



Quyuan Luo

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EDUCATION

Wayne State University

Visiting Scholar (sponsored by China Scholarship Council)

Advisor: Weisong Shi

Detroit, USA

Sep 2019 - Present

Xidian University

M. Eng and Ph.D. of Communications and Information Systems

Advisor: Changle Li, GPA: 89.9/100

Xi'an, China

Sep 2015 - Present

Changchun University of Science and Technology

B.S. of Telecommunications Engineering, GPA: Top 5%

Changchun, China

Sep 2011 - Jun 2015

RESEARCH INTERESTS

Vehicular Edge Computing, Content Distribution, Resource Allocation, Reinforcement Learning, Computation Offloading, Game Theory

ACADEMIC PROJECTS

Integrated Application of Intelligent Cooperative Vehicle-Infrastructure Systems on Highways (National Key Research and Development Project)

May 2019-present

- Design pedestrian detection scheme.

Fusion of Artificial Intelligence-Aided Communications and Computing for Networked Autonomous Driving

Jan 2019 - Present

- Design Resource Allocation Algorithm for Joint Communication and Computation Resources.

Network-Controlled Autonomous Driving: Communication Network System for Autonomous Driving

May 2018 - Present

- Design communication system for the network-controlled autonomous driving.

Communication Network System for Autonomous Driving Terminal in Tianlang Dream Town

Mar 2018 - Present

- Design communication protocol for the IoT devices to assist the autonomous driving terminal.

- Implement and deploy the IoT devices along the smart road in Tianlang Dream Town.

Research, Development and Application of On-Board V2X Products for Vehicular Networks (Key Research and Development Program of Shaanxi)

Jan. 2018 - Sep. 2019

- Design V2X communication scheme.

Research of Key Technologies in Group Communication Based Vehicular Social Networks

Sep 2016 - Sep 2017

- Design content distribution scheme for the vehicular social networks.

Research of Key Technologies in Group Perception and Information Security in Vehicular Networks (Key Research and Development Program of Shaanxi)

Sep. 2015 - Sep. 2016

- Design group perception and communication algorithm.

EXPERIENCE

Connected and Autonomous dRiving Laboratory (CAR Lab)

Visiting Scholar (sponsored by China Scholarship Council)

Detroit, USA

Sep 2019 - Present

- Research on collaborative data scheduling for vehicular edge computing via deep reinforcement learning.
- Research on intelligent algorithm inspired content distribution in vehicular edge computing network.
- Research on self-learning based distributed computation offloading for Internet of vehicles.

PUBLICATION

Journal Papers.....

- [J9] Shihong Hu, **Quyuan Luo***, Changle Li, Guanghui Li, and Weisong Shi, "Resource Scheduling in Edge Computing: A Survey," under review, IEEE Communications Surveys and Tutorials. (co-first author, corresponding author)
- [J8] **Quyuan Luo**, Changle Li, Tom H. Luan and Weisong Shi, "Minimizing the Delay and Cost of Computation Offloading for Vehicular Edge Computing," under review, IEEE Transactions on Services Computing.
- [J7] **Quyuan Luo**, Changle Li, Tom H. Luan and Weisong Shi, "Self-Learning based Computation Offloading for Internet of Vehicles: Model and Algorithm," under review, IEEE Transactions on Wireless Communications.
- [J6] **Quyuan Luo**, Changle Li, Tom Luan, Weisong Shi, "Collaborative Data Scheduling for Vehicular Edge Computing via Deep Reinforcement Learning," IEEE Internet of Things Journal, vol. 7, no. 10, pp. 9637-9650, 2020.
- [J5] **Quyuan Luo**, Changle Li, Tom Luan, Weisong Shi, "EdgeVCD: Intelligent Algorithm Inspired Content Distribution in Vehicular Edge Computing Network," IEEE Internet of Things Journal, vol. 7, no. 6, pp. 5562-5579, 2020.
- [J4] Yunpeng Wang, **Quyuan Luo**, Changle Li and Guoqiang Mao, "Research and Implementation of Pedestrian Detection Technology Based on Smart Road," Chinese Journal on Internet of Things, vol. 3, no. 3, pp. 84-89, 2019.
- [J3] Changle Li, **Quyuan Luo**, Guoqiang Mao, Min Sheng and Jiandong Li, "Vehicle-Mounted Base Station for Connected and Autonomous Vehicles: Opportunities and Challenges," IEEE Wireless Communications, vol. 26, no. 4, pp. 30-36, August 2019.
- [J2] **Quyuan Luo**, Changle Li, Tom H. Luan and Yingyou Wen, "Optimal Utility of Vehicles in LTE-V Scenario: An Immune Clone Based Spectrum Allocation Approach," IEEE Transactions on Intelligent Transportation Systems, vol. 20, no. 5, pp. 1942-1953, July 2019.
- [J1] **Quyuan Luo**, Xuelian Cai, Tom H. Luan and Qiang Ye, "Fuzzy Logic-Based Integrity-Oriented File Transfer for Highway Vehicular Communications," EURASIP Journal on Wireless Communications and Networking, vol. 2018, no. 1, pp. 1-16, January 2018.

Conference Papers.....

- [J4] Yunpeng Wang, **Quyuan Luo**, and Changle Li, "Research and Implementation of Pedestrian Detection Technology Based on Smart Road," accepted to be appear in Proc. IEEE VTC-Spring, Victoria, 2020.
- [J3] **Quyuan Luo**, Changle Li, Qiang Ye, Tom H. Luan, Lina Zhu and Xiaolei Han, "CFT: A Cluster-based File Transfer Scheme for Highway VANETs," in Proceedings of the IEEE International Conference on Communications (ICC), May 21-25, 2017, Paris, France.

- [J2] Pengfei Huang, Changle Li, **Quyuan Luo**, Yao Zhang and Bing Xia, "GECM: A Novel Green Wave Band Based Energy Consumption Model for Electric Vehicles," in Proceedings of the 87th IEEE Vehicular Technology Conference (**VTC Spring**), June 3-6, 2018, Porto, Portugal.
- [J1] Zhifang Miao, Xuelian Cai, **Quyuan Luo**, Weiwei Dong, "A FLRBF Scheme for Optimization of Forwarding Broadcast Packets in Vehicular Ad Hoc Networks," in Proceedings of the 27th IEEE Annual International Symposium on Personal, Indoor, and Mobile Radio Communications (**PIMRC**), September 4-8, 2016, Valencia, Spain.

AWARDS AND ACHIEVEMENTS

- First Class Scholarship in Xidian University, 2018
- Excellent Postgraduate Student Award in Xidian University, 2018
- First Class Scholarship in Xidian University, 2017
- Excellent Postgraduate Student Award in Xidian University, 2017
- Second Class Scholarship in Xidian University, 2016
- Second Class Scholarship in Changchun University of Science and Technology, 2015
- First Class Scholarship in Changchun University of Science and Technology, 2014
- National Encouragement Scholarship, 2013
- Second Prize in Contemporary Undergraduate Mathematical Contest in Modeling, 2013
- First Prize in Mathematical Competition of Changchun University of Science and Technology, 2013
- First Class Scholarship in Changchun University of Science and Technology, 2013
- National Encouragement Scholarship, 2012
- First Class Scholarship in Changchun University of Science and Technology, 2012

PROFESSIONAL SERVICES

Reviewer.....

- IEEE Wireless Communications Magazine — 2020
- IEEE Transactions on Wireless Communications — 2019, 2020
- IEEE Internet Computing — 2020
- IEEE International Conference on Distributed Computing Systems (ICDCS) — 2020
- IEEE Transactions on Vehicular Technology — 2016, 2019
- Journal of Parallel and Distributed Computing (JPDC) — 2019
- ACM/IEEE Conference on Internet of Things Design and Implementation (IoTDI) — 2019
- IEEE Transactions on Services Computing — 2019
- IEEE Transactions on Cloud Computing — 2019
- IEEE Transactions on Intelligent Transportation Systems — 2018
- IEEE Communications Magazine — 2018
- IEEE Network Magazine — 2017
- IEEE Vehicular Technology Conference (VTC) — 2017

Conference Volunteer.....

- The Third IEEE International Conference on Connected and Autonomous Driving (**MetroCAD**), 2020.