Resume of Ting Cai

Basic Information

School：	School of Computer Science
Gender：	Female
Date of Birth：	198409
Title：	Associate Professor
Education：	Ph.D of Software Engineering
Tutor：	Master degree
Email:	caiting@hbut.edu.cn
Interest of research:	Blockchain, Deep Reinforcement Learning, Federated Learning

Academic & Working Background

- 2022.09-present   Associate Professor, Depart. of Computer Science Hubei University of Technology, Wuhan, China
- 2018.08-2022.06   Ph.D. in Software Engineering, Depart. of Computer Science Sun Yat-Sen University, Guangzhou, China
- 2012.08-2018.07   Lecturer, Depart. of Mobile Telecom.
  University of Posts and Telecom., Chongqing, China
- 2009.10-2012.07   Engineer, Computer Information Technology Lab,
  The Sinotrans & CSC Holdings Co. Ltd., Beijing, China
- 2002.09-2009.06   Master/Bachelor, Department of Computer Science
  Wuhan University of Science and Technology, Wuhan, China

Visiting Experience

- 2019/07-2020/01, PhD Exchange Project, The Hong Kong Polytechnic University, Hong Kong, China
- 2016/09-2017/01, Visiting Researcher, Depart. of IEEE, Nanyang Technological University, Singapore

Enrollment Information

1. Enrollment Discipline: Master of Computer Science
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Representative Projects

[1] 2024.01-2026.12, The National Natural Science Foundation of China, *Reserach on Off-Chain Collaborative Dynamic Sharding Mechanism for Blockchain of Things* (62302154), Project leader.

[2] 2024.01-2025.12, The Natural Science Foundation of Hubei Province, *Research on Key Technologies of Sharding Blockchain for Internet of Vehicles*, Project leader.

[3] 2024.02-2026.01, Open Project Funding of the Key Laboratory of Intelligent Sensing System and Security (Hubei University), Ministry of Education, *Research on Security-Data-Driven High Performance Consortium Blockchain* (KLISSS202404), Project leader.

[4] 2018.06-2022.06, The Ministry of Education's Key Scientific Research Project, *Research on Blockchain Key Technologies and Trusted Data Management* (KJZD-K201802401), Project leader.

Representative Articles

1. Junyuan Liang,Peiyuan Yao,Wuhui Chen,Zicong Hong,Jianting Zhang,**Ting Cai**,Min Sun,Zibin Zheng,"SPARROW: One-step Smart Contract Execution for Blockchain Sharding via Inter-shard Caching",*IEEE Transactions on Parallel and Distributed Systems* (**TPDS**), 2024.（CCF-A）

2. **Ting Cai**,Ying Hu,Xiang Li,Wuhui Chen,Yuxin Wu,Zhiwei Ye, "Incentive Sharing: A Consumer-Data Privacy Trusted Sharing Paradigm Via Proximal Policy Optimization in Industry 5.0",*IEEE Transactions on Consumer Electronics*, 2024.（SCI 2）

3. **Ting Cai**,Xiang Li,Yifei Wang,You Zhang,Zhiwei Ye,Qiyi He,"TEMP: Cost-Aware Two-Stage Energy Management for Electrical Vehicles Empowered by Blockchain," *IEEE Internet of Things Journal*, vol. 11, no. 23, pp. 38246-38261, 2024.（SCI 1）

4. **Ting Cai**, Wuhui Chen, Jianting Zhang, Zibin Zheng, "SmartChain: A Dynamic and Self-Adaptive Sharding Framework for IoT Blockchain", *IEEE Transactions on Services Computing* (**TSC**), vol. 17, no. 2, pp. 674-688, 2024. （CCF-A）

5. **Ting Cai**, Chuqi Li , Qiang Li , Yifei Wang , Yuxin Wu , Zhiwei Ye , Patrick C. K. Hung，"Payment Routing across IoT Blockchain Shards using Deep Reinforcement Learning", *2024 IEEE 21th International Conference on Sensing, Communication, and Networking* (**SECON**), Phoenix, Arizona, USA, 2024.（CCF-B）

6. Chun Wang, Huawei Huang, Rrixin Li, Jialiang Liu, **Ting Cai**, Zibin Zheng, "Libra: A Fairness-Guaranteed Framework for Semi-Asynchronous Federated Learning", *2024 IEEE 44th International Conference on Distributed Computing Systems* (**ICDCS**), Jersey City, NJ, USA, 2024, pp. 797-808.（CCF-B）

7. Jialiang Liu, Huawei Huang, Chun Wang, Ruixin Liu, **Ting Cai**, Qinglin Yang, "Can Federated Learning Clients be Lightweight? A Plug-and-Play Symmetric Conversion Module", *2024 IEEE 44th International Conference on Distributed Computing Systems* (**ICDCS**), Jersey City, NJ, USA, 2024, pp. 809-820.（CCF-B）

8. Bingxin Tang, Junyuan Liang, Zhongteng Cai, **Ting Cai**, Xiaocong Zhou, Yingye Chen, "MDRL-IR: Incentive Routing for Blockchain Scalability With Memory-Based Deep Reinforcement Learning", *IEEE Transactions on Services Computing* (**TSC**), vol. 16, no. 6, pp. 4375-4388, 2023（CCF-A）

9. **Ting Cai**, Zicong Hong, Shuo Liu, Wuhui Chen, Zibin Zheng, Yang Yu, "SocialChain: Decoupling Social Data and Applications to Return Your Data Ownership", *IEEE Transactions on Services Computing* (**TSC**), vol. 16, no. 1, pp. 600-614, 2023（CCF-A）

10.**<u>Ting Cai</u>**, Wuhui Chen, Kostas E. Psannis,Sotirios K. Goudos,Yang Yu,Zibin Zheng, "Scalable On-Chain and Off-Chain Blockchain for Sharing Economy in Large-Scale Wireless Networks", *IEEE Wireless Communications*, vol. 29, no. 3, pp. 32-38, 2022 （SCI 1, IF=10.9）

11.**<u>Ting Cai</u>**, Zhihua Yang, Yufei Chen, Wuhui Chen, Zibin Zheng, Yang Yu, "Cooperative Data Sensing and Computation Offloading in UAV-Assisted Crowdsensing With Multi-Agent Deep Reinforcement Learning", *IEEE Transactions on Network Science and Engineering*, vol. 9, no. 5, pp. 3197-3211, 2022.（SCI 2）

12.Wuhui Chen, Xiaoyu Qiu, **<u>Ting Cai</u>**, Hong-Ning Dai, Zibin Zheng and Yan Zhang, "Deep Reinforcement Learning for Internet of Things: A Comprehensive Survey", *IEEE Communications Surveys & Tutorials*, vol. 23, no. 3, pp. 1659-1692, 2021.（SCI 1, IF=34.4）