He Sun

Mobile Computing; On-device Learning; Online Learning Theory

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Education

University of Science and Technology of China (USTC)
School of Computer Science and Technology Sep. 2022 – present

Ph.D. student in Computer Science, Yang Yuanqing Scholarship, Suzhou Industrial Park Scholarship

University of Science and Technology of China (USTC)
School of Cyberspace Security Sep. 2020 – Jul. 2022

Master student in Cyberspace Security.

Qingdao University
School of Computer Science and Technology Sep. 2016 – Jul. 2020

Bachelor student majoring in Computer Science, Rank Top 10%, Shuguang Scholarship

School of Foreign Languages. Sep. 2017 – Jul. 2020

Bachelor student minoring in English Literature

Publication

- [INFOCOM' 23] **He Sun**, Mingjun Xiao, Yin Xu, Guoju Gao, Shu Zhang, "Privacy-preserving Stable Crowdsensing Data Trading for Unknown Market", Proc. IEEE INFOCOM' 23, May. 2023, (CCF-A, Acceptance Rate: 252/1312=19.2%)
- [TMC' 24] **He Sun**, Mingjun Xiao, Yin Xu, Guoju Gao, Shu Zhang, "Crowdsensing Data Trading for Unknown Market: Privacy, Stability, and Conflicts", IEEE Transactions on Mobile Computing, 2024 (CCF-A)
- [MASS' 23] Chen Wu, Mingjun Xiao, Jie Wu, Jinrui Zhou, Yin Xu and **He Sun**, "Towards Federated Learning on Fresh Datasets", Proc. IEEE MASS 2023. (CCF-C, **Best Paper Award**)
- [ICDCS' 24] Yu Zhao, Jinrui Zhou, Mingjun Xiao, Jie Wu and **He Sun**, "ERS: Faster LiDAR Point Cloud Registration for Connected Vehicles", IEEE ICDCS 2024 (CCF-B)
- [INFOCOM WKSHPS' 23] Shu Zhang, Mingjun Xiao, Guoju Gao, Yin Xu and **He Sun** , "Offloading Tasks to Unknown Edge Servers: A Contextual Multi-Armed Bandit Approach", Proc. IEEE INFOCOM WKSHPS: ICCN 2023 (CCF-A).
- [ICPADS' 23] Jinbo Cai, Mingjun Xiao, **He Sun**, Junjie Shao, Yu Zhao, Tongxiao Zhang, "Video Streaming Caching and Transcoding for Heterogeneous Mobile Users", Proc. ICPADS' 23 (CCF-C)
- [JCST' 24] Yin Xu, Mingjun Xiao, Jie Wu, Chen Wu, Jinrui Zhou and **He Sun**, "Age-of-Information-Aware Federated Learning", Journal of Computer Science and Technology, 2024 (CCF-B)
- [Book Chapter] Mingjun Xiao, Yin Xu, **He Sun**. "Unknown Worker Recruitment in Mobile Crowdsourcing" in "Mobile Crowdsourcing: From Theory to Practice", edited by Jie Wu and En Wang, 2023, (Part of the Wireless Networks book series)
- (VLDB' 25, Under review) **He Sun**, Junyuan Mao, Jinrui Zhou, Mingjun Xiao, An Liu, Jie Wu, "ReSmart: Distributed Stable Task Matching in Non-stationary Spatial Crowdsourcing", Proceedings of the VLDB Endowment, 2025 (CCF-A)
- (SCIS, Under review) **He Sun**, Mingjun Xiao, Jinbo Cai, Junjie Shao, Yu Zhao. "Mobile Video Streaming Inference for Edge Caching: Algorithm, Theory and Application", Science China Information Science, 2024 (CCF-A)
- (TMC'24, Under review) Yu Zhao, **He Sun**, Mingjun Xiao, Jie Wu, Junjie Shao, Jinbo Cai. "Edge-assisted Multi-vehicle Cooperative Perception: an Approach Based on Relative Pose Estimation", IEEE Transactions on Mobile Computing, 2023 (CCF-A)

- (TSC' 24, Under review) Junjie Shao, Yu Zhao, **He Sun**, Jinbo Cai, Jie Wu, Mingjun Xiao, "Cooperative Traffic Signal Online Control Using Game Theory and Contextual Bandit", IEEE Transactions on Services Computing, 2024 (CCF-A)
- (On submission) **He Sun**, Mingjun Xiao, Jie Wu, "MobiDiverse: Collaborative Multi-drone Diverse Data Collection with Mobile Unmanned Carriage", 2024

Project Experience

- Key Research and Development Project of Ministry of Science and Technology – Mechanism and Calculation Method of swarm Intelligence Emergence for City Perception, 2019.07-2022.06 (Core member)
- Key project of National Natural Science Foundation of China, Research on key technologies of resource optimization allocation in edge intelligent Architecture, 2020.01-2024.12 (Core member)
- Project of National Natural Science Foundation of China, Research on Intelligent and Trusted Cooperation Mechanism of Mobile Group Intelligence Computing based on blockchain, 2022.01-2025.12 (Core member)
- Project of National Natural Science Foundation of China, Research on Key Technologies of Secure and Trusted Mobile Group Intelligence Sensing Data Trading System, 2019.01-2022.12 (Core member)
- Project of National Innovation and Entrepreneurship Program for College Students in China, The Research and Development of Parking Sharing System in Smart City, 2018.5-2020.5. (Project leader)

Honors and Awards

Honors:

- Suzhou Industrial Park Scholarship (2023.3)
- "Yang Yuanqing" Scholarship (2022.12)
- "Shuguang" scholarship (2019.10)

Awards:

- **Best Paper Award** in IEEE MASS 2023.
- **Second Prize** in China software open source innovation competition (National College Green Computing Contest-21 Open source project innovation competition) by CCF, 2021.
- **Outstanding Winner (No.1)** in National College Green Computing Contest-19 (Project Challenge) by CCF, 2019.
- **Outstanding Winner (No.3)** in National College Green Computing Contest-18 (Project Challenge) by CCF, 2018.
- **Third Prize** in National Math Competition for College Students, 2019.
- **Third Prize (Top 8)** in Imagine Cup 2018 of Microsoft, 2018.
- **First prize** in the National High School Mathematics Competition in Shandong Province, 2015.

Skills

- Skilled in Python, Latex, C++, Git, Matlab, Shell, HTML/CSS/JavaScript, etc.
- Tensorflow, Pytorch, etc.
- Experienced in development of distributed machine learning.
- Theoretic knowledge on online learning and statistics.

Professional Services

- IEEE Transactions on Mobile Computing (TMC) Reviewer
- IEEE Transactions on Network and Service Management (TNSM) Reviewer
- IEEE INFOCOM 2022 External reviewer
- IEEE INFOCOM 2023 External reviewer
- IEEE Transactions on Networking (ToN) External reviewer
- IEEE Transactions on Service Computing (TSC) External reviewer
- IEEE Transactions on Big Data (TBD) External reviewer
- Information Science (InfoSci) External reviewer
- IEEE Jounal of Internet of Things External (IoTJ) External reviewer