Bo Zhao

https://boriszhao.github.io/

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### EDUCATION

• Nanjing University of Aeronautics and Astronautics

Bachelor of Engineering in Information Security; GPA: 82%

Nanjing, China

Sept. 2016 - Jun. 2020

• Nanjing University of Aeronautics and Astronautics

Master of Engineering in Cyberspace Security

Nanjing, China

Sept. 2020 - Apr. 2023

• Nanyang Technological University

Pursuing Doctor of Philosophy in School of Computer Science and Engineering

Singapore

Aug. 2023 -

## RESEARCH EXPERIENCES

• Blockchain: 2017.12 – 2019.12

• Blockchain and its application; Smart contract design and game analysis; Computational intensive contract; Blockchain based trustworthy distributed machine learning.

• Federated Learning:

2020.03 -

o Trustworthy federated learning (ongoing)

### **PUBLICATIONS**

#### • Conferences:

- (AAAI-22) Bo Zhao, Peng Sun\*, Tao Wang and Keyu Jiang, "FedInv: Byzantine-Robust Federated Learning by Inversing Local Model Updates," in Proceedings of the AAAI Conference on Artificial Intelligence, 2022. (CCF-A, main track oral, accept rate=5%)
- o (ICC-23) Bo Zhao, Tao Wang, Liming Fang\*, "FedCom: Byzantine-Robust Federated Learning Using Data Commitment," in Proceedings of the IEEE International Conference on Communications, 2023. (CCF-C)
- o (ICPADS-22) Tao Wang, **Bo Zhao**, Liming Fang\*, "FLForest: Byzantine-robust Federated Learning through Isolated Forest," in Proceedings of the International Conference on Parallel and Distributed Systems, 2022. (CCF-C)

#### • Journals:

- o (Sensors) Bo Zhao, Liming Fang\*, Hanyi Zhang, Chunpeng Ge, Weizhi Meng, Liang Liu and Chunhua Su, "Y-DWMS: A digital watermark management system based on smart contracts," Sensors, 2019. (SCI, IF=3.576)
- (IEEE Network) Liming Fang, Bo Zhao, Yang Li, Zhe Liu\*, Chunpeng Ge and Weizhi Meng, "Countermeasure based on smart contracts and AI against DoS/DDoS attack in 5G circumstances," IEEE Network, 2020.
  (SCI, IF=10.693)

#### **PROJECTS**

### • Self-funding Project:

2020.01 -, host, ongoing

- An experimental platform for Byzantine-robust federated learning and poisoning attacks.
- Integrating mainstream federated learning baselines (FedAvg, Multi-Krum, Zeno, FLTrust, FedGen, several ongoing projects, etc.), and representative poisoning attacks (Back-gradient, Adaptive attack, Badnets, Backdoor FL, etc.).

## • National Key R&D Program of China:

2021.12 - 2024.11, participant, ongoing

- o Title: "AI Security Defence and Evaluation Technology" (under Grant 2021YFB3100700, RMB 3,000,000).
- Student leader of federated learning security task force.

## • NUAA Undergraduate Innovation Project:

2017.12 - 2018.05, principal participant, accomplished

- Title: "Blockchain based Voting System".
- Lead to implement a PoW blockchain prototype to record voting logs and make statistics.

## ACADEMICAL SERVICES

PC Member: FL-IJCAI'23Reviewer: TNNLS, CIKM'23

# Awards

- National Scholarship, Ministry of Education, PRC, 2022. (Top 3%)
- First Class Academic Scholarship, NUAA Graduate School, 2020, 2021, 2022. (Top 30%)
- Special Scholarship for Freshmen, NUAA Graduate School, 2020.
- NUAA Outstanding Graduate, NUAA Graduate School, 2023.
- NUAA Outstanding Individual of Research & Innovation, NUAA Graduate School, 2021, 2022.
- NUAA Merit Student, NUAA Graduate School, 2022.