Xincao Xu
Chongqing University

Email
near@cqu.edu.cn
Homepage
me.neardws.com
Phone
+86-13678430450
GitHub
neardws
Address
Chongqing, China

Xincao Xu

Ph.D. Student of Computer Science

About Me I am currently pursuing a Ph.D. degree in computer science at Chongqing University, advised by Prof. Kai Liu. My research interests include vehicular networks, edge computing, and deep reinforcement learning. I have published more than 10 papers, including 5 SCI papers with over 90 citations in Google Scholar. I expect to graduate in June 2023, so I'm currently looking for a research job.

Education

2017 - 2023, Chongqing University
Ph.D. in Computer Science (Successive Master-Doctor Program)

2013 - 2017, North University of China
BS in Network Engineering

Publications

Journal

1. Channel Allocation Method for Vehicle Edge Computing Based on Potential Game, **Xincao Xu**, Kai Liu*, Chunhui Liu, et al., *Chinese J. Electron.*, (49) 5, 851-860, 2021. (CCF A)
2. A Hierarchical Architecture for the Future Internet of Vehicles, Kai Liu*, **Xincao Xu**, Mengliang Chen, et al., *IEEE Commun. Mag.*, 57 (7), 41-47, 2019. (SCI Q1)
3. Vehicular Fog Computing Enabled Real-time Collision Warning via Trajectory Calibration, **Xincao Xu**, Kai Liu*, Ke Xiao, et al., *Mob. Netw. Appl.*, 25 (6), 2482-2494, 2020. (SCI Q3)
4. Efficient Fog-assisted Heterogeneous Data Services in Software Defined VANETs, Ke Xiao, Kai Liu, **Xincao Xu**, et al., *J. Ambient Intell. Humaniz. Comput.*, 12 (1), 261-273, 2021. (SCI Q2)
5. Cooperative Coding and Caching Scheduling via Binary Particle Swarm Optimization in Software Defined Vehicular Networks, Ke Xiao, Kai Liu, **Xincao Xu**, et al., *Neural. Comput. Appl.*, 33 (5), 1467-1478, 2021. (SCI Q2)
6. RtDS: Real-time Distributed Strategy for Multi-period Task Offloading in Vehicular Edge Computing Environment, Chunhui Liu, Kai Liu, Hualing Ren, **Xincao Xu**, et al., *Neural. Comput. Appl.*, to appear, doi: 10.1007/s00521-021-05766-5. (SCI Q2)

Conference

1. Age of View: A New Metric for Evaluating Heterogeneous Information Fusion in Vehicular Cyber-Physical Systems, **Xincao Xu**, Kai Liu, et al., *IEEE ITSC'22*, Macau, October 8-12, 2022.
2. Potential Game-based Distributed Channel Allocation in Vehicular Fog Computing Environments, **Xincao Xu**, Yi Zhou, Kai Liu, et al., *CWSN'20*, Dunhuang, September, 18-21, 2020.
3. Design and Implementation of a Fog Computing Based Collision Warning System in VANETs, **Xincao Xu**, Kai Liu, Ke Xiao, et al., *IEEE ISPCE-CN'18*, Hong Kong/Shengzhen, December 5-7, 2018.

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4. Real-time Task Offloading for Data and Computation Intensive Services in Vehicular Fog Computing Environments, Chunhui Liu, Kai Liu, **Xincao Xu**, et al., *IEEE MSN'20*, Tokyo, December 17-19, 2020.
5. Multi-period Distributed Delay-sensitive Tasks Offloading in a Two-layer Vehicular Fog Computing Architecture, Yi Zhou, Kai Liu, **Xincao Xu**, et al., *NCAA'20*, Shenzhen, July 3-6, 2020.
6. Distributed Scheduling for Time-Critical Tasks in a Two-layer Vehicular Fog Computing Architecture, Yi Zhou, Kai Liu, **Xincao Xu**, et al., *IEEE CCNC'20*, Las Vegas, January 11-14, 2020.

Communication Skills

2021, *Oral Presentation (Online)*, IEEE 25th International Conference on Intelligent Transportation Systems
Presented recent research on Age of View.

2018, *Oral Presentation*, IEEE International Symposium on Product Compliance Engineering-Asia
Presented a vehicular collision warning system implemented in VEC.

Patents

1. A Control Plane View Construction Method for Software-Defined Vehicular Networks, **Xincao Xu**, Kai Liu, Dong Li, Chinese Invention Patent (2021105918221), to appear.
2. An Edge Computing Based Collision Warning Method for Vehicles in Blind Areas, Liu Kai, Zhang Lang, **Xincao Xu**, et al., Chinese Invention Patent (ZL201910418745.2), 2021.
3. A Fog Computing-based Information Acquisition, Computing, and Transmission Architecture, Ren Hualing, Liu Kai, Chen Mengliang, Zhou Yi, **Xincao Xu**, Chinese Invention Patent (ZL201910146357.3), 2021.

Technologies

Methods

- Multi-agent DRL
- Game Theory
- Convex Opt.

Programming

- Python
- C++
- Matlab
- PyTorch
- TensorFlow
- Git

Awards

2018, *Best Paper Award*, IEEE ISPCE-CN'18
Awarded to the best paper in the conference, and only one this year.

2020, *Best Paper Candidate*, CWSN'20
Awarded to the top 10 papers in the conference.