Jie Fu

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EDUCATION

PhD. Wuhan University Sep.2020 – Jun. 2025

School of Cyber Science and Engineering, Advisor: Prof. Lina Wang

M.Sc. Wuhan University Sep. 2018-Jun. 2020

School of Computing, Advisor: Prof. Lina Wang

B.Eng. The second Normal University of Hubei Sep. 2013-Jun. 2017

School of Computing

RESEARCH INTEREST

My current research interests are mainly about **network security and AI security**. Specifically, I focus on the security issues on the **deep learning models**. Also, I am very interested in the application and security issues of **generative artificial intelligence**, as well as **LLMs**.

RESEARCH EXPERIENCE

National Key R&D Program (China): New Network Architecture and Key Technologies Supported by Endogenous Security. 2020-2024

- My role: Mainly responsible for the project key technology development, project technical report, as a sub-topic backbone to lead the siblings to complete the project acceptance and other full-cycle work.
- Key Technology: We proposed a neural network-based behavior recognition methods, including network anomaly detection based on data distribution difference and cross-dataset network intrusion detection based on feature subspace learning.

National Key R&D Program (China): Cross-domain Supervision and Intelligent Disposal of Malicious Traffic in Ultra-large-scale Networks. 2023-

- My role: Mainly responsible for pre-project research, organizing data, project declaration and technical route development.
- Key Technology: We proposed a network malicious behavior detection method based on semi-supervised graph self-encoder and developed a behavior detection framework with malicious data argument.

PUBLICATION

1. **Fu J**, Wang L, Ke J, Yang K, & Yu R. TSIDS: Spatial–temporal fusion gating Multilayer Perceptron for network intrusion detection[J]. **Expert Systems with Applications,** 2025, 263:125687.
2. **Fu J**, Wang L, Ke J, Yang K, & Yu R. GANAD: A GAN-based method for network anomaly detection[J]. **World Wide Web**, 2023, 26(5): 2727-2748.
3. Liu X, Yang G, Wang L, **Fu J**, & Wang Q. A novel immune detector training method for network anomaly detection[J]. Applied Intelligence, 2024, 54(2): 2009-2030.
4. Yang G, Wu J, Wang L, Wang Q, Liu X, & **Fu J**. A novel fusion feature imagination with improved extreme learning machine for network anomaly detection[J]. Applied Intelligence, 2024, 54(19): 9313-9329. Applied Intelligence, 2024
5. Wang Q, Yang G, Wang L, **Fu J**, & Liu X. SR-IDS: A Novel Network Intrusion Detection System Based on Self-taught Learning and Representation Learning[C]//International Conference on Artificial Neural Networks. Cham: Springer Nature Switzerland, 2023: 554-565.
6. Ke J, Wang L, Liu J, & **Fu J**. SFIA: Toward a Generalized Semantic-Agnostic Method for Fake Image Attribution[J]. International Journal of Intelligent Systems, 2024, 2024(1):7950247.
7. Ke J, Wang L, Ye A, & **Fu J**. Combating Multi-Level Adversarial Text with Pruning based Adversarial Training[C]. 2022 International Joint Conference on Neural Networks (IJCNN). IEEE, 2022, Padua, Italy, July 18-23: 1-8.

PARTICIPATED PROPOSAL DRAFTING

Program1: A Study of Regulatory Friendly Approaches to Privacy Protection of Blockchain Transaction Content (Co-Organization: Zhejiang University)

- Role: Proposal Writing Participants (Propose a privacy protection method for transaction content based on dense state computing)
- Responsibilities: Discuss the project background, objectives and research methodology with the team to clarify the core questions of the project.

Program2: Artificial Immunity-Based Adaptive Network Dynamic Traffic Security Analysis Instrumentation (Co-Organization: Sichuan University)

- Role: Proposal Writing Participants (Multimodal complex high-dimensional network traffic feature extraction and expression)
- Responsibilities: Mainly responsible for pre-project research, collation of information, project declaration and development of technical routes

REFERENCE

Prof. Lina Wang (Wuhan University)-Ph.D. advisor – lnwang@whu.edu.cn

Prof. Run Wang (Wuhan University)- wangrun@whu.edu.cn