

J73. D. W. Soh, W. P. Tay, and T. Q. S. Quek, "Randomized information dissemination in dynamic environments," *IEEE/ACM Transactions on Networking*, vol. 21, no. 3, pp. 681 – 691, Jun. 2013

J74. T. M. Nguyen, Y. Jeong, T. Q. S. Quek, W. P. Tay, and H. Shin, "Interference alignment in a Poisson field of MIMO femtocells," *IEEE Transactions on Wireless Communications*, vol. 12, no. 6, pp. 2633 – 2645, Jun. 2013

J75. Y. Nijsure, W. P. Tay, E. Gunawan, F. Wen, Y. Zhang, Y. L. Guan, and A. P. Chua, "An impulse radio ultrawideband system for contactless noninvasive respiratory monitoring," *IEEE Transactions on Biomedical Engineering*, vol. 60, no. 6, pp. 1509 – 1517, Jun. 2013

J76. W. P. Tay, "The value of feedback in decentralized detection," *IEEE Transactions on Information Theory*, vol. 58, no. 12, pp. 7226 – 7239, Dec. 2012

J77. G. Hu, W. P. Tay, and Y. Wen, "Cloud robotics: architecture, challenges and applications," *IEEE Network, Special Issue on Machine and Robotic Networking*, vol. 26, no. 3, pp. 21 – 28, May 2012

J78. W. P. Tay, J. N. Tsitsiklis, and M. Z. Win, "Bayesian detection in bounded height tree networks," *IEEE Transactions on Signal Processing*, vol. 57, no. 10, pp. 4042 – 4051, Oct. 2009

J79. W. P. Tay, J. N. Tsitsiklis, and M. Z. Win, "On the subexponential decay of detection error probabilities in long tandems," *IEEE Transactions on Information Theory*, vol. 54, no. 10, pp. 4767 – 4771, Oct. 2008

J80. W. P. Tay, J. N. Tsitsiklis, and M. Z. Win, "Data fusion trees for detection: Does architecture matter?" *IEEE Transactions on Information Theory*, vol. 54, no. 9, pp. 4155 – 4168, Sep. 2008

J81. W. P. Tay, J. N. Tsitsiklis, and M. Z. Win, "On the impact of node failures and unreliable communications in dense sensor networks," *IEEE Transactions on Signal Processing*, vol. 56, no. 6, pp. 2535 – 2546, Jun. 2008

J82. W. P. Tay, J. N. Tsitsiklis, and M. Z. Win, "Asymptotic performance of a censoring sensor network," *IEEE Transactions on Information Theory*, vol. 53, no. 11, pp. 4191 – 4209, Nov. 2007

2.4 Refereed Conference Proceedings

C1. S. Wang, R. She, Q. Kang, S. Li, D. Li, T. Geng, S. Yu, and W. P. Tay, "Multi-modal aerial-ground cross-view place recognition with neural ODEs," in *Proc. IEEE/CVF Computer Vision and Pattern Recognition Conference*, Nashville TN, USA, Jun. 2025

C2. F. Ji, Y. Zhao, K. Zhao, H. Meng, J. Yang, and W. P. Tay, "Rethinking graph neural networks from a geometric perspective of node features," in *Proc. International Conference on Learning Representations*, Singapore, Apr. 2025

C3. X. Jian, M. Golz, F. Ji, W. P. Tay, and A. Zoubir, "A generalized graph signal processing framework for multiple hypothesis testing over networks," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Hyderabad, India, Apr. 2025

C4. Y. Zhao, X. Jian, F. Ji, W. P. Tay, and A. Ortega, "Generalized graph signal reconstruction via the uncertainty principle," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Hyderabad, India, Apr. 2025

C5. Q. Kang, X. Li, K. Zhao, W. Cui, Y. Zhao, W. Deng, and W. P. Tay, "Efficient training of neural fractional-order differential equation via adjoint backpropagation," in *Proc. AAAI Conference on Artificial Intelligence*, Philadelphia, USA, Feb. 2025

C6. W. Cui, Q. Kang, X. Li, K. Zhao, W. P. Tay, W. Deng, and Y. Li, "Neural variable-order fractional differential equation networks," in *Proc. AAAI Conference on Artificial Intelligence*, Philadelphia, USA, Feb. 2025

C7. K. Zhao, Q. Kang, F. Ji, X. Li, Q. Ding, Y. Zhao, W. Liang, and W. P. Tay, "Distributed-order fractional graph operating network," in *Advances in Neural Information Processing Systems*, Vancouver, Canada, Dec. 2024, **spotlight**

C8. D. Li, K. Zhao, J. Lu, Y. Zhang, X. An, W. P. Tay, and S. Gulam Razul, "Transfer learning with knowledge distillation for urban localization using LTE signals," in *IEEE Vehicular Technology Conference*, Washington DC, USA, Oct. 2024

C9. S. H. Lee, F. Ji, K. Xia, and W. P. Tay, "Graph neural networks with a distribution of parametrized graphs," in *Proc. International Conference on Machine Learning*, ser. Proc. Machine Learning Research. PMLR, Jul. 2024

C10. P. Zhang, X. Jian, F. Ji, W. P. Tay, and B. Wen, "Spectral convergence of simplicial complex signals," in *Proc. International Symposium on Information Theory*, Athens, Greece, Jul. 2024

C11. Q. Kang, K. Zhao, Q. Ding, F. Ji, X. Li, W. Liang, Y. Song, and W. P. Tay, "Unleashing the potential of fractional calculus in graph neural networks with FROND," in *Proc. International Conference on Learning Representations*, Vienna, Austria, May 2024, **spotlight**

C12. V. Mohan, W. P. Tay, and A. Basu, "Hybrid event-frame neural spike detector for neuromorphic implantable BMI," in *Proc. IEEE International Symposium on Circuits & Systems*, Singapore, May 2024

C13. Q. Kang, K. Zhao, Y. Song, Y. Xie, Y. Zhao, S. Wang, R. She, and W. P. Tay, "Coupling graph neural networks with fractional order continuous dynamics: A robustness study," in *Proc. AAAI Conference on Artificial Intelligence*, Vancouver, Canada, Feb. 2024

C14. R. She, S. Wang, Q. Kang, K. Zhao, Y. Song, W. P. Tay, T. Geng, and X. Jian, "PosDiffNet: Positional neural diffusion for point cloud registration in a large field of view with perturbations," in *Proc. AAAI Conference on Artificial Intelligence*, Vancouver, Canada, Feb. 2024

C15. S. Wang, R. She, Q. Kang, X. Jian, K. Zhao, Y. Song, and W. P. Tay, "DistilVPR: Cross-Modal knowledge distillation for visual place recognition," in *Proc. AAAI Conference on Artificial Intelligence*, Vancouver, Canada, Feb. 2024

C16. K. Zhao, Q. Kang, Y. Song, R. She, S. Wang, and W. P. Tay, "Adversarial robustness in graph neural networks: A Hamiltonian energy conservation approach," in *Advances in Neural Information Processing Systems*, New Orleans, USA, Dec. 2023, **spotlight**

C17. Q. Kang, Y. Zhao, K. Zhao, X. Li, Q. Ding, W. P. Tay, and S. Wang, "Advancing graph neural networks through joint time-space dynamics," in *NeurIPS 2023 Workshop: The Symbiosis of Deep Learning and Differential Equations III*, New Orleans, USA, Dec. 2023

C18. Q. Kang, K. Zhao, Y. Song, Y. Xie, Y. Zhao, S. Wang, R. She, and W. P. Tay, "Coupling graph neural networks with non-integer order dynamics: A robustness study," in *NeurIPS 2023 Workshop: New Frontiers in Graph Learning*, New Orleans, USA, Dec. 2023

C19. Q. Kang, K. Zhao, Q. Ding, F. Ji, X. Li, W. Liang, Y. Song, and W. P. Tay, "Unleashing the potential of fractional calculus in graph neural networks," in *NeurIPS 2023 Workshop: Machine Learning and the Physical Sciences*, New Orleans, USA, Dec. 2023

C20. R. She, Q. Kang, S. Wang, K. Zhao, Y. Song, Y. Xu, T. Geng, W. P. Tay, D. Navarro, and A. Hartmannsgruber, "Robust graph neural diffusion for image matching," in *Proc. IEEE International Conference on Image Processing*, Kuala Lumpur, Malaysia, Oct. 2023, **invited paper**

C21. K. Zhao, Q. Kang, Y. Song, R. She, S. Wang, and W. P. Tay, "Graph neural convection-diffusion with heterophily," in *Proc. International Joint Conference on Artificial Intelligence*, Macao, China, Aug. 2023, pp. 4656–4664

C22. Q. Kang, K. Zhao, Y. Song, S. Wang, and W. P. Tay, "Node embedding from neural Hamiltonian orbits in graph neural networks," in *Proc. International Conference on Machine Learning*, ser. Proc. Machine Learning Research, vol. 202. PMLR, Jul. 2023, pp. 15 786–15 808

C23. F. Ji, S. H. Lee, H. Meng, K. Zhao, J. Yang, and W. P. Tay, "Leveraging label non-uniformity for node classification in graph neural networks," in *Proc. International Conference on Machine Learning*, ser. Proc. Machine Learning Research, vol. 202. PMLR, Jul. 2023, pp. 14 869–14 885

C24. S. Wang, Q. Kang, R. She, W. Wang, K. Zhao, Y. Song, and W. P. Tay, "HypLiLoc: Towards effective LiDAR pose regression with hyperbolic fusion," in *Proc. IEEE/CVF Computer Vision and Pattern Recognition Conference*, Vancouver, Canada, Jun. 2023

C25. X. Jian and W. P. Tay, "Kernel ridge regression for generalized graph signal processing," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Rhodes Island, Greece, Jun. 2023

C26. T. Geng, F. Ji, and W. P. Tay, "Modulo EEG signal recovery using transformers," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Rhodes Island, Greece, Jun. 2023

C27. V. Mohan, W. P. Tay, and A. Basu, "Architectural exploration of neuromorphic compression based neural sensing for next-gen wireless implantable-BMI," in *Proc. IEEE International Symposium on Circuits & Systems*, California, USA, May 2023

C28. C. Jin, W. P. Tay, K. Zhao, K. V. Ling, J. Lu, and Y. Wang, "A sub-meter accurate positioning using 5G double-difference carrier phase measurements," in *Proc. IEEE/ION Position, Location and Navigation Symposium*, Monterey, USA, Apr. 2023

C29. S. Wang, Q. Kang, R. She, W. P. Tay, A. Hartmannsgruber, and D. N. Navarro, "RobustLoc: Robust camera pose regression in challenging driving environments," in *Proc. AAAI Conference on Artificial Intelligence*, Washington, DC, Feb. 2023

C30. X. Ran, W. P. Tay, and C. H. T. Lee, "A robust deep Q-network based attack detection approach in power systems," in *Proc. International Conference on Smart Power & Internet Energy Systems*, Beijing, China, Dec. 2022, **excellent paper award**

C31. Y. Song, Q. Kang, S. Wang, K. Zhao, and W. P. Tay, "On the robustness of graph neural diffusion to topology perturbations," in *Advances in Neural Information Processing Systems*, New Orleans, USA, Nov. 2022

C32. Q. Kang, R. She, S. Wang, W. P. Tay, N. D. Navarro, R. Khurana, and A. Hartmannsgruber, "Location learning for AVs: LiDAR and image landmarks fusion localization with graph neural networks," in *Proc. IEEE International Conference on Intelligent Transportation Systems*, Macau, China, Oct. 2022

C33. H. Cheng, J. T. Zhou, W. P. Tay, and B. Wen, "Attentive graph neural networks for few-shot learning," in *Proc. IEEE International Conference on Multimedia Information Processing and Retrieval*, virtual, Aug. 2022

C34. S. H. Lee, F. Ji, and W. P. Tay, "SGAT: Simplicial graph attention network," in *Proc. International Joint Conference on Artificial Intelligence*, Vienna, Austria, Jul. 2022

C35. X. Jian and W. P. Tay, "Wide-sense stationarity and spectral estimation for generalized graph signal," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Singapore, May 2022

C36. Y. Xu, C. X. Wang, Y. Song, and W. P. Tay, "Preserving trajectory privacy in driving data release," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Singapore, May 2022

C37. Q. Kang, Y. Song, Q. Ding, and W. P. Tay, "Stable neural ODE with Lyapunov-stable equilibrium points for defending against adversarial attacks," in *Advances in Neural Information Processing Systems*, virtual, Dec. 2021

C38. F. Ji and W. P. Tay, "Signal processing with a distribution of graph operators," in *Proc. IEEE Workshop on Statistical Signal Processing*, Rio de Janeiro, Brazil, Jul. 2021

C39. S. H. Lee, F. Ji, and W. P. Tay, "Learning on heterogeneous graphs using high-order relations," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Toronto, Canada, Jun. 2021

C40. C. Jin, I. Bajaj, K. Zhao, W. P. Tay, and K. V. Ling, "5G positioning using code-phase timing recovery," in *Proc. IEEE Wireless Communications and Networking Conference*, Nanjing, China, Mar. 2021

C41. Y. Song, I. Bajaj, R. Rabiee, and W. P. Tay, "Anchor-free multi-level self-localization in ad-hoc networks," in *Proc. IEEE Wireless Communications and Networking Conference*, Nanjing, China, Mar. 2021

C42. Y. Song, Q. Kang, and W. P. Tay, "Error-correcting output codes with ensemble diversity for robust learning in neural networks," in *Proc. AAAI Conference on Artificial Intelligence*, virtual, Feb. 2021

C43. C. X. Wang and W. P. Tay, "Data-driven privacy with domain regularization," in *Proc. IEEE Global Telecomm. Conference*, Taipei, Taiwan, Dec. 2020

C44. C. Wang, W. P. Tay, Y. Wei, and Y. Wang, "Resilient multitask distributed adaptation over networks with noisy exchanges," in *Proc. IEEE Sensor Array and Multichannel Signal Processing Workshop*, Hangzhou, China, Jun. 2020

C45. C. X. Wang, W. P. Tay, and Y. Song, "Maximum privacy under perfect utility in sensor networks," in *Proc. IEEE Sensor Array and Multichannel Signal Processing Workshop*, Hangzhou, China, Jun. 2020

C46. T. S. Lau and W. P. Tay, "Privacy-aware quickest change detection," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Barcelona, Spain, May 2020

C47. F. Ji, J. Yang, Q. Zhang, and W. P. Tay, "GFCN : A new graph convolutional network based on parallel flows," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Barcelona, Spain, May 2020

C48. F. Ji, Pratibha, and W. P. Tay, "On folded graph signals," in *Proc. IEEE Global Conference on Signal and Information Processing*, Ottawa, Canada, Nov. 2019

C49. Q. Kang and W. P. Tay, "Orthogonal projection in linear bandits," in *Proc. IEEE Global Conference on Signal and Information Processing*, Ottawa, Canada, Nov. 2019

C50. C. Wang, W. P. Tay, Y. Wang, and Y. Wei, "A privacy-preserving diffusion strategy over multitask networks," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Brighton, UK, May 2019

C51. T. S. Lau and W. P. Tay, "Asymptotically optimal quickest change detection under a nuisance change," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Brighton, UK, May 2019

C52. Y. Song, M. Guan, W. P. Tay, C. L. Law, and C. Wen, "UWB/LiDAR fusion for cooperative range-only SLAM," in *Int. Conf. on Robotics and Automation*, Montreal, Canada, May 2019

C53. F. Ji and W. P. Tay, "Generalized graph signal processing," in *Proc. IEEE Global Conference on Signal and Information Processing*, Anaheim, USA, Nov. 2018

C54. C. X. Wang, Y. Song, and W. P. Tay, "Preserving parameter privacy in sensor networks," in *Proc. IEEE Global Conference on Signal and Information Processing*, Anaheim, USA, Nov. 2018

C55. W. Qiu, A. Khong, and W. P. Tay, "Hidden Markov model for masquerade detection based on sequence alignment," in *Proc. IEEE Cyber Science and Technology Congress*, Athens, Greece, Aug. 2018

C56. Y. Wang, W. Hu, and W. P. Tay, "An event-based diffusion LMS strategy," in *Proc. IEEE Sensor Array and Multichannel Signal Processing Workshop*, Sheffield, UK, Jul. 2018

C57. Pratibha, J. Wang, S. Aggarwal, F. Ji, and W. P. Tay, "Learning correlation graph and anomalous employee behavior for insider threat detection," in *Proc. International Conference on Information Fusion*, Cambridge, UK, Jul. 2018

C58. F. Ji, W. Tang, and W. P. Tay, "Properties and applications of Gromov matrices in network inference," in *Proc. IEEE Workshop on Statistical Signal Processing*, Freiburg, Germany, Jun. 2018

C59. T. S. Lau and W. P. Tay, "Quickest change detection under a nuisance change," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Calgary, Canada, Apr. 2018

C60. Y. Song, C. X. Wang, and W. P. Tay, "Privacy-aware Kalman filtering," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Calgary, Canada, Apr. 2018

C61. W. Tang, F. Ji, and W. P. Tay, "Multiple sources identification in networks with partial timestamps," in *Proc. IEEE Global Conference on Signal and Information Processing*, Montreal, Canada, Nov. 2017

C62. T. S. Lau and W. P. Tay, "Optimal sampling policy for quickest change detection," in *Proc. IEEE Global Conference on Signal and Information Processing*, Montreal, Canada, Nov. 2017

C63. Y. Song, W. P. Tay, and C. L. Law, "Robust decentralized localization in impulsive noise," in *Int. Conf. on Indoor Positioning and Indoor Navigation*, Sapporo, Japan, Sep. 2017

C64. Y. Song, C. X. Wang, W. P. Tay, and C. L. Law, "Grid-based belief propagation," in *Int. Conf. on Indoor Positioning and Indoor Navigation*, Sapporo, Japan, Sep. 2017

C65. Q. Kang and W. P. Tay, "Sequential multi-class labeling in crowdsourcing: A Ulam-Renyi game approach," in *IEEE/WIC/ACM Int. Conf. on Web Intelligence*, Leipzig, Germany, Aug. 2017

C66. M. Sun and W. P. Tay, "Inference and data privacy in IoT networks," in *Proc. IEEE Workshop on Signal Processing Advances in Wireless Communications*, Hokkaido, Japan, Jul. 2017, **invited paper**

C67. F. Ji, W. Tang, W. P. Tay, and E. K. P. Chong, "Inferring network topology from information cascades," in *Proc. IEEE International Symposium on Information Theory*, Aachen, Germany, Jun. 2017

C68. M. Z. A. Bhotto and W. P. Tay, "Non-Bayesian social learning with observation reuse and soft switching," in *Proc. IEEE International Conference on Communications*, Paris, France, May 2017

C69. X. He and W. P. Tay, "Multilayer sensor network for information privacy," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, New Orleans, USA, Mar. 2017

C70. T. S. Lau, W. P. Tay, and V. V. Veeravalli, "Quickest change detection with unknown post-change distribution," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, New Orleans, USA, Mar. 2017

C71. W. Tang and W. P. Tay, "A particle filter for sequential infection source estimation," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, New Orleans, USA, Mar. 2017

C72. J. Yang, W. P. Tay, and X. Zhong, "A dynamic Bayesian nonparametric model for blind calibration of sensor networks," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, New Orleans, USA, Mar. 2017

C73. F. Ji, W. P. Tay, and L. R. Varshney, "Estimating the number of infection sources in a tree," in *Proc. IEEE Global Conference on Signal and Information Processing*, Washington, DC, USA, Dec. 2016

C74. P. Oguz-Ekim, K. Ali, Z. Madadi, F. Quitin, and W. P. Tay, "Proof of concept study using DSRC, IMU and map fusion for vehicle localization in GNSS-denied environments," in *Proc. IEEE Intelligent Transportation Systems Conf.*, Rio de Janeiro, Brazil, Nov. 2016

C75. X. Zhong, Y. Yan, and W. P. Tay, "Posterior Cramér-Rao lower bound for mobile emitter tracking based on a TDOA-FDOA multi-measurement model," in *Proc. of IEEE International Conference on Ubiquitous Wireless Broadband*, Nanjing, China, Oct. 2016, **invited paper**

C76. Z. Madadi, F. Quitin, and W. P. Tay, "Receiver tracking using signals of opportunity from asynchronous RF beacons in GNSS-denied environments," in *Proc. IEEE Veh. Technol. Conference*, Montreal, Canada, Sep. 2016

C77. F. Quitin, X. Zhong, V. Govindaraj, and W. P. Tay, "Virtual multi-antenna array for estimating the angle-of-arrival of a RF transmitter," in *Proc. IEEE Veh. Technol. Conference*, Montreal, Canada, Sep. 2016

C78. X. He, W. P. Tay, and M. Sun, "Privacy-aware decentralized detection using linear precoding," in *Proc. IEEE Sensor Array and Multichannel Signal Processing Workshop*, Rio de Janeiro, Brazil, Jul. 2016

C79. X. Zhong, W. P. Tay, M. Leng, S. G. Razul, and C. M. S. See, "TDOA-FDOA multiple target detection and tracking in the presence of measurement errors and biases," in *Proc. IEEE Workshop on Signal Proc. Advances in Wireless Communications*, Edinburgh, UK, Jul. 2016, **invited paper**

C80. J. Tang, T. Q. S. Quek, and W. P. Tay, "Joint resource segmentation and transmission rate adaptation in cloud RAN with caching as a service," in *Proc. IEEE Workshop on Signal Proc. Advances in Wireless Communications*, Edinburgh, UK, Jul. 2016, **invited paper**

C81. F. Ji and W. P. Tay, "Identifying rumor sources with different start times," in *Proc. IEEE Workshop on Statistical Signal Processing*, Palma de Mallorca, Spain, Jun. 2016

C82. Y. Wang, W. P. Tay, and W. Wu, "Multitask diffusion LMS with optimized inter-cluster cooperation," in *Proc. IEEE Workshop on Statistical Signal Processing*, Palma de Mallorca, Spain, Jun. 2016

C83. X. Liu, G. Xiao, W. P. Tay, G. Ma, and H. Xi, "Synchronization of pinning networks with Markovian switching topologies and event-triggered communication," in *World Congress on Intelligent Control and Automation*, Guilin, China, Jun. 2016

C84. M. Sun and W. P. Tay, "Privacy-preserving nonparametric decentralized detection," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Shanghai, China, Mar. 2016

C85. Y. Zhang, W. P. Tay, K. H. Li, M. Esseghir, and D. Gaiti, "Opportunistic spectrum access with temporal-spatial reuse in cognitive radio networks," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Shanghai, China, Mar. 2016

C86. Y. Wang, W. P. Tay, and W. Hu, "An energy-efficient diffusion strategy over adaptive networks," in *Proc. International Conference on Information, Communications and Signal Processing*, Singapore, Dec. 2015

C87. G. Yang, W. P. Tay, and Y. L. Guan, "Optimal wireless power transfer and harvested power allocation for diffusion LMS in wireless sensor networks," in *Proc. IEEE Global Conference on Signal and Information Processing*, Orlando, USA, Dec. 2015

C88. J. Tang, W. P. Tay, T. Q. S. Quek, and B. Liang, "Towards system cost minimization in cloud radio access network," in *Proc. Asilomar Conference on Signals, Systems and Computers*, Asilomar, USA, Nov. 2015, **invited paper**

C89. M. Leng, F. Quitin, C. Cheng, W. P. Tay, S. G. Razul, and C. M. S. See, "Joint navigation and synchronization using SOOP in GPS-denied environments: Algorithm and empirical study," in *Proc. Sensor Signal Processing for Defence Conf.*, Edinburgh, UK, Sep. 2015

C90. W. Luo, W. P. Tay, and M. Leng, "Rumor spreading maximization and source identification in a social network," in *Proc. IEEE/ACM Int. Conf. on Advances in Social Networks Analysis and Mining*, Paris, France, Aug. 2015

C91. W. Luo, W. P. Tay, M. Leng, and M. K. Guevara, "On the universality of the Jordan center for estimating the rumor source in a social network," in *Proc. IEEE Int. Conf. on Digital Signal Processing*, Singapore, Jul. 2015

C92. G. Garcia, W. Hu, W. P. Tay, and H. Wymeersch, "Joint scheduling and localization in UWB networks," in *Proc. IEEE International Conference on Communications*, London, UK, Jun. 2015, **invited paper**

C93. Z. Madadi, F. Quitin, and W. P. Tay, "RF transmitter geolocation based on signal periodicity: concept and implementation," in *Proc. IEEE International Conference on Communications*, London, UK, Jun. 2015

C94. C. Cheng, W. Hu, and W. P. Tay, "Localization of a moving non-cooperative RF target in NLOS environment using RSS and AOA measurements," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Brisbane, Australia, Apr. 2015

C95. W. Hu, W. P. Tay, A. Harilal, and G. Xiao, "Network infection source identification under the SIRI model," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Brisbane, Australia, Apr. 2015

C96. Z. Madadi, F. Quitin, and W. P. Tay, "Periodic RF transmitter geolocation using a mobile receiver," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Brisbane, Australia, Apr. 2015

C97. Y. Zhang, W. P. Tay, K. H. Li, M. Esseghir, and D. Gaiti, "Distributed opportunistic spectrum access with spatial reuse in cognitive radio networks," in *Proc. IEEE Global Conference on Signal and Information Processing*, Atlanta, US, Dec. 2014

C98. J. Tang, W. P. Tay, and T. Q. S. Quek, "Cross-layer resource allocation in cloud radio access network," in *Proc. IEEE Global Conference on Signal and Information Processing*, Atlanta, US, Dec. 2014, **invited paper**

C99. W. Xu, F. Quitin, M. Leng, W. P. Tay, and S. G. Razul, "Distributed localization of a non-cooperative RF target in NLOS environments," in *Proc. International Conference on Information Fusion*, Salamanca, Spain, Jul. 2014

C100. W. Hu and W. P. Tay, "Generalized diffusion adaptation for energy-constrained distributed estimation," in *Proc. International Conference on Information Fusion*, Salamanca, Spain, Jul. 2014

C101. J. Ho, W. P. Tay, and T. Q. S. Quek, "Robust detection and social learning in tandem networks," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Florence, Italy, May 2014

C102. W. Luo and W. P. Tay, "Estimating infection sources in a network with incomplete observations," in *Proc. IEEE Global Conference on Signal and Information Processing*, Austin, USA, Dec. 2013

C103. W. Xu, M. Leng, W. P. Tay, and S. G. Razul, "Distributed localization of an unknown target in NLOS environments," in *Proc. International Conference on Information, Communications and Signal Processing*, Tainan, Taiwan, Dec. 2013

C104. W. Luo and W. P. Tay, "Finding an infection source under the SIS model," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Vancouver, Canada, May 2013

C105. Y. Zhang, W. P. Tay, K. H. Li, and D. Gaiti, "Distributed boundary estimation for spectrum sensing in cognitive radio networks," in *Proc. IEEE Wireless Communications and Networking Conference*, Shanghai, China, Apr. 2013

C106. M. Leng, W. P. Tay, C. M. S. See, and S. G. Razul, "Fundamental limits for location and velocity estimation using asynchronous beacons," in *Proc. IEEE Wireless Communications and Networking Conference*, Shanghai, China, Apr. 2013

C107. M. Leng, W. P. Tay, C. M. S. See, and S. G. Razul, "GPS-free localization using asynchronous beacons," in *Proc. IEEE Int. Conf. on Mobile Ad-hoc and Sensor Networks*, Chengdu, China, Dec. 2012, **invited paper**

C108. W. Luo and W. P. Tay, "Identifying multiple infection sources in a network," in *Proc. Asilomar Conference on Signals, Systems and Computers*, Asilomar, USA, Nov. 2012, **invited paper, best student paper award**

C109. Y. Nijsure, W. P. Tay, E. Gunawan, and J. Lai, "A Bayesian nonparametric approach to tumor detection using UWB imaging," in *Proc. of IEEE International Conference on Ubiquitous Wireless Broadband*, New York, USA, Sep. 2012

C110. F. Wen and W. P. Tay, "Localization for mixed near-field and far-field sources using data supported optimization," in *Proc. International Conference on Information Fusion*, Singapore, Jul. 2012

C111. F. Wen and W. P. Tay, "Tensor decomposition based R-dimensional matrix pencil method," in *Proc. International Conference on Information Fusion*, Singapore, Jul. 2012

C112. W. Luo and W. P. Tay, "Identifying infection sources in large tree networks," in *Proc. IEEE International Conference on Sensing, Communication, and Networking*, Seoul, Korea, Jun. 2012

C113. C. Cheng, W. P. Tay, and G. B. Huang, "Extreme learning machines for intrusion detection," in *Proc. IEEE Int. Joint Conf. on Neural Networks*, Brisbane, Australia, Jun. 2012

C114. M. Leng, W. P. Tay, and T. Q. S. Quek, "Cooperative and distributed localization for wireless sensor networks in multipath environments," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Kyoto, Japan, Mar. 2012

C115. M. Leng, W. P. Tay, and T. Q. S. Quek, "Cooperative and distributed localization for wireless sensor networks in multipath environments," in *Proc. International Conference on Information, Communications and Signal Processing*, Singapore, Dec. 2011

C116. D. W. Soh, T. Q. S. Quek, and W. P. Tay, "Randomized rumor spreading in non-static networks," in *Proc. IEEE Int. Conf. on ICT Convergence*, Seoul, Korea, Sep. 2011, **invited paper**

C117. D. W. Soh, T. Q. S. Quek, and W. P. Tay, "Randomized broadcast in dynamic network environments," in *Proc. IEEE Workshop on Signal Processing Advances in Wireless Communications*, San Francisco, USA, Jun. 2011

C118. W. P. Tay and J. N. Tsitsiklis, "Error exponents for decentralized detection in feedback architectures," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Prague, Czech Republic, May 2011

C119. W. P. Tay and J. N. Tsitsiklis, "The value of feedback for decentralized detection in large sensor networks," in *Proc. Int. Sym. on Wireless and Pervasive Computing*, Hong Kong, Feb. 2011

C120. W. P. Tay, J. N. Tsitsiklis, and M. Z. Win, "On the sub-exponential decay of detection probabilities in long tandems," in *Proc. IEEE International Conference Acoustics, Speech, and Signal Processing*, Honolulu, USA, Apr. 2007, pp. 837–840

C121. W. P. Tay, J. N. Tsitsiklis, and M. Z. Win, "Bayesian detection in bounded height tree networks," in *Proc. of Data Compression Conference*, Snowbird, USA, Mar. 2007, pp. 243–252

C122. W. P. Tay, J. N. Tsitsiklis, and M. Z. Win, "Detection in dense wireless sensor networks," in *Proc. IEEE Wireless Communications and Networking Conference*, Hong Kong, Mar. 2007, pp. 3483–3488

C123. W. P. Tay, J. N. Tsitsiklis, and M. Z. Win, "Data fusion trees for detection: Does architecture matter?" in *Proc. Allerton Conference on Communications, Control and Computing*, Monticello, USA, Sep. 2006

C124. W. P. Tay, J. N. Tsitsiklis, and M. Z. Win, "Asymptotically optimal distributed censoring," in *Proc. IEEE International Symposium on Information Theory*, Seattle, USA, Jul. 2006, pp. 625–629

C125. W. P. Tay, J. N. Tsitsiklis, and M. Z. Win, "Censoring sensors: Asymptotics and the value of cooperation," in *Proc. Conference on Information Science and Systems*, Princeton, USA, Mar. 2006, pp. 62–67

2.5 Book Chapters and Monographs

B1. X. Jian, F. Ji, and W. P. Tay, "Generalizing graph signal processing: High dimensional spaces, models and structures," *Foundations and Trends® in Signal Processing*, vol. 17, no. 3, pp. 209–290, 2023. [Online]. Available: `http://dx.doi.org/10.1561/2000000119`

B2. F. Ji, W. Tang, J. Yang, and W. P. Tay, "Online information spreading and source identification," in *Online Social Networks: Perspectives, Applications and Developments*, C. W. Tan, Ed. Hauppauge, NY: Nova Science Publishers, Inc., 2020, ch. 4

B3. R. Rabiee, I. Bajaj, and W. P. Tay, "Vehicle localization in GNSS-denied environments," in *Cooperative Localization and Navigation: Theory, Research, and Practice*, C. Gao, G. Zhao, and H. Fourati, Eds. Boca Raton, FL: CRC Press, 2019, ch. 11, pp. 199 – 222

B4. M. Leng and W. P. Tay, "Fundamental limits of self-localization for cooperative robotic platforms using signals of opportunity," in *Cooperative Robots and Sensor Networks 2015*, ser. Studies in Computational Intelligence, A. Koubâa and J. R. M. de Dios, Eds. Cham: Springer, 2015, vol. 604, pp. 159 – 181

B5. W. P. Tay and J. N. Tsitsiklis, "Error exponents for decentralized detection in tree networks," in *Networked Sensing Information and Control*, V. Saligrama, Ed. Boston, MA: Springer, 2008, pp. 73 – 92

2.6 Thesis

1. W. P. Tay, "Decentralized detection in resource-limited sensor network architectures," Ph.D. dissertation, Massachusetts Institute of Technology, Dec. 2007

2.7 Other Publications

O1. Z. Madadi, F. Quitin, and W. P. Tay, "Vehicle localization using periodic transmissions from an RSU in GNSS denied environments," in *Proc. ITS Asia-Pacific Forum*, Nanjing, China, Apr. 2015

O2. Y. Nijsure, W. P. Tay, and E. Gunawan, "An impulse radio ultra wideband system for contactless non-invasive respiratory monitoring," *Asia Pacific BioTech News*, vol. 16, no. 10, pp. 28–31, Oct. 2012 , ***invited paper***

2.8 Patents and Disclosures

2.8.1 Patents Filed

PF1. S. Wang, R. She, Q. Kang, T. Geng, and W. P. Tay, "AGPlace: Multi-modal place recognition in the aerial-ground cross view with differential geometry," Singapore Provisional Patent 10 202 401 872S, Jun. 25, 2024

PF2. C. Jin, W. P. Tay, K. Zhao, K. V. Ling, and J. Lu, "Device, positioning system and method of determining a position of the device for vehicular communication," Singapore Patent Application 11 202 501 107V, Sep. 19, 2023

PF3. Q. Kang, R. She, W. P. Tay, N. D. Navarro, R. Khurana, A. Hartmannsgruber, and Y. L. Guan, "Position determination of a vehicle using image segmentations," PCT EP2023/063 085, May 16, 2023

PF4. R. She, Q. Kang, S. Wang, W. P. Tay, N. D. Navarro, and A. Hartmannsgruber, "Computer-implemented method for estimating a position and/or pose of a vehicle," PCT EP2024/061 019, Apr. 23, 2024

PF5. S. Wang, Q. Kang, R. She, W. P. Tay, N. D. Navarro, and A. Hartmannsgruber, "A computer-implemented method for camera pose regression in a challenging traffic environment," UK Patent Application 202 216 510, Nov. 7, 2022

PF6. Q. Kang, R. She, W. P. Tay, R. Khuarana, N. D. Navarro, S. Wang, and A. Hartmannsgruber, "Method for image segmentation matching," PCT EP2023/063 041, May 17, 2022

PF7. F. Ji, Pratibha, and W. P. Tay, "Methods and systems for recovering folded signals," PCT SG2020/050 631, May 14, 2021

PF8. C. Jin, I. Bajaj, K. Zhao, W. P. Tay, and K. V. Ling, "5G positioning using code phase and carrier phase receiver," PCT SG2021/050 732, Nov. 27, 2020

2.8.2 Patents Granted

PG1. Y. Wang, W. P. Tay, J. S. Kee, and K. Thangamariappan, "Wireless sensor network, parameter optimization method thereof and warehouse system," China Patent 111 148 109, May 12, 2020

PG2. Y. Wang, W. P. Tay, J. S. Kee, and K. Thangamariappan, "Wireless sensor network and parameter optimization method thereof, and warehouse system," U.S. Patent 20 200 146 103, May 7, 2020

2.8.3 Technology Disclosures

TD1. X. Ran, W. P. Tay, and C. H. T. Lee, "A deep reinforcement learning-based novel false data injection attack detection in power systems," Singapore Technology Disclosure NTU Ref: 2022-411, Nov. 9, 2022

TD2. W. Wang, M. Yang, Y. L. Guan, and W. P. Tay, "Intelligent transportation system runtime middleware," Singapore Technology Disclosure NTU Ref: 2021-269, May 31, 2021

TD3. C. Wang, Q. Zhang, and W. P. Tay, "Energy efficient decentralized real-time multi-camera multi-target recognition and tracking system," Singapore Technology Disclosure NTU Ref: 2020-388, Dec. 1, 2020

TD4. C. Yang, M. Yang, Y. L. Guan, and W. P. Tay, "Intelligent transportation system use-case software package," Singapore Technology Disclosure NTU Ref: 2020-028, Feb. 6, 2020

TD5. W. P. Tay, X. Zhong, R. Rabiee, and Y. Yan, "Lane-level vehicle tracker for V2X communication systems," NTU Copyright TD/206/17, Oct. 12, 2017

TD6. X. He, W. P. Tay, and M. Sun, "Privacy engine for IoT device networks," NTU Copyright TD/071/16, May 26, 2016

TD7. W. P. Tay, F. Quitin, and Z. Madadi, "Geolocation using virtual TDOA with asynchronous clocks," NTU Copyright TD/249/14, Jan. 9, 2015

TD8. W. P. Tay and F. Quitin, "Localization of non-cooperative RF targets in cluttered environments," NTU Copyright TD/078/14, Jun. 24, 2014

TD9. W. Hu and W. P. Tay, "A generalized diffusion adaptation strategy for energy-constrained estimation," NTU Copyright TD/077/14, May 30, 2014

TD10. W. P. Tay, E. Gunawan, and Y. L. Guan, "Method for contactless respiratory monitoring using multiple UWB transceivers," NTU Copyright TD/215/12, Feb. 26, 2012

2.9 Selected Invited Talks

- "Advanced graph signal processing," IEEE International Conference on Acoustics, Speech and Signal Processing, May 2022, tutorial
- "Data-driven privacy sanitization with regularization," invited talk at Kookmin University, South Korea, Feb. 2022
- "Privacy for IoT: Signal processing theories and methods," 7th IEEE World Forum on the Internet of Things, New Orleans, USA, Jun. 2021, tutorial
- "COSMO: Next gen V2X architecture & ecosystem for smart mobility," Advanced Manufacturing and Engineering Day, Feb. 2021, invited presentation
- "Generalized graph signal processing," 7th IEEE Global Conference on Signal and Information Processing (GlobalSIP), Ottawa, Canada, Nov. 2019, keynote speaker (distinguished presentation)
- "Inference and data privacy in IoT networks," IEEE Workshop on Signal Processing Advances in Wireless Commun., Hokkaido, Japan, Jul. 2017, invited presentation
- "Posterior Cramér-Rao lower bound for mobile emitter tracking based on a TDOA-FDOA multi-measurement model," IEEE Int. Conf. on Ubiquitous Wireless Broadband, Nanjing, China, Oct. 2016, invited presentation
- "TDOA-FDOA multiple target detection and tracking in the presence of measurement errors and biases," IEEE Workshop on Signal Proc. Advances in Wireless Commun., Edinburgh, UK, Jul. 2016, invited presentation
- "Joint resource segmentation and transmission rate adaptation in cloud RAN with caching as a service," IEEE Workshop on Signal Proc. Advances in Wireless Commun., Edinburgh, UK, Jul. 2016, invited presentation
- "Algorithms for network infection sources estimation," Chongqing University, Jun. 2016, invited presentation
- "Proof of concept study using DSRC, IMU and map fusion for vehicle localization in GNSS-denied environments," Chongqing University of Posts and Telecommunications, Jun. 2016, invited presentation
- "Towards information privacy for the Internet of Things," International Conference on Communications and Networking in China (Chinacom), Chonqqing, China, Jun. 2016, invited presentation
- "Towards system cost minimization in cloud radio access network," Asilomar Conf. on Signals, Systems and Computers, Asilomar, USA, Nov. 2015, invited presentation
- "Network infection sources estimation," University of Illinois at Urbana-Champaign, USA, Jul. 2015, Tan Chin Tuan Fellow seminar
- "Asymptotics in social learning", University of Illinois at Urbana-Champaign, USA, Jul. 2015, Tan Chin Tuan Fellow seminar
- "Joint scheduling and localization in UWB networks," IEEE Int. Conf. on Commun., London, UK, Jun. 2015, invited presentation
- "Whose opinion to follow in social learning?", IEEE Taiwan-Hong Kong Joint Workshop on Information Theory and Communications, Hong Kong, Jan. 2015, invited presentation
- "Cross-layer resource allocation in cloud radio access network," IEEE Global Conf. on Signal and Information Processing, Atlanta, US, Dec. 2014, invited presentation
- "GPS-free localization using asynchronous beacons," IEEE Int. Conf. on Mobile Ad-hoc and Sensor Networks, Chengdu, China, Dec. 2012, invited presentation
- "Identifying multiple infection sources in a network," Asilomar Conf. on Signals, Systems and Computers, Asilomar, USA, Nov. 2012, invited presentation
- "Randomized rumor spreading in non-static networks," IEEE Int. Conf. on ICT Convergence, Seoul, Korea, Sep. 2011, invited presentation

3 Educational Activities

3.1 Completed Ph.D. Dissertation Supervisions

1. Luo Wuqiong, 08/2010 – 08/2014, "Identifying infection sources in a network."
2. Tang Jianhua, 01/2011 – 01/2015, "Elastic service scaling optimization in cloud-based communication systems."
3. Muhammad Sibtain Hamayun, 08/2010 – 08/2015, "Exploiting statistical side information to optimize secondary spectrum access."
4. Zhang Yi, 01/2011 – 01/2015, "Learning methods for temporal-spatial opportunistic spectrum access in cognitive radio networks."
5. Sun Meng, 08/2014 – 08/2018, "Privacy-preserving decentralized detection in sensor networks."
6. Wang Yuan, 08/2012 – 08/2018, "Cooperative inference and learning for Internet-of-Things with limited resources."
7. Ho Jun Feng Jack, 08/2012 – 11/2018, "Learning models in social networks."
8. Yang Jielong, 08/2015 – 08/2019, "On truth finding in multi-agent networks."
9. Tang Wenchang, 08/2015 – 08/2019, "Identifying misinformation and their sources in social networks."
10. Kang Qiyu, 08/2015 – 08/2019, "Sequential crowdsourcing and recommendation strategies."
11. Lau Tze Siong, 08/2015 – 01/2020, "Operationally constrained quickest change detection with multiple post-change distributions." Commendation for EEE Doctorate Research Excellence Award.
12. Wang Chongxiao, 08/2016 – 12/2021, "Inference privacy preservation in linear and computational systems."

3.2 Current Ph.D. Dissertation Supervisions

1. Lu Yiqi, 08/2018 – present, "Machine learning for inference in graphs."
2. Lee See Hian, 08/2019 – present, "E-commerce knowledge graphs."
3. Vivek Mohan, 01/2020 – present, "Unconventional sampling algorithms and hardware for brain-machine interfaces."
4. Jian Xingchao, 08/2020 – present, "Processing stochastic time-varying signals over graphs."
5. Zhao Kai, 01/2021 – present, "Graph neural networks for multi-sensor pattern recognition."
6. Wang Sijie, 08/2021 – present, "Segmentation in autonomous driving environment."
7. Zhang Purui, 08/2022 – present, "High-order graph signal processing and neural networks."
8. Li Disheng, 01/2023 – present, "Machine learning methods for urban localization."
9. Liang Wenfei, 01/2023 – present, "Federated learning for graph neural networks."
10. Zhao Yanan, 01/2023 – present, "Generalized graph signal processing over simplicial complexes."

3.3 Completed M.Eng. Dissertation Supervisions

1. Cheng Chi, 08/2011 – 05/2015, "Exploring the use of signals-of-opportunity for practical localization."

3.4 Courses Taught

- EE7401, Probability and Random Processes (about 70 students per course).
- IE4497, Pattern Recognition and Deep Learning (about 25 students per course).
- IE0005, Introduction to Data Science and Artificial Intelligence (about 500 students per course).
- EE2008/IM1001, Data Structures and Algorithms (about 300 students per course).
- EE4105/IM4105, Cellular Communication System Design (about 110 students per course).
- EE6713, Network Design and Simulation (about 40 students per course).
- EE7101, Fundamentals of Information Theory (about 10 students per course).

3.5 Courses Developed

- 2012, proposed and developed new course EE7101 – Fundamentals of Information Theory.
- 2015, developed new course materials for EE2008/IM1001 – Data Structures and Algorithms due to increase of weekly lecture hours from 2 hours to 3 hours.
- 2015, developed Technology Enabled Learning video lectures and online learning activities for EE2008/IM1001 – Data Structures and Algorithms.
- 2015, coordinated and developed online assessment and practice (OASIS) for EE2008/IM1001 – Data Structures and Algorithms.
- 2021, revamped and developed new course materials for EE4497 Pattern Recognition and Machine Learning.

4 Professional Activities

4.1 University/National Committee Activities

- Member, School Review Committee for Promotion and Tenure, School of Art, Design and Media, Jul. 2024 – present.
- Member, Technical Committee on Intelligent Transport System, Enterprise Singapore, Jul. 2022 – Dec. 2024.
- Member, Academic Institutions Curriculum Advisory Committee, Singapore 5G & Telecoms Academy, Jun. 2021 – Dec. 2023.
- Associate Chair (Academic), School of Electrical and Electronic Engineering, Feb. 2020 – present.
- Assistant Chair (Academic), School of Electrical and Electronic Engineering, Jun. 2017 – Jan. 2020.
- Member, NTU Presidential Postdoctoral Fellowship 2023 Evaluation Committee, Jun. 2023.
- Cluster Director, Cyber Physical System for Critical Information Infra-structure Research Program, Energy Research Institute, Apr. 2019 – 31 Mar. 2025.
- Program Director, Advanced Sensing Technologies, Centre for Information Sciences and Systems, Jan. 2020 – present.
- Program Director, Cyber and Network Security, INFINITUS, Centre for Infocomm Technology, Jan. 2015 – Sep. 2016.
- Program Director, Communications and Network Systems, INFINITUS, Centre for Infocomm Technology, Jan. 2013 – Dec. 2014.
- Member, School of EEE outreach committee Jan. 2013 – Dec. 2013.

4.2 Professional Society Activities

- Academy Mentor, EURASIP Academy, 2024 – present.
- Subject Editor, Signal Processing, Elsevier, 2024 – present.
- Associate Editor, IEEE Internet of Things Journal, 2023 – present.
- Associate Member, Signal Processing Theory and Methods Technical Committee, IEEE Signal Processing Society, 2023 – present.
- Associate Editor, IEEE Transactions on Signal and Information Processing over Networks, 2019 – 2024.
- Editor, IEEE Open Journal of Vehicular Technology, 2019 – 2023.
- Editor, IEEE Transactions on Wireless Communications, 2017 – 2023.
- Associate Editor, IEEE Transactions on Signal Processing, 2015 – 2019.
- Guest Editor, IEEE Transactions on Signal and Information Processing over Networks Special Issue on Distributed Information Processing in Social Networks, 2016 – 2017.
- Member, Machine Learning for Signal Processing Technical Committee, IEEE Signal Processing Society, 2015 – 2020.
- Member, Internet of Things Special Interest Group, IEEE Signal Processing Society, 2015 – 2019.
- Chair, Interest Group on Distributed and Sensor Networks for Mobile Media Computing and Applications, IEEE Communications Society Technical Committee on Multimedia Communications, 2014.
- Vice-Chair, Interest Group on Green Multimedia Communications, IEEE Communications Society Technical Committee on Multimedia Communications, 2012 – 2014.

4.3 Conference Organizing Committees

- Program Co-Chair, International Conference on Signal Processing and Information Communications (ICSPIC), 2023.
- Signal Processing Grand Challenges Co-chair, IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP), 2022.
- Web Chair, IEEE Global Communications Conference (Globecom), 2017.
- Tutorial Chair, International Conference on Information, Communications and Signal Processing, 2015.
- Organizer of special session on "Signal processing for social networks" in IEEE Conference on Digital Signal Processing, 2015.
- Publicity Chair, International Conference on Information, Communications and Signal Processing, 2013.
- Organizer of special session on "Emerging technologies in cooperative communication networks" in IEEE International Conference on Information, Communications and Signal Processing, 2011.
- Session chair
  - IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP) 2015, 2016, 2017, 2018, 2019, 2020, 2022
  - IEEE Global Conference on Signal and Information Processing (GlobalSIP) 2018, 2019

4.4 Technical Program Committees

- International Conference on Machine Learning (ICML) 2024 – present
- International Conference on Learning Representations (ICLR) 2024 – present
- Neural Information Processing Systems (NeurIPS) 2023 – present
- International Joint Conference on Artificial Intelligence (IJCAI) 2022 – present
- AAAI Conference on Artificial Intelligence 2021 – present
- European Signal Processing Conference (EUSIPCO) 2017 – present
- IEEE Global Conference on Signal and Information Processing (GlobalSIP) 2017, 2018, 2019
- IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP) 2016 – present
- IEEE International Workshop on Machine Learning for Signal Processing (MLSP) 2015 – present