

PERSONAL INFORMATION

- ✧ Full Professor, State Key Laboratory of Internet of Things for Smart City, University of Macau, and Department of Computer and Information Science, University of Macau
- ✧ Senior Member of Institute of Electrical and Electronics Engineers (IEEE)
- ✧ IEEE Vehicular Technology Society (VTS), Distinguished Lecturer (DL), 2025 Class
- ✧ Distinguished Member of China Computer Federation (CCF)
- ✧ Fellow of European Alliance for Innovation (EAI)
- ✧ Top 2% Scientists Worldwide by Stanford University 2021-2025
- ✧ Vice-Chair of IEEE Communications Society (ComSoc), Macau Chapter
- ✧ Vice-Chair of Meetings and Conference Committee, IEEE ComSoc Asia/Pacific Region
- ✧ Vice-Chair of SIG on Green Computing and Data Processing, IEEE ComSoc, Technical Committee on Green Communications and Computing
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- ✧ Google Scholar: https://scholar.google.com/citations?user=H1bxY_4AAAAJ&hl=zh-CN

RESEARCH INTEREST

- ✧ Mobile Edge Computing and Edge Intelligence
- ✧ Integrated Sensing, Communication and Computing Networks
- ✧ Resource Management for Integrated Space-Air-Ground Networks
- ✧ Vehicular Networks and Intelligent Transportation Systems
- ✧ Maritime Communication Networks and Smart Ocean Networks

EDUCATIONAL EXPERIENCE

- ✧ **Doctor of Philosophy** 11/2010
Electrical and Computer Engineering, Hong Kong University of Science and Technology, Hong Kong
- ✧ **Master of Engineering** 06/2006
Electronic Science and Technology, College of Information Science and Electronic Engineering, Zhejiang University, Hangzhou, China
- ✧ **Bachelor of Engineering** 06/2004
Information Engineering, College of Information Science and Electronic Engineering, Zhejiang University, Hangzhou, China

WORKING EXPERIENCE

- ✧ **Full Professor** 08/2025-Present
State Key Laboratory of Internet of Things for Smart City, University of Macau, Macau SAR
and Department of Computer and Information Science, University of Macau, Macau SAR

✧ **Tenured Associate Professor**

08/2019-08/2025

State Key Laboratory of Internet of Things for Smart City, University of Macau, Macau SAR
and Department of Computer and Information Science, University of Macau, Macau SAR

SELECTED JOURNAL PUBLICATIONS

Note: “*” denotes the PhD/Master/RA under Yuan Wu’s supervision. Bold with underline denotes the corresponding author. Other Bold denotes the first author.

- ✧ P. Li, L. Qian, D. Niyato, S. Mao, and **Yuan Wu**, “Toward Resource-Efficient Collaboration of Large AI Models in Mobile Edge Networks,” accepted by *IEEE Network*, Dec. 2025. DOI:10.1109/MNET.2025.3650049
- ✧ X. Ma, H. Zhang, W. Song, Y. Lu, Yuan Wu, and V. C.M. Leung, “Resource Optimization for LEO Constellation Networks: A Multi-satellite Cooperative Coverage Design,” *IEEE Transactions on Communications*, vol. 73. No. 11, pp. 10201-10216, Nov. 2025
- ✧ W. Xu, C. Pan, Y. Yuan, Yuan Wu, and D.H.K. Tsang, “Reconfigurable Intelligent Surface Aided Mobile Fog Computing: A Space Aggregation-based Lyapunov Driven Reinforcement Learning Approach,” accepted by *IEEE Transactions on Mobile Computing*, Oct. 2025, DOI:10.1109/TMC.2025.3619505
- ✧ T. Wang, P. Li, P. Feng, X. Wei, L. Qian, and **Yuan Wu**, “Compression Meets Security: Low-Complexity Linear Collaborative Federated Learning with Enhanced Accuracy,” *IEEE Transactions on Mobile Computing*, vol. 24, no. 10, pp. 10606-10621, Oct. 2025.
- ✧ P. Liu, X. Wang, Z. Fei, Yuan Wu, J. Xu, and A. Nallanathan, “Latency Minimization Oriented Radio and Computation Resource Allocations for 6G V2X Networks with ISCC,” accepted by *IEEE Transactions on Communications*, Sept. 2025, DOI:10.1109/TCOMM.2025.3616242
- ✧ M. Gong, S. Wang, S. Bi, Yuan Wu, and L. Qian, “Digital Semantic Communications: An Alternating Multi-Phase Training Strategy with Mask Attack,” accepted by *IEEE Transactions on Wireless Communications*, Sept. 2025. DOI: 10.1109/TWC.2025.3611141
- ✧ W. Jiang, Z. Xiao, L. Qian, S. Qin, G. Feng, and Yuan Wu, “Joint Communication and Computing Resource Allocation for Energy Efficient Hierarchical Federated Learning in Marine Internet of Things,” *IEEE Transactions on Network Science and Engineering*, vol. 12, no. 5, pp. 4114-4127, Sept.-Oct. 2025
- ✧ Z. Wu, Q. Xie, Z. Wang, X. Huang, C. Peng, and Yuan Wu, “Terrain-Aware UAV-Aided Mobile Edge Computing in Urban Environments: A Task-Adaptive Constrained Multi-Objective Optimization,” accepted by *IEEE Transactions on Vehicular Technology*, Aug. 2025, DOI:10.1109/TVT.2025.3604250 (**JCR-Q1, IF: 6.1**)
- ✧ Q. Wang, L. Qian, M. Li, J. Wei, and Yuan Wu, “Delay-Minimized Resource Allocation in Relay-Assisted NOMA-WPT Industrial IoT Networks,” *IEEE Transactions on Green Communications and Networking*, vol. 9, no. 3, pp. 1021-1035, Sept. 2025
- ✧ Yang, Y. Fu, J. Zheng, Z. Xu, R. Shao, and Yuan Wu, “Optimal Resource Allocation for UAV-Relay-Assisted Mobile Crowdsensing,” *IEEE Transactions on Communications*, vol. 73, no. 8, pp. 6561-6576, Aug. 2025
- ✧ Y. Pan, Z. Su, Y. Wang, S. Guo, H. Liu, R. Li, and Yuan Wu, “Cloud-Edge Collaborative Large Model Services: Challenges and Solutions,” *IEEE Network*, vol. 39, no. 4, pp. 182-191, July 2025.
- ✧ H. Cui, Z. Tang, Yuan Wu, and W. Jia, “Layer-Aware Cost-Effective Container Updates with Edge-Cloud Collaboration in Edge Computing,” accepted by *IEEE Transactions on Mobile Computing*, June 2025, DOI:10.1109/TMC.2025.3583153
- ✧ R. Chen, C. Yi, F. Zhou, J. Kang, Yuan Wu, and D. Niyato, “Federated Digital Twin Construction via Distributed Sensing: A Game-Theoretic Online Optimization with Overlapping Coalitions,” accepted by *IEEE Transactions*

on Mobile Computing, June 2025, DOI:10.1109/TMC.2025.3582755

- ✧ G. Cheng, P. Li*, B. Tan, R. Yu, **Yuan Wu**, M. Pan, “Snowball Effect in Federated Learning: An Approach of Exponentially Expanding Structures for Optimizing the Training Efficiency,” *IEEE Transactions on Cognitive Communications and Networking*, vol. 11, no. 3, pp. 1803-1817, June 2025.
- ✧ Q. Xu, Z. Su, H. Peng, Yuan Wu, and R. Li, “Blockchain-Empowered Game Theoretical Incentive for Secure Bandwidth Allocation in UAV-Assisted Wireless Networks,” accepted by *IEEE Transactions on Mobile Computing*, June 2025, DOI:10.1109/TMC.2025.3579505
- ✧ B. Lu*, X. Huang*, **Yuan Wu**, L. Qian, S. Zhou, and D. Niyato, “Joint Optimization of Compression, Transmission and Computation for Cooperative Perception Aided Intelligent Vehicular Networks,” *IEEE Transactions on Vehicular Technology*, vol. 74, no. 5, pp. 8201-8214, May 2025.
- ✧ Q. Wang, L. Qian, W. Jiang, Yuan Wu, and X. Yang, “Integrated Communication and Computation Resource Allocation for The Compressive Sensing Based Image Transmission,” accepted by *IEEE Transactions on Mobile Computing*, May 2025, DOI:10.1109/TMC.2025.3570447
- ✧ B. Fan, Z. Xu, Z. Li, Yuan Wu, Y. Zhang, “DT Assisted Task Offloading for C-V2X Networks with Imperfect DT Prediction Conditions,” *IEEE Transactions on Intelligent Transportation Systems*, vol. 26, no. 5, pp. 6248-6262, May 2025
- ✧ P. Li*, H. Dong*, L. Qian, S. Zhou, and **Yuan Wu**, “FlexGen: Efficient On-Demand Generative AI Service with Flexible Diffusion Model in Mobile Edge Networks,” *IEEE Transactions on Cognitive Communications and Networking*, vol. 11, no. 2, pp. 961-973, April 2025
- ✧ M. Dai, T. Wang, S. Chang, Z. Su, and **Yuan Wu**, “Energy Minimization Oriented Hybrid Semantic Data Transmission in Air-Ocean Integrated Networks: A Resource Allocation Design,” accepted by *IEEE Transactions on Mobile Computing*, Mar. 2025, DOI:10.1109/TMC.2025.3556476
- ✧ Y. Chen, Y. Yang, Yuan Wu, J. Huang, and L. Zhao, “Joint Trajectory Optimization and Resource Allocation in UAV-MEC Systems: A Lyapunov-Assisted DRL Approach,” *IEEE Transactions on Service Computing*, vol. 18, no. 2, pp. 854-867, March-April 2025
- ✧ F. Mou, J. Lou, Z. Tang, Yuan Wu, W. Jia, Y Zhang, and W. Zhao, “Adaptive Digital Twin Migration in Vehicular Edge Computing and Networks,” *IEEE Transactions on Vehicular Technology*, vol. 74, no. 3, pp. 4839-4854, March 2025
- ✧ N. Huang*, C. Dou*, **Yuan Wu**, L. Qian, S. Zhou, and R. Lu, “Image Analysis Oriented Integrated Sensing and Communication via Intelligent Reflecting Surface,” *IEEE Transactions on Cognitive Communications and Networking*, vol. 11, no. 1, pp. 274-287, Feb 2025
- ✧ L. Huang, Y. Li, H. Liang, K. Chi, and **Yuan Wu**, “Enhanced VR Experience with Edge Computing: The Impact of Decoding Latency,” accepted by *IEEE Transactions on Mobile Computing*, Feb. 2025, DOI: 10.1109/TMC.2025.3541741
- ✧ B. Lu*, X. Huang*, **Yuan Wu**, L. Qian, N. Dusit, C.Z. Xu, “Cooperative Perception Aided Digital Twin Model Update and Migration in Mixed Vehicular Networks,” *IEEE Transactions on Intelligent Transportation Systems*, vol. 26, no. 2, pp. 2293-2308, Feb. 2025

Completed List of Dr. Wu’s Publications can be referre to <https://www.fst.um.edu.mo/personal/yuanwu/>