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个人简历

简介：伦敦国王学院在读博士生，师从 Hamid Aghvami 教授 (英国皇家工程院院士、IEEE 院士、IET 院士) 与 Osvaldo Simeone 教授 (IEEE 院士、IET 院士)。CET 六级 576 分，雅思总分 7 分。福建省优秀硕士毕业论文、硕士生国家奖学金、国家公派博士获得者。

博士期间研究方向：包括但不限于：**6G 网络、深度强化学习、量子机器学习、Federated/Meta/Transfer Learning、无人机通信、轨迹优化、蜂窝网络、无线资源分配、无线传输性能分析、隐蔽通信、物理层安全、MIMO。**

数据科学与机器学习相关经验：**Kaggle Contributor**。基于 Python 的资深 Kaggle 平台“玩家”，有丰富的 Pandas (数据分析/处理/清洗/提炼)、Seaborn (数据可视化，类似工具还有 Matplotlib、Bokeh 和 Plotly)、Numpy (向量化数学操作)、Tensorflow/Pytorch (机器学习框架搭建)、Scipy (数据分布转换/信号处理) 和 Sklearn (机器学习模型和数据预处理相关) 上手操作经验，如，房价走势预测、自然语言处理、语义预测、时间序列预测、股市变化预测、医疗图像检测等。

🎓 教育背景

2019 年 10 月 - 至今 在读博士生，伦敦国王学院 (King's College London)。
2016 年 9 月 - 2019 年 7 月 硕士，信息与通信工程专业，华侨大学，厦门。导师：赵睿副教授。
2011 年 9 月 - 2015 月 6 月 本科，通信工程专业，南京工业大学，南京。

📖 论文成果

已发表期刊：

- **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*, vol.21, pp.7897-7912, 2022. DOI: **10.1109/TWC.2022.3162749** (**中科院一区 Top 期刊**, **IF: 8.346**)
Deep Reinforcement learning drones trajectory design quantum-inspired experience replay performance optimization
- **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*, vol.10, pp.1994-1998, 2021. DOI: **10.1109/LWC.2021.3089876** (**IF: 5.281**)
Reinforcement learning Quantum theory drones trajectory planning quantum-inspired action selection policy
- **Yuanjian Li**, Rui Zhao, YanSha Deng, Feng Shu, Zhiqiao Nie, and A. Hamid Aghvami, "Harvest-and-Opportunistic-Relay: Analyses on Transmission Outage and Covertness," *IEEE Transactions on Wireless Communications*, vol.19, pp.7779-7795, 2020. DOI: **10.1109/TWC.2020.3015816** (**中科院一区 Top 期刊**, **IF: 8.346**)
Covert communications transmission outage performance analysis wireless relaying networks discrete energy harvesting Markov chain
- **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, Aug., 2018. (**IF: 3.476**)
Maximum ratio combining cooperative relay decode and forward artificial noise imperfect CSI asymptotic performance analysis
- **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, Jan., 2018. (**IF: 3.476**)
Physical layer security antenna mode switching convex optimization KKT conditions destination-based jamming optimal power allocation
- **李元健**, 赵睿, 谭星, 等. "全双工目的端加扰安全传输系统中的天线模式切换[J]," *信号处理*, 2018, 34(4): 457-464.
物理层安全 人工噪声 全双工 天线模式切换 凸优化 最优功率分配
- 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, pp.64-75, Apr., 2021. (**IF: 3.170**)
Q-learning optimal power split factor outage probability ergodic capacity antenna selection
- Daliang Ouyang, Rui Zhao, **Yuanjian Li**, "Analysis and Optimization of Wireless Powered Untrusted Relay System with Multiple Destinations," *Physical Communication*, vol.42, pp.101161, Jul., 2020. (**IF: 2.379**)
Physical layer security antenna mode switching destination selection ergodic secrecy rate non-linear energy harvesting

已发表会议：

- **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, May, 2022. DOI: **10.1109/ICC45855.2022.9839093** (**无线通信行业顶会**)
Covert communications Deep reinforcement learning UAV trajectory optimization Gaussian-noised location

- > **Yuanjian Li** and A. Hamid Aghvami, “Intelligent UAV Navigation : A DRL-QiER Solution,” *IEEE International Conference on Communications (ICC)*, Seoul, May, 2022. DOI : **10.1109/ICC45855.2022.9838566** (无线通信行业顶会)
Deep Reinforcement learning | drones | trajectory design | quantum-inspired experience replay | performance optimization
- > **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, Dec., 2017. DOI : **10.1109/GLOCOM.2017.8254504** (无线通信行业顶会)
Full-duplex relay | Rayleigh fading channel | artificial noise aided precoding | Gaussian-Laguerre approximation | beamforming
- > Xing Tan, Rui Zhao, and **Yuanjian Li**, “Large-Scale Antennas Analysis of Untrusted Relay System with Cooperative Jamming,” *IEEE CNSM 2017, Japan*, Nov., 2017. DOI : **10.23919/CNSM.2017.8256012**
Destination-based jamming | full-duplex | antenna selection | ergodic achievable secrecy rate | power allocation
- > Zhiqiao Nie, Rui Zhao, **Yuanjian Li**, and Xing Tan, “A Full-Duplex SWIPT Relaying Protocol Based on Discrete Energy State,” *IEEE WPMC 2017, Indonesia*, Dec., 2017. DOI : **10.1109/WPMC.2017.8301864**
Full-duplex | energy harvesting | Markov chain | outage probability
- > Daliang Ouyang, Rui Zhao, **Yuanjian Li**, and Xing Tan, “Wireless Energy Harvesting Relaying Networks Combined with Antenna Selection,” *IEEE WPMC 2019, Portugal*, Dec., 2019. DOI : **10.1109/WPMC48795.2019.9096212**
Antenna selection | energy harvesting | opportunistic scheduling | outage probability

在投/将投期刊：

- > **Yuanjian Li** and A. Hamid Aghvami, “Joint Resource Block and Beamforming Optimization for Cellular Connected UAV Networks : A Hybrid D3QN-DDPG Approach,” 大修 *IEEE Transactions on Communications*, available online : <https://arxiv.org/pdf/2102.13222.pdf>, 2022.
Deep Reinforcement learning | drones | resource allocation | beamforming design
- > **Yuanjian Li** and A. Hamid Aghvami, “Joint Transmit Power and Trajectory Design for Covertess-Aware UAV Network : A Quantum-inspired PPO Solution,” *Will be submitted to the journal IEEE Transactions on Wireless Communications*, 2022.
Covert communications | Deep reinforcement learning | UAV | joint transmit power and trajectory optimization | quantum-inspired PPO

国际期刊审稿人

- 中科院一区国际期刊：IEEE Journal on Selected Areas in Communications (JSAC)、IEEE Transactions on Wireless Communications (TWC)、IEEE Transactions on Neural Networks and Learning Systems (TNLS)、IEEE Wireless Communications Magazine (WCM)、IEEE Internet of Things Journal (IoTJ)、IEEE Internet of Things Magazine (IoTMag) 等
- 其他国际期刊：IEEE Transactions on Communications (TC)、IEEE Transactions on Vehicular Technology (TVT)、IEEE Wireless Communications Letters (WCL)、Elsevier Digital Communications and Networks (DCN)、SAGE International Journal of Distributed Sensor Networks (IJDSN) 等
- 无线通信旗舰会议：IEEE Global Communications Conference (GLOBECOM)、IEEE International Conference on Communications (ICC)
- 其他无线通信会议：IEEE Vehicular Technology Conference (VTC)、IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC) 等

教学助理

- 7CCEMDCO Digital Communications (22-23 SEM1 000001)：伦敦国王学院 22-23 学年第一学期数字通信课程教学助理
- 5CCE2MCT Mechatronics (21-22 SEM2 000001)：伦敦国王学院 21-22 学年第二学期机电一体化课程教学助理
- 7CCSMMPC Mobile and Personal Communications (20-21 SEM2 000001)：伦敦国王学院 20-21 学年第二学期移动及个人通信课程教学助理

重要奖项及荣誉节选

2020.05	省级研究生优秀毕业论文，福建省
2019.06	国家公派联合全奖博士生，中华人民共和国国家留学基金管理委员会与伦敦国王学院联合审批与资助
2019.06	校级优秀硕士毕业生，华侨大学
2019.06	校级三好学生，华侨大学
2018.12	硕士研究生一等奖学金，华侨大学
2018.11	研究生国家奖学金，中华人民共和国教育部