Junqin Huang

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RESEARCH INTEREST

His research interests include blockchain, crowdsensing, Internet of things, security, privacy, etc.

EDUCATION

Shanghai Jiao Tong University (SJTU)   **Shanghai, China**
Ph.D. Candidate in Computer Science and Engineering   *April 2020 - present*

Shanghai Jiao Tong University (SJTU)   **Shanghai, China**
Master Candidate in Computer Science and Engineering   *September 2018 - April 2020*

University of Electronic Science and Technology of China (UESTC)   **Chengdu, China**
Bachelor of Computer Science and Technology   *September 2014 - June 2018*

PUBLICATIONS

Journal

- **Junqin Huang**, Linghe Kong, Jingwei Wang, Guihai Chen, Jianhua Gao, Gang Huang, Muhammad Khurram Khan. *"Secure Data Sharing over Vehicular Networks Based on Multi-Sharding Blockchain"*. ACM Transactions on Sensor Networks, 2023. (CCF B)

- **Junqin Huang**, Linghe Kong, Long Cheng, Hong-Ning Dai, Meikang Qiu, Guihai Chen, Xue Liu, Gang Huang. *"BlockSense: Towards Trustworthy Mobile Crowdsensing via Proof-of-Data Blockchain"*. IEEE Transactions on Mobile Computing, 2022. (CCF A)

- **Junqin Huang**, Linghe Kong, Guihai Chen, Qiao Xiang, Xi Chen, Xue Liu. *"Blockchain-based Federated Learning: A Systematic Survey"*. IEEE Network, 2022. (IF 10.294, JCR Q1)

- Linghe Kong, Jinlin Tan, **Junqin Huang**, Guihai Chen, Shuaitian Wang, Xi Jin, Peng Zeng, Muhammad K. Khan, Sajal K. Das. *"Edge-Computing-Driven Internet of Things: A Survey"*. ACM Computing Surveys, vol. 55, no. 8, Article 174, 41 pages, 2022. (IF 14.324, JCR Q1)

- Yongshuai Duan, **Junqin Huang**, Jiale Lei, Linghe Kong, Yibin Lv, Zhiliang Lin, Guihai Chen, Muhammad Khurram Khan. *"AISChain: Blockchain-Based AIS Data Platform With Dynamic Bloom Filter Tree"*. IEEE Transactions on Intelligent Transportation Systems, 2022. (CCF B)

- Jiale Lei, **Junqin Huang**, Linghe Kong, Guihai Chen, Muhammad Khurram Khan. *"DeFLoc: Deep Learning Assisted Indoor Vehicle Localization Atop FM Fingerprint Map"*. IEEE Transactions on Intelligent Transportation Systems, vol. 23, no. 10, pp. 19795-19806, 2022. (CCF B)

- Kangjie Xu, **Junqin Huang**, Linghe Kong, Jiadi Yu, Guihai Chen. *"PV-TSC: Learning to Control Traffic Signals for Pedestrian and Vehicle Traffic in 6G Era"*. IEEE Transactions on Intelligent Transportation Systems, 2022. (CCF B)

- **Junqin Huang**, Linghe Kong, Hong-Ning Dai, Weiping Ding, Long Cheng, Guihai Chen, Xi Jin, Peng Zeng. *"Blockchain Based Mobile Crowd Sensing in Industrial Systems"*. IEEE Transactions on Industrial Informatics, vol. 16, no. 10, pp. 6553-6563, 2020. (IF 10.215, JCR Q1)

- **Junqin Huang**, Linghe Kong, Guihai Chen, Min-You Wu, Xue Liu, Peng Zeng. *"Towards Secure Industrial IoT: Blockchain System with Credit-Based Consensus Mechanism"*. IEEE Transactions on Industrial Informatics, vol. 15, no. 6, pp. 3680-3689, 2019. (IF 10.215, JCR Q1, ESI Highly Cited Paper)

Conference

- Jingwei Wang, **Junqin Huang**, Linghe Kong, Guihai Chen, Dianle Zhou, Joel J. P. C. Rodrigues. *"A Privacy-Preserving Vehicular Data Sharing Framework atop Multi-Sharding Blockchain"*. IEEE GLOBECOM, 2021. (CCF C)
- **Junqin Huang**, Linghe Kong, Guihai Chen, Long Cheng, Kaishun Wu, Xue Liu. *"B-IoT: Blockchain Driven Internet of Things with Credit-Based Consensus Mechanism"*. IEEE ICDCS, Dallas, Texas, USA, 2019. (CCF B)
- Yue Li, **Junqin Huang**, Shengzhi Qin, Ruijin Wang. *"Big Data Model of Security Sharing Based on Blockchain"*. BIGCOM, Chengdu, 2017.

Workshop/Poster/Book Chapter
- **Junqin Huang**, Linghe Kong, Jiejian Wu, Yutong Liu, Yuchen Li, Zhe Wang. *"Learning-based Congestion Control Simulator for Mobile Internet Education"*. ACM MobiArch (held in conjunction with MobiCom), 2021.
- **Junqin Huang**, Lingkun Kong, Linghe Kong, Zhen Liu, Zhiqiang Liu and Guihai Chen. *"Blockchain-based Crowd-sensing System"*. IEEE HotICN International Conference, 2018.
- **Junqin Huang**, Linghe Kong, Guihai Chen. *"Outlier Discrimination and Correction in Intelligent Transportation Systems"*. Smart Cities Cybersecurity and Privacy, Elsevier, 2019.

ACADEMIC PROJECTS

Map Attacker   *May 2018 – June 2020*
- We observe the fact that navigation apps will collect users' GPS data to calculate the real time traffic status.
- The main idea of this project is to utilize this fact to defraud navigation apps by uploading fake GPS data.

BlockSense: Blockchain + Crowdsensing   *July 2018 - present*
- We combine blockchain and crowdsensing to build a trustworthy decentralized crowdsensing platform, which breaks the traditional centralized triangular architecture.
- We also propose the Proof-of-Data (POD) consensus mechanism, to leverage miners to verifying data quality while without knowing the content of data.

Hidden Camera Detection   *September 2019 - January 2020*
- Motivated by more and more hotel candid shots events, we try to detect if there exists any hidden camera through reading EMI signals from the power line, which is inspired by ElectriSense (Ubicomp'10).
- We built a PLI module and used USRP N210 to construct the experiment platform.

AWARDS AND ACHIEVEMENTS

- Second prize of "Huawei Cup" 17th China Post-Graduate Mathematical Contest in Modeling (Problem A) in 2020.
- Excellent Scholarship for Doctoral Students in 2020.
- National Graduate Scholarship in 2019.
- First prize of National Universities and Colleges Blockchain Contest in 2018.
- First prize of National College Student Information Security Contest in 2017.
- Outstanding Undergraduate of UESTC in 2017.

PROFESSIONAL SERVICES

Teaching Assistant
- [CS154] Programming Design Ideas and Methods (C++), Fall 2019
- [CS7341] Algorithm Analysis and Theory, Spring 2021

Invited Reviewer
- IEEE Transactions on Mobile Computing

- IEEE Communications Surveys and Tutorials
- IEEE Transactions on Systems, Man and Cybernetics: Systems
- IEEE Computer
- IEEE Transactions on Emerging Topics in Computing
- IEEE Transactions on Industrial Informatics
- IEEE Transactions on Intelligent Transportation Systems
- IEEE Internet of Things Journal
- IEEE Network
- IEEE Access
- ACM Ubicomp/IMWUT
- EAI CollaborateCom

TPC Member
- IEEE VTC2020-Spring
- IEEE VTC2021-Spring