# JIE XU

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https://jessecu2024.github.io/

## RESEARCH INTERESTS

- **Large Model Learning and Unlearning**
- **Distributed System and Blockchain Consensus**
- **Network Security and Applied Cryptography**

## EDUCATION

**City University of Hong Kong (CityU)**                *Sep. 2020 - Aug. 2024 (expected)*
Ph.D. in Computer Science (*Recipient of the Presidential PhD Scholarship*)
Supervisor: Prof. Xiaohua Jia

**University of Science and Technology of China (USTC)**                *Sep. 2017 - Jul. 2020*
Master of Engineering in Electronics and Communication Engineering (*Graduated with Honors*)
Supervisors: Prof. Peiling Hong and Prof. Kaiping Xue

**University of Science and Technology of China (USTC)**                *Sep. 2013 - Jul. 2017*
Bachelor of Engineering in Information Security (*Graduated with Honors*)
Bachelor of Literature in Communication (*Dual Degree*)

## PUBLICATIONS AND PATENTS

Submitted papers:

- **Jie Xu**, Zihan Wu, Cong Wang and Xiaohua Jia, "LMEraser: Large Model Unlearning through Adaptive Prompt Tuning", submitted to *2024 International Joint Conference on Artificial Intelligence (IJCAI'2024)*.

- **Jie Xu**, Zihan Wu, Cong Wang and Xiaohua Jia, "Machine Unlearning: Solutions and Challenges", *IEEE Transactions on Emerging Topics in Computational Intelligence.* (Minor) arXiv

- **Jie Xu**, Sen Peng, Cong Wang and Xiaohua Jia, "PuffChain: Dynamic Scaling BFT-based PoS Blockchain with Optimal Throughput", *IEEE Transactions on Network Science and Engineering.* (Major)

- Jianfei He, Shichao Sun, Sen Peng, **Jie Xu**, Xiaohua Jia, Wenjie Li, "Contrastive Preference Learning for Neural Machine Translation", *ACL ARR 2023.*

Published papers:

- **Jie Xu**, Yulong Ming, Zihan Wu, Cong Wang and Xiaohua Jia, "X-shard: An Optimistic Cross-shard Transaction Processing Protocol for Account-based Blockchains", *IEEE Transactions on Parallel and Distributed Systems.*

- **Jie Xu**, Qingyuan Xie, Sen Peng, Cong Wang, and Xiaohua Jia, "AdaptChain: Adaptive Scaling Blockchain With Transaction Deduplication," *IEEE Transactions on Parallel and Distributed Systems*, vol. 34, no. 6, pp. 1909-1922, 2023.

- **Jie Xu**, Cong Wang and Xiaohua Jia, "A Survey of Blockchain Consensus Protocols," *ACM Computing Surveys*, vol. 55, no. 13s, pp. 1-35, 2023.

- **Jie Xu**, Yingying Cheng, Cong Wang and Xiaohua Jia "Occam: A Secure and Adaptive Scaling Protocol for Permissionless Blockchain," in *Proceedings of the 41st IEEE International Conference on Distributed Computing Systems (ICDCS 2021)*, July 7-10, 2021.

- **Jie Xu**, Kaiping Xue, Hangyu Tian, Jianan Hong, David S.L. Wei, and Peilin Hong "An Identity Management and Authentication Scheme Based on Redactable Blockchain for Mobile Networks," *IEEE Transactions on Vehicular Technology*, vol. 69, no. 6, pp. 6688-6698, 2020.

- **Jie Xu**, Kaiping Xue, Shaohua Li, Jianan Hong, Peilin Hong, and Nenghai Yu "Healthchain: A Blockchain-based Privacy Preserving Scheme for Large-scale Health Data," *IEEE Internet of Things Journal*, vol. 6, no. 5, pp. 8770-8781, 2019. (**Highly Cited Papers**)

- **Jie Xu**, Kaiping Xue, Qingyou Yang, and Peilin Hong, "PSAP: Pseudonym-based Secure Authentication Protocol for NFC Applications," *IEEE Transactions on Consumer Electronics*, vol. 64, no. 1, pp. 83-91, 2018.

- Sen Peng, Yufei Chen, **Jie Xu**, Zizhuo Chen, Cong Wang and Xiaohua Jia, "Intellectual Property Protection of DNN Models," *World Wide Web Journal*, 2022.

- Xingyi Luo, Kaiping Xue, **Jie Xu**, Qibin Sun, and Yongdong Zhang, "Blockchain-based Secure Data Aggregation and Distributed Power Dispatching for Microgrids," *IEEE Transactions on Smart Grid*, vol. 12, no. 6, pp. 5268 - 5279, 2021.

- Hangyu Tian, Kaiping Xue, Xinyi Luo, Shaohua Li, **Jie Xu**, Jianqing Liu, Jun Zhao, David S.L. Wei, "Enabling Cross-chain Transactions: A Decentralized Cryptocurrency Exchange Protocol," *IEEE Transactions on Information Forensics and Security*, vol. 16, pp. 3928 - 3941, 2021.

- Qingyou Yang, Kaiping Xue, **Jie Xu**, Jiajie Wang, Fenghua Li, and Nenghai Yu, "AnFRA: Anonymous and Fast Roaming Authentication for Space Information Network," *IEEE Transactions on Information Forensics and Security*, vol. 14, no. 2, pp. 486-497, 2019.

- Peixuan He, Kaiping Xue, **Jie Xu**, Qiudong Xia, Jianqing Liu, Hao Yue, "Attribute-based Accountable Access Control for Multimedia Content with In-network Caching," in *Proceedings of the 2019 IEEE International Conference on Multimedia and Expo (ICME 2019)*.

- Wei Meng, Kaiping Xue, **Jie Xu**, Jianan Hong, and Nenghai Yu, "Low-Latency Authentication Against Satellite Compromising for Space Information Network," in *Proceeding of the 15th IEEE International Conference on Mobile Ad Hoc and Sensor Systems (MASS 2018)*. IEEE, 2018, pp. 237-244. **Best Paper Runner Up**

- **Patent**: CN108282778A-Anonymous and Fast Roaming Authentication for Space Information Network

## Selected Teaching and Professional Services

- Teaching assistant for CS2312 Problem Solving and Programming, CS8692 Comprehensive Studies in Selected Topics in CS, CS1102 Introduction to Computer Studies, CS2204 Fundamentals of Internet Applications Development, etc.

- Invited reviewer for IEEE Transactions on Computers, IEEE Transactions on Dependable and Secure Computing, Transactions on Mobile Computing, IEEE Transactions on Services Computing, and IEEE International Conference on Distributed Computing Systems, etc.

- Student volunteer at the 43rd IEEE International Conference on Distributed Computing Systems

## Selected Honors and Awards

- Research Tuition Scholarship, City University of Hong Kong, 2023, 2024
- CityU Presidential PhD Scholarship, 2020 (Awarded to top 10 university-wide candidates)
- Outstanding Graduate with High Moral and Academic Standards from Anhui Province, 2020
- Outstanding Graduate from USTC, 2020
- National Scholarship of China, Ministry of Education of the People's Republic of China, 2019
- Best Paper Runner Up Award of IEEE MASS, 2018
- Outstanding Graduate Student Scholarship of USTC, 2017, 2018, 2019

· Excellent Graduation Thesis of USTC, 2017

· Honor of Wang Daheng Talent Program in Optical and Mech-electronical Science and Technology, 2016