Yuanhang Zhou

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Research Interests

Blockchain: Blockchain Application, Security and Privacy, Applied Cryptography
Crowdsensing: Incentive Mechanism, Optimization, Influence Maximization

Education

Southeast University 2021.9 – Present

Pursuing Master's degree Cyberspace Security Advisor: **Fei Tong**
GPA: 90.4/100 Ranking 14 (<4%)

Nanjing University of Posts and Telecommunication (NJUPT) 2017.9 – 2021.6

Bachelor of Engineering Information Security Advisor: **Jia Xu**
GPA: 3.94/5 Ranking 14 (Elite class)

Employment

Southern University of Science and Technology (SUSTech) 2023.6 – Present

Visiting Student Department of Computer Science and Engineering Advisor: **Jianyu Niu**

Honors

National Scholarship, *Ministry of Education* 2023
Pacemaker to Merit Student, *Southeast University* 2023
National Scholarship, *Ministry of Education* 2022
"Huawei Cup" 1st Network Security Innovation Competition, Third Prize 2022
Second Class Postgraduate Academic Scholarship, *Southeast University* 2022
First Class Postgraduate Academic Scholarship, *Southeast University* 2021
Excellent Graduation Thesis, *NJUPT* 2021

Research Achievements

Academic Page Google Scholar ORCID

Publications

- Fei Tong, **Yuanhang Zhou**, Kaiming Wang, et al., "A Privacy-Preserving Incentive Mechanism for Mobile Crowdsensing based on Blockchain," *IEEE Transactions on Dependable and Secure Computing (TDSC)*. 2024. **CCF-A**.
- **Yuanhang Zhou**, Fei Tong, and Shibo He, "Bi-objective Incentive Mechanism for Mobile Crowdsensing with Budget/Cost Constraint," *IEEE Transactions on Mobile Computing* (***TMC***). 2022. **CCF-A**.
- Jia Xu, **Yuanhang Zhou**, Gongyu Chen, et al., "Topic-aware Incentive Mechanism for Task Diffusion in Mobile Crowdsourcing through Social Network," *ACM Transactions on Internet Technology (TOIT)*. 2022. **CCF-B**.
- Jia Xu, **Yuanhang Zhou**, Yuqing Ding, et al., "Biobjective Robust Incentive Mechanism Design for Mobile Crowdsensing," *IEEE Internet of Things Journal (IoTJ)*. 2021. **JCR Q1**.
- Jia Xu, Gongyu Chen, **Yuanhang Zhou**, et al., "Incentive Mechanisms for Large-Scale Crowdsourcing Task Diffusion Based on Social Influence," *IEEE Transactions on Vehicular Technology (TVT)*. 2021. **JCR Q1**.

Unpublished Research

- **Yuanhang Zhou**, Shubo Peng, Hanzheng Lyu, et al., "KLOTSKI: Towards Consensus Enabled Collaborative Vehicles in Intelligent Transportation," submitted to *IEEE Transactions on Intelligent Transportation Systems (TITS)*, Under review.
- Fei Tong, Jiuhe Liu, **Yuanhang Zhou**, et al., "BAC-IDS: A Blockchain-Assisted Collaborative Intrusion Detection System for Smart Home IoT," submitted to *IEEE Internet of Things Journal (IoTJ)*.
- First Author, "Towards Efficient, Robust, and Privacy-preserving Incentives for Crowdsensing via Blockchain," Under research.

Patents

- "A Privacy-preserving Incentive Mechanism Method for Crowdsensing based on Blockchain", Authorized *First Student Author*
- "A Bi-objective Incentive Mechanism Method for Crowdsensing", Authorized *First Student Author*
- "A Bi-objective Crowdsensing System and Incentive Method", Authorized *First Student Author*
- "An Anomaly User Detection Method for Temporal and Spatial Mobile Crowdsensing", Authorized *Third Author*
- "A Topic-aware Task Diffusion Method and Incentive for Crowdsourcing", Authorized *Third Author*

Research Experience

Dynamic Consensus for Intelligent Transportation *SUSTech* 2023.6 – Present

- Design and realize transportation decision for intelligent transportation (V2X)
- Consider dynamic participation in consensus

Incentive Analysis in Blockchain Consensus *SUSTech* 2023.6 – Present

- Survey the consensus and incentives in blockchain platforms
- Analysis the rationality of incentives using game theory

Incentive Design for Crowdsensing via Blockchain *Southeast University* 2021.7 – Present

- Realize a decentralized crowdsensing system based on blockchain
- Design secure and privacy-preserving incentive mechanisms under blockchain architecture

Crowdsourcing Task Diffusion based on Social Network *NJUPT* 2020.6 – 2021.6

- Realize the crowdsourcing task diffusion based on social network for influence maximization

Robust Incentive Mechanism Design for Crowdsensing *NJUPT* 2019.4 – 2020.5

- Design robust incentive mechanisms for crowdsensing system

Other Experience

Academic Report *Beijing Institute of Technology* 2022.11

Long Report, 2nd Distributed Control, Optimization and Security, Zhizhen Academic Forum for Postgraduate

Project Director *Southeast University* 2022.10 – 2023.5

Student Research Training Program and *Student Information Security Contest*

Conference Reviewer 2022.8

IEEE/CIC International Conference on Communications in China (ICCC)

Teaching Assistant *Southeast University* 2021.9 – 2022.2

Principles of Computer Composition

Short Visit *Tohoku University* 2018.8

Learning frontier technology in Computers and Electronics