Wenbin Zhai

PERSONAL DATA

ADDRESS: 11 Yuk Choi Rd, Hung Hom, Hong Kong
EMAIL: wenbin.zhai@connect.polyu.hk
RESEARCH INTERESTS: AI Security, Cybersecurity, Wireless Sensor Networks
HOMEPAGE: Wenbin Zhai's Homepage
GOOGLE SCHOLAR: Wenbin Zhai's Google Scholar

EDUCATION

The Hong Kong Polytechnic University (PolyU), Hong Kong   *Sep. 2025– Present*
PhD in Computer Science and Technology, Department of Computing

Nanjing University of Aeronautics and Astronautics (NUAA), China   *Sep. 2020 – Apr. 2023*
Master by Research of Computer Science and Technology, College of Computer Science and Technology
- **GPA:** 85.4/100, Ranking A (Top 15%)
- **Thesis Topic:** Research on Routing Protocol for Multi-hop Unmanned Aerial Vehicle Ad-hoc Networks **(Outstanding Postgraduate Thesis of Jiangsu Province and Outstanding Postgraduate Thesis of Jiangsu Computer Society)**

Nanjing University of Chinese Medicine (NJUCM), China   *Sep. 2016 – Jun. 2020*
Bachelor of Computer Science and Technology, School of Artificial Intelligence and Information Technology
- **GPA:** 86/100, Ranking 8/61 (Professional GPA: 90.8/100, Ranking 2/61)
- **Thesis Topic:** Design and Implementation of a Method for the Safe Storage of Chinese Medicine Data based on Homomorphic Encryption **(Outstanding Undergraduate Thesis of Jiangsu Province)**

SELECTED AWARDS AND HONOURS

- PolyU Research Postgraduate Scholarship (2025)   *May. 2025*
- Outstanding Postgraduate Thesis of Jiangsu Province (2023)   *Dec. 2024*
- Outstanding Postgraduate Thesis of Jiangsu Computer Society (2023)   *Dec. 2024*
- Tuition Fee Scholarship of UNSW Sydney (2023)   *Dec. 2023*
- Provincial Merit Student of Jiangsu Province (2022-2023)   *Apr. 2023*
- Outstanding Graduate of NUAA (2023)   *Apr. 2023*
- Merit Student of NUAA (2021-2022)   *Dec. 2022*
- Advanced Individual in Research and Innovation of NUAA (2021-2022)   *Dec. 2022*
- Second Class Scholarship for Postgraduates of NUAA (2020-2023) (CNY 8,000/year)   *Sep. 2020 – Sep. 2022*
- Outstanding Undergraduate Thesis of Jiangsu Province (2020)   *Oct. 2021*
- Outstanding Graduate of NJUCM (2020)   *Jun. 2020*
- Merit Student of NJUCM (2018-2019)   *Dec. 2019*
- Ruihua Soaring Scholarship (2018-2019) (CNY 8,000)   *Sep. 2019*
- National Encouragement Scholarship in China (2017-2019) (CNY 5,000/year)   *Dec. 2018 – Dec. 2019*
- First Class Scholarship for Undergraduates of NJUCM (2017-2019) (CNY 2,500/year)   *Dec. 2018 – Dec. 2019*
- Principal's Special Award of NJUCM (2017-2018) (CNY 10,000)   *Dec. 2018*
- Fei Xiaotong Virtue Scholarship (2017-2018) (CNY 6,000)   *Dec. 2018*

PUBLICATIONS

Journal Papers:

- **Wenbin Zhai**, Liang Liu, Youwei Ding, Shanshan Sun, and Ying Gu, "ETD: An Efficient Time Delay Attack Detection Framework for UAV Networks" in *IEEE Transactions on Information Forensics and Security (TIFS)*. [**CORE A, CCF A, SCI-Q1**, IF 7.231]

- **Wenbin Zhai**, Shanshan Sun, Liang Liu, Youwei Ding, and Wanying Lu, "HOTD: A Holistic Cross-Layer Time Delay Attack Detection Framework for UAV Networks" in *Journal of Parallel and Distributed Computing (JPDC)*. [**CORE A, CCF B, SCI-Q1**, IF 4.542]

- **Wenbin Zhai**, Feng Wang, Liang Liu, Youwei Ding, and Wanying Lu, "Federated Semi-Supervised and Semi-Asynchronous Learning for Anomaly Detection in IoT Networks" in *IEEE Internet of Things Journal (IOTJ)*. [**CCF C, SCI-Q1**, IF 9.471] [Under Review]

- Liang Liu*, **Wenbin Zhai***, Xin Li, Youwei Ding, Wanying Lu, and Ran Wang, "ESTA: An Efficient Spatial-Temporal Range Aggregation Query Processing Algorithm for UAV Networks" in *IEEE Transactions on Network Science and Engineering (TNSE)*. [CCF C, SCI-Q1, IF 7.9] [Publication]

- Weichen Ding, **Wenbin Zhai**, Liang Liu, Ying Gu, and Hang Gao, "Detection of packet dropping attack based on evidence fusion in IoT networks" in *Security and Communication Networks (SCN)*. [CCF C, SCI-Q3, IF 1.968]

- Kaibin Zhang, Liang Liu, **Wenbin Zhai**, Youwei Ding, and Jun Hu, "OSIS: Obstacle-Sensitive and Initial-Solution-First Path Planning" in *Peer-to-Peer Networking and Applications (PPNA)*. [CCF C, SCI-Q2, IF 3.488]

- Gongshun Min, Liang Liu, **Wenbin Zhai**, Zijie Wang, and Wanying Lu "An Efficient Data Collection Algorithm for Partitioned Wireless Sensor Networks" in *Future Generation Computer Systems (FGCS)*. [CORE A, CCF C, SCI-Q1, IF 7.307]

- Wenjie Zhao, Yu Wang, **Wenbin Zhai**, Liang Liu, and Yulei Liu, "Effcient Time-Delay Attack Detection Based on Node Pruning and Model Fusion in IoT Networks" in *Peer-to-Peer Networking and Applications (PPNA)*. [CCF C, SCI-Q2, IF 3.488]

- Yanlin Wang, Liang Liu, Mengqi Li, **Wenbin Zhai**, Weihua Ma, and Hang Gao, "Power Level Aware Charging Schedule in Wireless Rechargeable Sensor Network" in *Peer-to-Peer Networking and Applications (PPNA)*. [CCF C, SCI-Q2, IF 3.488]

- Yu Fan, Liang Liu, Xingxing Zhang, Huibin Shi, and **Wenbin Zhai**, "MAPP: An efficient multi-location task allocation framework with personalized location privacy-protecting in spatial crowdsourcing" in *Information Sciences*, 2023, 619: 654-678. [**CORE A**, CCF B, SCI Q1, IF 8.233]

- Jiancheng Song, Liang Liu, Yulei Liu, Jie Xi, and **Wenbin Zhai**, "Path Planning for Multi-Vehicle-Assisted Multi-UAVs in Mobile Crowdsensing" in *Wireless Communications and Mobile Computing (WCMC)*, vol. 2022, 21 pages, 2022. [CCF C, SCI-Q3, IF 2.146]

Conference Papers:

- **Wenbin Zhai**, Liang Liu, Jianfei Peng, Youwei Ding, and Wanying Lu, "PAR: A Power-Aware Routing Algorithm for UAV Networks" in *17th International Conference on Wireless Algorithms, Systems, and Applications (WASA 2022)*, Dalian, China, November 24-26, 2022, Proceedings, Part III. Cham: Springer Nature Switzerland, 2022: 333-344. [**CCF C**]

- Yunfeng Cui, **Wenbin Zhai**, Liang Liu, Youwei Ding, and Wanying Lu, "A Framework for Moving Target Defense based on Federated Semi-Supervised Learning" in *3rd International Conference on Emerging Information Security and Applications (EISA 2022)*, Wuhan, China, October 29-30, 2022, Proceedings. Cham: Springer Nature Switzerland, 2023: 209-224.

- Wanying Lu, **Wenbin Zhai**, Feng Wang, and Yu Fan, "Link Aware Aggregation Query with Privacy-Preserving Capability in Wireless Sensor Networks" in *2023 International Conference on Electronics, Computers and Communication Technology (CECCT 2023)*, Guilin, China, November 17-19, 2023, Proceedings. Cham: Association for Computing Machinery, 2023: 245-250.

- Wanying Lu, Liang Liu, **Wenbin Zhai**, Haoyuan Chen, and Yulei Liu, "HBC: Combining Lossy and Lossless Hybrid Bilayer Compression Framework on Time-Series Data" in *21th IEEE International Symposium on*

Parallel and Distributed Processing with Applications (ISPA 2023), Wuhan, China, December 21-24, 2023. [CCF C]

- Kaibin Zhang, Liang Liu, **Wenbin Zhai**, Youwei Ding, and Jun Hu, "OSIS: Obstacle-Sensitive and Initial-Solution-First Path Planning" in *29th IEEE International Conference on Parallel and Distributed Systems (ICPADS 2023)*, Hainan, China, December 17-21, 2023. [CCF C]

- Kun Guo, Liang Liu, **Wenbin Zhai**, and Youwei Ding, "EKR: An Efficient K-anycast Routing in UAV Networks" in *9th International Conference on Computer and Communications (ICCC 2023)*, Chengdu, China, December 8-11, 2023.

- Zixiao Zhou, Liang Liu, **Wenbin Zhai**, Jiancheng Song, and Yulei Liu, "Power-Aware Path Planning for Vehicle-Assisted Heterogeneous UAVs in Mobile Crowd Sensing" in *2023 International Conference on Data, Information and Computing Science (CDICS 2023)*, Singapore, December 8-10, 2023.

- Keyue Yang, Liang Liu, Shijie Li, **Wenbin Zhai**, Wenjing Wang, Ziyi Zheng, and Jinan Wang, "DDC: Efficient Dynamic-Dictionary-Based Compression on Floating Time Series Data" in *23th IEEE International Symposium on Parallel and Distributed Processing with Applications (ISPA 2025)*, Shenyang, China, October 10-12, 2025. [CCF C]

- Lingling Hu, Liang Liu, Yulei Liu, **Wenbin Zhai**, and Xinmeng Wang, "A robust fixed path-based routing scheme for protecting the source location privacy in wsns" in *17th International Conference on Mobility, Sensing and Networking (MSN 2021)*, Exeter, UK, December 13-15, 2021, IEEE, 2021: 48-55. [CCF C]

PROFESSIONAL ACTIVITIES

Journal Reviewer:

- IEEE Transactions on Information Forensics and Security (TIFS) [CORE A, CCF A, SCI-Q1] *Apr. 2024 – Date*
- The Journal of Supercomputing (TJSC) [CCF C, SCI-Q2] *Apr. 2024 – Date*
- Frontiers of Information Technology & Electronic Engineering (FITEE) [CCF C, SCI-Q2] *Sep. 2025 – Date*

Conference Reviewer:

- The Fourteenth International Conference on Learning Representations (ICLR 2026) [CCF A]