Yuanjian LI

Assistant Professor

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AI-Driven Resource Coordination for UAV-Enabled Sensing, Communication, and Computing

Brief Introduction: I have been serving as an Assistant Professor in the Department of Communications and Networking, School of Advanced Technology, Xi'an Jiaotong-Liverpool University (XJTLU), Suzhou, China, since March 2025. I earned PhD in Telecommunications from the Centre for Telecommunication Research (CTR), King's College London (KCL), supervised by Professor A. Hamid Aghvami, Life Fellow of IEEE, Fellow of IET and Fellow of the Royal Academy of Engineering (RAEng). Prior to joining XJTLU, I held research positions at several institutions worldwide, including Research Fellow at Nanyang Technological University (Singapore).

Track Records: I have published over 30 papers in prestigious journals and leading international conferences at the intersection of wireless communications and artificial intelligence (AI). As the first author, I have contributed 14 papers to top-tier venues, including IEEE TWC (3 papers), IEEE TCOM (3 papers), IEEE WCL (1 paper), IEEE GLOBECOM (4 papers), IEEE ICC (2 papers), and IEEE PIMRC (1 paper). Among these, I am the corresponding author for 6 journal publications. I have been granted 9 patents in wireless communications and signal processing. I have reviewed 572 manuscripts (the non-exhaustive clickable peer-review record link) for 54 internationally recognized journals, including IEEE TWC, IEEE JSAC, IEEE TCOM, IEEE TIFS, IEEE IoTJ, IEEE TVT, IEEE TMC, and IEEE TNNLS. I have also taken active roles in professional activities, e.g., editorial service, session chair and TPC member for international journals/conferences. I received the Best Paper Award at the International Conference on Ubiquitous Communication and was recognized as an Exemplary Reviewer for the IEEE Open Journal of the Communications Society, IEEE Communications Society.

Employment

2025.03–Present **Assistant Professor** (PI, PhD Supervisor), *Xi'an Jiaotong-Liverpool University (XJTLU), Suzhou, China*
2023.07–2025.03 **Research Fellow** (Work Visa, Full-Time), *Nanyang Technological University*, Singapore
2023.03–2023.06 **Research Associate** (Work Visa, Full-Time), *Heriot-Watt University*, U.K.
2023.01–2023.02 **Research Assistant** (Student Visa, Part-Time), *University of Warwick*, U.K.

Education

2019.10–2022.12 **Doctor of Philosophy (PhD)** in Telecommunications, *King's College London*, U.K.
2016.09–2019.06 **M.Eng.** in Information and Communications Engineering, *Huaqiao University*, Xiamen, China
2011.09–2015.06 **B.Eng.** in Communications Engineering, *Nanjing Tech University*, China

Research Grants

7. (as **Principal Investigator**) Department of Education in Jiangsu Province, Natural Science Foundation of the Jiangsu Higher Educational Institutions of China - General Programme, 25KJB510032, DRL-Powered Distributed Resource Coordination for UAV-Aided IoT, 2025-10 to 2027-10, CNY 30, 000
6. (as **Principal Investigator**) Xi'an Jiaotong-Liverpool University, Research Development Fund, RDF-25-01-033, AI-Native Decentralized Resource Scheduling for Space-Air-Ground Integrated IoT, 2026-01 to 2028-12, CNY 100, 000
5. (as **Member, 3/9**) China Education Development Center for Higher Education, Ministry of Education (MOE), China University-Industry-University Collaborative Innovation Fund, 2025DX010, Perception and Decision-Making for UAVs and Vehicle-Road Collaboration Systems in Complex Traffic Environments, 2025-11 to 2026-10, CNY 180, 000
4. (Participated) National Research Foundation (NRF) Singapore, Competitive Research Programme, NRF-CRP23-2019-0005, On-chip Terahertz Topological Photonics for 6G Communication (TERACOMM)
3. (Participated) NRF Singapore & Infocomm Media Development Authority (IMDA), Future Communications Research & Development Programme, FCP-NTU-RG-2022-014, Hybrid TeraHertz/Free Space Optics (THz/FSO) for 6G Communication Networks, 2022-10 to 2025-03, SGD 910,000
2. (Participated) Engineering and Physical Sciences Research Council (EPSRC), Programme Grants, EP/T021063/1, COG-MHEAR: Towards cognitively-inspired 5G-IoT enabled, multi-modal Hearing Aids, 2021-03 to 2026-02, GBP 3,259,000
1. (Participated) EPSRC, Research Grant, EP/X04047X/1, Platform Driving The Ultimate Connectivity, 2023-05 to 2024-03, GBP 2,030,860

Paper Publications

*The superscript * indicates the corresponding author.*

MANUSCRIPTS UNDER PEER REVIEW

8. Bin Li*, Tianyu Qin, Deng Luo, and **Yuanjian Li**, "Throughput and Energy Trade-Off in Low-Altitude Edge Computing Networks: A Two-Timescale Optimization Perspective," submitted to IEEE Transactions on Mobile Computing (**TMC**), 2026.
   UAV-assisted mobile edge computing | two-timescale control | multi-objective reinforcement learning | Pareto optimization
7. Ze Zhang, Qian Dong*, Gordon Owusu Boateng, **Yuanjian Li**, Lin Cui, and Mi Lu, "Topology Partitioning-based Self-Localization in Indoor WSNs with Unknown Obstacles," submitted to IEEE Transactions on Mobile Computing (**TMC**), 2026.
   Localization | indoor positioning | network partitioning | obstacles | wireless sensor networks
6. Zikang Liu, **Yuanjian Li***, Rui Zhao*, Zhiping Lin, Zhenguo Gao, and Yongming Huang, "Cycle-Aware Multi-Agent Reinforcement Learning for Age of Information Minimization in Multi-UAV-Assisted IoT Networks With Finite-Channel Access," submitted to IEEE Transactions on Communications (**TCOM**), 2026.
   Multi-UAV-assisted IoT | age of information | multi-agent reinforcement learning | finite-channel access
5. Zikang Liu, **Yuanjian Li***, Rui Zhao*, Wenxiang Shen, Zhiping Lin, and Zhenguo Gao, "Energy-Efficient UAV-Assisted Mobile Edge Computing Under Active Jamming: A Soft Actor-Critic Network-Based Approach," submitted to IEEE Internet of Things Journal (**IoTJ**), 2026.
   UAV-assisted mobile edge computing | active jamming | soft actor-critic | energy efficiency
4. Zikang Liu, **Yuanjian Li***, Rui Zhao*, Zhiping Lin, Zhenguo Gao, and Lanxin Chen, "JAC-MAPPO: Joint AoI and Energy Optimization for Multi-UAV-Assisted Mobile Edge Computing," submitted to IEEE Wireless Communications Letters (**WCL**), 2026.
   Multi-UAV-assisted mobile edge computing | age of information | energy efficiency | multi-agent reinforcement learning
3. Miao Zhang, Yunhai Qiao, Wannian Du, **Yuanjian Li**, Zheng Chu, Gaojie Chen, and Kanapathippillai Cumanan, "STAR-RIS Empowered Jamming-Resilient Wireless Powered Communication Networks," submitted to IEEE Transactions on Information Forensics and Security (**TIFS**), 2026.
   Simultaneously transmitting and reflecting reconfigurable intelligent surface | jamming resilient | joint optimization techniques
2. Huiling Mo, Jinsong Hu, **Yuanjian Li**, Wanghan Lv, Xinxin Feng, and Feng Shu, "Enhancing Near-Field Covert Communications with Frequency Diverse Array: A Protected Zone Perspective," submitted to IEEE Transactions on Vehicular Technology (**TVT**), 2026.
   Covert communication | frequency diverse array | protected zone
1. Miao Zhang, Yunhai Qiao, Zheng Chu, **Yuanjian Li**, Lei Ni, and Kanapathippillai Cumanan, "Polarization Reconfigurable Antennas Empowered SWIPT Space-Air-Ground Integrated Networks," submitted to IEEE Antennas and Wireless Propagation Letters (**AWPL**), 2026.
   Space-air-ground integrated networks | polarization reconfigurable antenna | polarforming | SWIPT

PUBLISHED JOURNALS

18. **Yuanjian Li***, A. S. Madhukumar, Zheng Chu, Gan Zheng, Cheng-Xiang Wang, and Kun Yang, "Wideband Hybrid-Field THz UM-MIMO Channel Estimation: A Dual-Attention-Aided Deep-Unfolded Bayesian Learning Approach," IEEE Transactions on Communications (**TCOM**), vol. 74, pp. 6523–6540, 2026. DOI: 10.1109/TCOMM.2026.3675428
    Model-driven machine learning | near-field communications | deep unfolding | channel estimation | Terahertz | ultra-massive MIMO
17. **Yuanjian Li***, A. S. Madhukumar, Tan Zheng Hui Ernest, Gan Zheng, Walid Saad, and A. Hamid Aghvami, "Energy-Efficient UAV-Driven Multi-Access Edge Computing: A Distributed Many-Agent Perspective," IEEE Transactions on Communications (**TCOM**), vol. 73, no. 9, pp. 8405–8420, 2025. DOI: 10.1109/TCOMM.2025.3552746
    Multi-agent deep reinforcement learning | UAV | energy efficiency | multi-drone multi-user resource association | multi-access edge computing
16. **Yuanjian Li*** and A. S. Madhukumar, "Hybrid Near- and Far-Field THz UM-MIMO Channel Estimation: A Sparsifying Matrix Learning-Aided Bayesian Approach," IEEE Transactions on Wireless Communications (**TWC**), vol. 24, no. 3, pp. 1881–1897, 2025. DOI: 10.1109/TWC.2024.3514141
    Channel estimation | THz | ultra-massive MIMO | hybrid near- and far-field radiation | sparse Bayesian learning | adaptive dictionary learning
15. **Yuanjian Li*** and A. Hamid Aghvami, "Radio Resource Management for Cellular-Connected UAV: A Learning Approach," IEEE Transactions on Communications (**TCOM**), vol. 71, no. 5, pp. 2784–2800, 2023. DOI: 10.1109/TCOMM.2023.3262826
    Deep reinforcement learning | drones | resource allocation | beamforming design
14. **Yuanjian Li***, A. Hamid Aghvami, and Daoyi Dong, "Path Planning for Cellular-Connected UAV: A DRL Solution With Quantum-Inspired Experience Replay," IEEE Transactions on Wireless Communications (**TWC**), vol. 21, no. 10, pp. 7897–7912, 2022. DOI: 10.1109/TWC.2022.3162749
    Deep reinforcement learning | drones | trajectory design | quantum-inspired experience replay | performance optimization
13. **Yuanjian Li***, A. Hamid Aghvami, and Daoyi Dong, "Intelligent Trajectory Planning in UAV-Mounted Wireless Networks: A Quantum-Inspired Reinforcement Learning Perspective," IEEE Wireless Communications Letters (**WCL**), vol. 10, no. 9, pp. 1994–1998, 2021. DOI: 10.1109/LWC.2021.3089876
    Reinforcement learning | quantum mechanics | drones | trajectory planning | quantum-inspired action selection policy
12. **Yuanjian Li**, Rui Zhao*, Yansha Deng, Feng Shu, Zhiqiao Nie, and A. Hamid Aghvami, "Harvest-and-Opportunistically-Relay: Analyses on Transmission Outage and Covertness," IEEE Transactions on Wireless Communications (**TWC**), vol. 19, no. 12, pp. 7779–7795, 2020. DOI: 10.1109/TWC.2020.3015816
    Covert communications | transmission outage | performance analysis | wireless relaying networks | discrete energy harvesting | Markov chain
11. Hongxin Lin, **Yuanjian Li***, Guanghui Chen, Zening Liu, and Yongming Huang*, "Performance Analysis for MmWave Cell-Free Access Network Based on Terahertz Backhaul," IEEE Communications Letters (**CL**), vol. 29, no. 6, pp. 1181–1185, 2025. DOI: 10.1109/LCOMM.2025.3555748
    Terahertz backhaul | millimeter-wave cell-free network | fluctuating two-ray fading | adaptive decoding transmission | performance analysis
10. Jinsong Hu, Duanrui Liao, **Yuanjian Li**, Shihao Yan, Youjia Chen, Jun Wang*, Feng Shu, and Jiangzhou Wang, "Near-Field User Localization and Beamforming in Covert Communication," IEEE Transactions on Vehicular Technology (**TVT**), vol. 75, no. 6, pp. 11098–11113, 2026. DOI:

10.1109/TVT.2026.3651431

Covert communication | near-field | beam squint | location estimation | true-time-delay lines | finite blocklength

9. Ke Yang, Siling Feng*, Rongen Dong, Xuehui Wang, Yan Wang, Jiatong Bai, **Yuanjian Li**, and Jiangzhou Wang, "IRS-User Matching and Beamforming Design for Multi-Active-IRS-and-UAV-Aided Secure Directional Modulation Networks," Chinese Journal of Aeronautics (**CJA**), vol. 38, no. 10, Article 103422, 2025. DOI: 10.1016/j.cja.2025.103422

   Directional modulation | active intelligent reflecting surface | secrecy sum-rate | unmanned aerial vehicle

8. **Yuanjian Li**, Rui Zhao*, Yi Wang, Gaofeng Pan, and Chunguo Li, "Artificial Noise Aided Precoding With Imperfect CSI in Full-Duplex Relaying Secure Communications," IEEE Access, vol. 6, pp. 44107–44119, 2018. DOI: 10.1109/ACCESS.2018.2851598

   Maximum ratio combining | cooperative relay | decode and forward | artificial noise | imperfect CSI | asymptotic performance analysis

7. **Yuanjian Li**, Rui Zhao*, Lisheng Fan, and An Liu, "Antenna Mode Switching for Full-Duplex Destination-Based Jamming Secure Transmission," IEEE Access, vol. 6, pp. 9442–9453, 2018. DOI: 10.1109/ACCESS.2018.2791638

   Physical-layer security | antenna mode switching | convex optimization | destination-based jamming | optimal power allocation

6. **Yuanjian Li**, Rui Zhao*, Xing Tan, and Zhiqiao Nie, "Antenna Mode Switching in Full-Duplex Destination-Jamming Secure Transmission Systems," Journal of Signal Processing, vol. 34, no. 4, pp. 457–464, 2018. DOI: 10.16798/j.issn.1003-0530.2018.04.009

   Physical-layer security | artificial noise | full duplex | antenna mode switching | convex optimization | power allocation

5. Daliang Ouyang, Rui Zhao, **Yuanjian Li**, Rongxin Guo, and Yi Wang, "Antenna Selection in Energy Harvesting Relaying Networks Using Q-Learning Algorithms," China Communications, vol. 18, no. 4, pp. 64–75, Apr. 2021. DOI: 10.23919/JCC.2021.04.005

   Q-learning | optimal power split factor | outage probability | ergodic capacity | antenna selection

4. Daliang Ouyang, Rui Zhao, and **Yuanjian Li**, "Analysis and Optimization of Wireless Powered Untrusted Relay System With Multiple Destinations," Physical Communication, vol. 42, Article 101161, Oct. 2020. DOI: 10.1016/j.phycom.2020.101161

   Physical-layer security | antenna mode switching | destination selection | ergodic secrecy rate | nonlinear energy harvesting

3. Daliang Ouyang, Rui Zhao, Yi Wang, **Yuanjian Li**, and Yulin Yang, "Ergodic Secrecy Performance Analysis of Multiuser Diversity in Energy-Constrained Untrusted Relay Systems," Journal of Signal Processing, vol. 35, no. 2, pp. 301–309, 2019. DOI: 10.16798/j.issn.1003-0530.2019.02.016

   Physical-layer security | energy harvesting | ergodic secrecy rate | opportunistic scheduling | untrusted relay

2. Qi Wu, Jinghua Liu*, Rui Zhao, Zhiqiao Nie, and **Yuanjian Li**, "Security Performance Analysis of Full Duplex Relay System With Wireless Energy Harvesting," Journal of Huaqiao University (Natural Science), vol. 40, no. 3, pp. 390–398, 2019. DOI: 10.11830/ISSN.1000-5013.201801066

   Physical-layer security | wireless energy harvesting | full-duplex relay | cooperative jamming

1. Qi Wu, Xing Tan, **Yuanjian Li**, and Cong Wang, "Study of Full-Duplex Relay Secure Networks Based on Wireless Energy Harvesting Technology," Communications Technology, vol. 51, no. 4, pp. 835–840, 2018.

   Wireless energy harvesting | full-duplex relay | physical-layer security

PUBLISHED CONFERENCES

15. **Yuanjian Li**, A. S. Madhukumar, Zheng Chu, Miao Zhang, and Qian Dong, "Model-Driven Deep Learning-Aided Wideband Hybrid-Field THz UM-MIMO Channel Estimation," IEEE Global Communications Conference (**GLOBECOM**), Taipei, China, pp. 2669–2674, Dec. 2025. DOI: 10.1109/GLOBECOM59602.2025.11432618

    Channel estimation | near-field communications | Terahertz | ultra-massive MIMO | machine learning | compressive sensing

14. **Yuanjian Li**, A. S. Madhukumar, Tan Zheng Hui Ernest, Gan Zheng, Walid Saad, and A. Hamid Aghvami, "Energy-Efficient UAV-Aided Computation Offloading on THz Band: A MADRL Solution," IEEE Global Communications Conference (**GLOBECOM**), Cape Town, South Africa, pp. 1515–1520, Dec. 2024. DOI: 10.1109/GLOBECOM52923.2024.10901463

    Multi-agent deep reinforcement learning | drones | energy efficiency | THz | edge computing | multi-dimensional optimization

13. **Yuanjian Li**, Mathini Sellathurai, Zheng Chu, Pei Xiao, and A. Hamid Aghvami, "DRL-Aided Joint Resource Block and Beamforming Management for Cellular-Connected UAVs," IEEE Global Communications Conference (**GLOBECOM**), Kuala Lumpur, Malaysia, pp. 3045–3050, Dec. 2023. DOI: 10.1109/GLOBECOM54140.2023.10437176

    UAV | deep reinforcement learning | beamforming | cellular networks

12. **Yuanjian Li**, Mathini Sellathurai, and A. Hamid Aghvami, "Secrecy Performance Analysis on UAV Down-Link Broadcasting With a Full Duplex Receiver," 34th IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (**PIMRC**), Toronto, Canada, pp. 1–6, Sep. 2023. DOI: 10.1109/PIMRC56721.2023.10293850

    Physical-layer security | UAV | full duplex | secrecy performance analysis | Monte Carlo simulation

11. **Yuanjian Li** and A. Hamid Aghvami, "Covertness-Aware Trajectory Design for UAV: A Multi-Step TD3-PER Solution," IEEE International Conference on Communications (**ICC**), Seoul, Republic of Korea, pp. 7–12, May 2022. DOI: 10.1109/ICC45855.2022.9839093

    Covert communications | deep reinforcement learning | UAV | trajectory optimization | Gaussian-noised location

10. **Yuanjian Li** and A. Hamid Aghvami, "Intelligent UAV Navigation: A DRL-QiER Solution," IEEE International Conference on Communications (**ICC**), Seoul, Republic of Korea, pp. 419–424, May 2022. DOI: 10.1109/ICC45855.2022.9838566

    Deep reinforcement learning | drones | trajectory design | quantum-inspired experience replay | performance optimization

9. **Yuanjian Li**, Rui Zhao, Xing Tan, and Zhiqiao Nie, "Secrecy Performance Analysis of Artificial Noise Aided Precoding in Full-Duplex Relay Systems," IEEE Global Communications Conference (**GLOBECOM**), Singapore, pp. 1–6, Dec. 2017. DOI: 10.1109/GLOCOM.2017.8254504

    Full-duplex relay | Rayleigh fading channel | artificial-noise-aided precoding | Gaussian-Laguerre approximation | beamforming

8. Zikang Liu, **Yuanjian Li**, Rui Zhao, Zhiping Lin, Zhenguo Gao, and Lanxin Chen, "AoI and Energy Co-Optimization for UAV-IoT Systems: A Temporal-Critical DRL Solution," 7th Information and Communication Technology Conference (**ICTC**), Nanjing, China, May 8–10, 2026.
   UAV | age of information | deep reinforcement learning | energy consumption | joint optimization
7. Wenxiang Shen, **Yuanjian Li**, Rui Zhao, Zhiping Lin, and Zhenguo Gao, "Joint Optimization of Security and Energy Efficiency in UAV-Assisted Mobile Edge Computing Systems Using Deep Reinforcement Learning," 2nd International Conference on Intelligent Communication, Sensing and Electromagnetics (ICSE), Shenzhen, China, pp. 180–184, Dec. 2025. DOI: 10.1109/ICSE68658.2025.11407655
   Mobile edge computing | deep reinforcement learning | physical-layer security | 6G networks
6. Miao Zhang, Lin Su, Lei Ni, Zheng Chu, **Yuanjian Li**, Chentong Li, and Kanapathippillai Cumanan, "Anti-Jamming Design for RIS-Assisted Multi-Cluster Wireless Powered Communication Networks," 3rd International Conference on Ubiquitous Communication (UCom), Hangzhou, China, pp. 332–336, Sep. 2025. DOI: 10.1109/UCOM67224.2025.11336892. (Best Paper Award)
   Reconfigurable intelligent surface | anti-jamming | wireless powered communication network | fractional energy harvesting
5. Ze Zhang, Qian Dong, Zuhao Teng, Bintao Hu, Jingchen Wang, **Yuanjian Li**, Ji Li, Yinlin Wu, Chongxiang Zhang, and Xi Chen, "RAIL: An Accurate and Fast Angle-Inferred Localization Algorithm for UAV-WSN Systems," IEEE/CIC International Conference on Communications in China (ICCC Workshops), Shanghai, China, pp. 1–6, Aug. 2025. DOI: 10.1109/ICCCWorkshops67136.2025.11148147
   Unmanned aerial vehicle | localization | low-altitude economy | positioning | wireless sensor networks
4. Duanrui Liao, Jinsong Hu, **Yuanjian Li**, Shihao Yan, Youjia Chen, and Jun Wang, "Beam Squint Assisted Near-Field Covert Communication," IEEE/CIC International Conference on Communications in China (ICCC), Shanghai, China, pp. 1–6, Aug. 2025. DOI: 10.1109/ICCC65529.2025.11149334
   Covert communication | near-field | beam squint | location estimation | true-time-delay lines | finite blocklength
3. Xing Tan, Rui Zhao, and **Yuanjian Li**, "Large-Scale Antennas Analysis of Untrusted Relay System With Cooperative Jamming," 13th International Conference on Network and Service Management (CNSM), Tokyo, Japan, pp. 1–5, Nov. 2017. DOI: 10.23919/CNSM.2017.8256012
   Destination-based jamming | full duplex | antenna selection | ergodic achievable secrecy rate | power allocation
2. Zhiqiao Nie, Rui Zhao, **Yuanjian Li**, and Xing Tan, "A Full-Duplex SWIPT Relaying Protocol Based on Discrete Energy State," 20th International Symposium on Wireless Personal Multimedia Communications (WPMC), Bali, Indonesia, pp. 500–505, Dec. 2017. DOI: 10.1109/WPMC.2017.8301864
   Full duplex | energy harvesting | Markov chain | outage probability
1. Daliang Ouyang, Rui Zhao, and **Yuanjian Li**, "Wireless Energy Harvesting Relaying Networks Combined With Antenna Selection," 22nd International Symposium on Wireless Personal Multimedia Communications (WPMC), Lisbon, Portugal, pp. 1–5, Nov. 2019. DOI: 10.1109/WPMC48795.2019.9096212
   Antenna selection | energy harvesting | opportunistic scheduling | outage probability

Awards and Honors

2025.12 **Exemplary Reviewer**, *IEEE Communications Society*
2025.09 Bronze Award, Qualifying Round of AI Track, *BRICS Industrial Innovation Contest*
2025.09 Outstanding Project Award, *BRICS Industrial Innovation Contest*
2025.09 **Best Paper Award**, *International Conference on Ubiquitous Communication (Ucom)*
2023.11 Conference Travel Grant, *IEEE Communications Society* — One of 16 recipients selected from 188 applicants
2020.05 Winner of Provincial Excellent M.Eng. Thesis, *Fujian Provincial Academic Degrees Committee*
2019.06 K-CSC PhD Full-Scholarship, Jointly Awarded by *China Scholarship Council* and *King's College London*
2019.06 Excellent Graduate Student, *Huaqiao University*
2018.12 First Class Scholarship for Postgraduate Student, *Huaqiao University*
2018.11 National Scholarship for Postgraduates, *Ministry of Education of the People's Republic of China*
2017.08 Academic Scholarship for Master Student, *Huaqiao University*
2016.12 General Scholarship for Master, *Huaqiao University*
2011–2014 Received academic awards many times from *Nanjing Tech University*

Teaching Experience

Xi'an Jiaotong-Liverpool University (XJTLU)

- **Module Leader**, Continuous and Discrete Time Signals and Systems (COS202), AY 2026/27, S1; 610+ third-year undergraduate students.
- **Module Leader**, Digital Signal Processing (CAN210), AY 2025/26, S2; 159 third-year undergraduate students.
- **Co-Module Leader**, Continuous and Discrete Time Signals and Systems (CAN207), AY 2025/26, S1; 530+ third-year undergraduate students.
- **Co-Module Leader**, Introduction to Emerging Technologies (SAT005), AY 2024/25, S2.

King's College London

- **Graduate Teaching Assistant**: Digital Communications (AY 2022/23, Semester 1); Mechatronics (AY 2021/22, Semester 2); Mobile and Personal Communications (AY 2020/21, Semester 2).

Student Supervision (as Primary Supervisor)

Postgraduate Supervision

- **Shen Liu** PhD student, Autumn 2026 entry; MSc, University of Nottingham
  Project: Quantum Deep Reinforcement Learning-Aided Resource Coordination for Energy-Efficient 6G Networks; *Project ID:* SFXJTU2506
- **Yuanyuan Chen** MRes student, Autumn 2025 entry; BSc, Shanghai Institute of Technology
  Project: Federated AI-Driven Information Freshness Optimization for 6G-Aided IoT Data Collection Systems
- **Yang Yu** MSc student, Autumn 2025 entry; BSc, Shandong University of Science and Technology
  Project: DRL-Aided Age-of-Information Minimization in Air-Ground Integrated Networks
- **Guangyi Zhang** MSc student, Autumn 2025 entry; BSc, Shandong University of Science and Technology
  Project: Reinforcement Learning-Aided Resource Coordination for Drone-Assisted Edge Computing in Industrial IoT
- **Zhouxiang Tao** MSc student, Autumn 2026 entry; BSc, Guizhou University
  Project: Agentic AI for Air-Ground Integrated Networks
- **Yawen Ji** MSc student, Autumn 2026 entry; BSc, Nanjing University of Posts and Telecommunications
  Project: Agentic AI for Air-Ground Integrated Networks

Undergraduate Research and Final-Year Project Supervision

- **Xi'an Jiaotong-Liverpool University Summer Undergraduate Research Fellowship (SURF), 2026** Project ID: SURF-2026-0240; funding: CNY 6,000
  Project: AI-Driven Multi-Dimensional Resource Scheduling for UAV-Enabled Multi-Access Edge Computing
  Resources: **Open-source code** **Project poster**
  Students: Xiaotian Jia (Information and Computing Science), Weiyue Zhang (Telecommunications Engineering), Shengran Ding (Telecommunications Engineering), and Yutian Cui (Information and Computing Science)
- **Undergraduate Final-Year Project (FYP) Supervision, AY2025/26** 7 students
  Students: Pengkun Ou, Yichun Xu, Shutong Yuan, Guanxu Bai, Ruineng Tang, Ancheng Li, and Yuxuan Chen
  Project themes: DRL-enabled UAV communications, edge computing, IoT information freshness, and wireless security

PhD Student Recruitment Projects

3. (as **Primary** PhD Supervisor) Postgraduate Research Scholarship (PGRS)-Funded PhD Project at XJTLU, FOSA2506034, DRL-Enabled Resource Coordination for Covertness-Aware and Energy-Efficient UAV-Aided IoT, since 2025-07, CNY 297, 000
2. (as **Primary** PhD Supervisor) XJTLU-XJTU-UoL Joint Doctoral Supervision Project, SFXJTU2506, Quantum Deep Reinforcement Learning-Aided Resource Coordination for Energy-Efficient 6G Networks (XJTU and UoL are abbreviations for *Xi'an Jiaotong University* and the *University of Liverpool*, respectively)
1. (as Second PhD Supervisor) PGRS-Funded PhD Project at XJTLU, FOSLG250407, Adaptive Digital Twin Modelling and Optimization for V2X Networks in Large-Scale Traffic Scenarios, since 2025-07, CNY 297, 000

Invited Talks

5. **Title:** DRL-Enabled Communication and Computation Resource Management for UAV-Aided Networks; **Venue:** Xi'an Jiaotong-Liverpool University (XJTLU); **Date:** 27 Jun 2025
4. **Title:** AI for Next-Generation Wireless Networks: Communication and Computation Resource Management, and Channel Estimation; **Venue:** Hong Kong University of Science and Technology (HKUST); **Date:** 6 Sept 2024
3. **Title:** Multi-Agent DRL for Joint Communication and Computation Resource Management in Multi-UAV Multi-User IoT; **Venue:** Shandong University (SDU), China; **Date:** 24 Oct 2024
2. **Title:** Introduction to My Research at UESTC; **Venue:** University of Electronic Science and Technology of China (UESTC); **Date:** 23 Dec 2024
1. **Title:** Introduction to My Research at SEU; **Venue:** Southeast University (SEU), China; **Date:** 26 Dec 2024

Peer Review, Chairing, and TPC Member for Journals and Conferences

- **Editorial Service for Journals:** *Senior Reviewer* for IEEE Open Journal of the Communications Society
- **Reviewer for Journals:** IEEE Journal on Selected Area in Communications (*JSAC*), IEEE Transactions on Wireless Communications (*TWC*), IEEE Transactions on Neural Networks and Learning Systems (*TNLS*), IEEE Transactions on Mobile Computing (*TMC*), IEEE Transactions on Systems, Man, and Cybernetics: Systems (*TSMC*), IEEE Journal of Biomedical and Health Informatics (*JBHI*), IEEE Wireless Communications Magazine (*WCM*), IEEE Internet of Things Journal (*IoTJ*), IEEE Transactions on Information Forensics and Security (*TIFS*), IEEE Internet of Things Magazine (*IoTMag*), IEEE Transactions on Communications (*TCom*), IEEE Transactions on Vehicular Technology (*TVT*), IEEE Wireless Communications Letters (*WCL*), IEEE ACCESS, Elsevier Digital Communications and Networks (*DCN*), International Journal of Computing and Digital Systems (*IJCDS*), SAGE International Journal of Distributed Sensor Networks (*IJDSN*).
- **Reviewer for Conferences:** IEEE Global Communications Conference (*GLOBECOM*), IEEE International Conference on Communications (*ICC*), IEEE Vehicular Technology Conference (*VTC*), IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (*PIMRC*).
- **Chairing for Conferences:** 1) *Session chair* for IEEE ICC'22-SAC-05 Machine Learning for Communications Track-Networks; 2) *Session chair* for IEEE GLOBECOM'24-SAC-AC-S01: Machine learning for UAVs
- **TPC Member for International Conferences:** IEEE Conference on Vehicular Technology (VTC), IEEE Wireless Communications and Networking Conference (WCNC), IEEE International Conference on Wireless Communications and Signal Processing (WCSP), International Conference on Internet of Things (ICIoT), and IEEE/CIC International Conference on Communications in China (ICCC).

© Patents

9. Secrecy rate optimization method for energy-limited untrusted relay network, Filed 2019-10-08, Issued 2022-08-30, *CN Patent No.* ZL201910456910.3
8. Untrusted relay network secure transmission method based on opportunity type wireless energy collection, Filed 2019-10-08, Issued 2022-07-01, *CN Patent No.* ZL201910456465.0
7. Active eavesdropping method based on wireless energy acquisition and full duplex, Filed 2019-04-19, Issued 2022-05-03, *CN Patent No.* ZL201811249636.4
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