Zongmin WANG

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Research Interests: Cryptography, Trusted Computing, Access Control, Deep Learning Security, Malware Detection, Federated Learning

EDUCATION

Northeastern University (NEU,985,211), M.E. in Software College *Sep. 2023 – Present*

M.Eng. Software Engineering | **GPA:** 3.59 | **Rank 3/73 (Major)** | **Rank 1/24 (Class)**

Northeastern University (NEU), B.E. in Software College *Sep. 2019 – Jun. 2023*

B.Eng. Software Engineering **GPA:** 3.63

PUBLICATIONS

[C_1] **Zongmin Wang**, Qiang Wang*, Fucai Zhou, and Jian Xu. "Revocable Registered Attribute-Based Keyword Search Supporting Fairness." In *Information Security and Cryptology*, Inscrypt 2024, Lecture Notes in Computer Science, vol. 15543, pp. 3–23, Springer Nature Singapore, 2025. Editors: Dongdai Lin, Meiqin Wang, Moti Yung. https://doi.org/10.1007/978-981-96-4731-6_1**(CE:C, CCF-C, Acceptance rate: 25%)**

[C_2] **Zongmin Wang**, Guanming Che, Qiang Wang*, Fucai Zhou, Jian Xu, and Fanchao Meng. "Malware Classification and Detection in Untrusted Cloud via SGX and ORAM." In *Proceedings of the 7th International Conference on Next Generation Data-driven Networks* **(NGDN 2025, IEEE Xplore). (Accepted, EI)**

[C_3] **Zongmin Wang**, Qiang Wang*, Fucai Zhou, Bao Li, and Haoyan Huang. "Blockchain-Verified Attribute-Based Keyword Search with User-Generated Keys in Multi-owner Setting for IoT." Submitted to TrustCom 2025: IEEE International Conference on Trust, Security and Privacy in Computing and Communications. **(Under review, Submitted in August, 2025, CCF:C, CORE:A, QUALIS:A2)**

[J_1] **Zongmin Wang**, Qiang Wang*, Fucai Zhou, and Jian Xu. "Revocable Multi-Authority Attribute-Based Keyword Search Scheme for Enhanced Security in Multi-Owner Settings." Submitted to *Journal of Information Security and Applications* (JISA). **(Major revised, Submitted in April, 2025, JCR: Q2)**

[J_2] Qiang Wang*, **Zongmin Wang**, Fucai Zhou, Jian Xu, and Xiaoxin Zhang. "Revocable Decentralized Attribute-Based Keyword Search Scheme for Boolean Queries with Fairness and Blind Verifiability." Submitted to *IEEE Transactions on Cloud Computing* (TCC). **(Under review, Submitted in June, 2025, JCR: Q1)**

RESEARCH PROJECTS

Research on Secure Multi-Party Computation and Privacy Protection for Power IoT Using Homomorphic Encryption ***Project Participant*** *May. 2024 – Dec. 2024*

Contributed to applying homomorphic encryption and secure multi-party computation techniques to the Power Internet of Things. Participated in front-end development by coding user interface components to support the research platform.

NFC Secure Relay System ***Project Participant*** *Jun. 2023 – Sep. 2023*

Developed a system capable of implementing relay functionality during NFC communication while ensuring security for long-distance NFC use, effectively preventing unauthorized transactions and man-in-the-middle attacks.

Blockchain-based Methane Emission Trading Platform ***Primary Contributor*** *Jan. 2023 – May 2023*

Designed and implemented a blockchain-based methane emission trading system to transparently and securely manage methane gas emissions. Leveraged blockchain technology's immutability and transparency to ensure data integrity and regulatory compliance.

Cross-border E-commerce Service Platform ***Primary Contributor*** *May. 2022 – July. 2022*

Contributed to the development of a full-stack cross-border e-commerce platform by designing the database schema and implementing a decoupled front-end/back-end architecture.

RESEARCH EXPERIENCES

Internship:

- Research and Development Intern, Shenyang Xinlongyuan Co., Ltd – Shenyang, China *May. 2024 – Sep. 2024*

Academic Activities:

- Participated in several academic conferences and engaged in discussions with outstanding scholars.
- Delivered two presentations to share research outcomes at academic conferences.

Student Works:

- Vice Class Leader, Software College, Northeastern University – Shenyang, China
- Leader of the Outstanding Practice Group, Software College, Northeastern University
- Teaching Assistant, Advisor's Course
- Awarded Outstanding Trainee in Career Development Program, Northeastern University

HONORS & AWARDS

First-Class Scholarship for Postgraduate Students *Oct. 2024-Oct. 2025*

Student Award Fund, Software College, Northeastern University *May. 2023*

Academic Second/Third Class Scholarship *Oct. 2020-March. 2023*

Mathematical Contest in Modeling (MCM) *May. 2022*

- Honorable Mention, Team Award (Team Leader)

National Undergraduate Mathematics Competition *Dec. 2021*

- National Top Prize

Beijing SMC Education Foundation Scholarship *Oct. 2020*

Outstanding Student of Northeastern University *Sept. 2020*

LANGUAGE & SKILLS

Natural Languages: Mandarin (Native), English (CET6)

Programming Languages: C++, C, Java, R, SQL, Python

Software: MATLAB, IntelliJ IDEA, PyCharm, Visual Studio Code, Origin, Visio, PowerPoint, LaTeX

Core Knowledge Base: Encryption algorithms (Symmetric/Asymmetric), Cryptographic principles, Federated Learning, Data Retrieval, SVM (Support Vector Machine), Decision Tree, Random Forest, LSTM (Long Short Term Memory Network), Neural Networks (DNNs, CNNs)

Main Courses: Probability and Mathematical Statistics(92), Advanced Algorithm Design and Analysis(94), Analytical Data Warehousing(89), Advanced Mathematics I/II(90/96), Linear Algebra(93), Artificial Intelligence(95), Data Mining(92), Blockchain Technology(88), Mathematical Modeling(93)