XI LI

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RESEARCH INTERESTS

My research interests reside in **trustworthy AI**, aiming to assess and address the broader ethical concerns surrounding ML models, such as **robustness**, **privacy**, **fairness**, and **interpretability**. My research vision is to bridge AI with **interdisciplinary** research by developing trustworthy and reliable AI systems that advance technology and serve the greater social good.

EMPLOYMENT

Tenure-Track Assistant Professor Department of Computer Science University of Alabama at Birmingham

Machine Learning Engineer Intern Modern Recommendation System Team Meta

EDUCATION

The Pennsylvania State University

Ph.D. in Computer Science and Engineering Advisor: Dr. George Kesidis and Dr. David Miller M.S. in Computer Science and Engineering

The Southeast University

B.E. in Electrical Engineering

PUBLICATIONS

- X. Bi, X. Li. Securing Federated Learning Against Novel and Classic Backdoor Threats During Foundation Model Integration. under review.
- X. Li, Y. Zhang, R. Lou, C. Wu, J. Wang. *Chain-of-Scrutiny: Detecting Backdoor Attacks for Large Language Models.* under review.
- X. Li, J. Wang. Position Paper: Assessing Robustness, Privacy, and Fairness in Federated Learning Integrated with Foundation Models. under review.
- G. Yang, X. Li, H. Wang, D. J. Miller, G. Kesidis. CEPA: Consensus Embedded Perturbation for Agnostic Detection and Inversion of Backdoors. under review.
- X. Li, C. Wu, J. Wang. Vulnerabilities of Foundation Model Integrated Federated Learning Systems Under Adversarial Threats. under review.
- X. Li, Z. Xiang, D. J. Miller, G. Kesidis. *Backdoor Mitigation by Correcting Distribution of Neural Activation*. Neurocomputing, 2024.
- X. Li, D. J. Miller, Z. Xiang, G. Kesidis. *BIC-based Mixture Model Defense against Data Poisoning Attacks on Classifiers: A Comprehensive Study.* IEEE Transactions on Knowledge and Data Engineering (TKDE), 2024.
- X. Li, C. Wu, J. Wang. Unveiling Backdoor Risks Brought by Foundation Models in Heterogeneous Federated Learning. The Pacific-Asia Conference on Knowledge Discovery and Data Mining (PAKDD), 2024.
- X. Li, S. Wang, R. Huang, M. Gowda, G. Kesidis. *Temporal-Distributed Backdoor Attack Against Video Based Action Recognition*. AAAI, 2024.
- X. Li, S. Wang, C. Wu, H. Zhou, J. Wang. Backdoor Threats from Compromised Foundation Models to Federated Learning. FL@FM-NeurIPS'23.
- X. Li, D. J. Miller, Z. Xiang, G. Kesidis. A BIC-based Mixture Model Defense against Data Poisoning Attacks on Classifiers. IEEE International Workshop on Machine Learning for Signal Processing (MLSP), 2023.

May 2024 - August 2024

Aug. 2024 - present

State College, PA Aug. 2018 - July 2024

Aug. 2016 - July 2018

Nanjing, China Aug. 2012 - June 2016

- X. Li, D. J. Miller, Z. Xiang, G. Kesidis. *Test-Time Detection of Backdoor Triggers of Poisoned Deep Neural Networks*. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), 2022.
- Z. Xiang, D. J. Miller, S. Chen, X. Li, G. Kesidis. *Detecting Backdoor Attacks Against Point Cloud Classifiers*. IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), 2022.
- Z. Xiang, D. J. Miller, S. Chen, X. Li, G. Kesidis. A Backdoor Attack against 3D Point Cloud Classifiers. ICCV, 2021.

TEACHING EXPERIENCE

Instructor CS652/752 Advanced Algorithms and Applications CS685/785 Foundation of Data Science Teaching Assistant CMPSC465 Data Structures and Algorithms

CMPSC465 Data Structures and Algorithms CMPSC/MATH 451 Numerical Computations CMPEN/EE 455 Digital Image Processing I

PROFESSIONAL SERVICE

Conference Program Committee:

- Association for the Advancement of Artificial Intelligence (AAAI), 2025
- SIAM International Conference on Data Mining (SDM), 2024

Conference Reviewer:

- Artificial Intelligence and Statistics (AISTATS), 2025
- Association for the Advancement of Artificial Intelligence (AAAI), 2025
- International Conference on Learning Representations (ICLR), 2025
- IEEE International Conference on Acoustics, Speech, and Signal Processing (ICASSP), 2022-2025
- SIGKDD Conference on Knowledge Discovery and Data Mining (KDD), 2023, 2024
- IEEE/CVF Computer Vision and Pattern Recognition Conference (CVPR), 2024, 2025
- Conference on Neural Information Processing Systems (NeurIPS), 2024
- Conference on Language Modeling (COLM), 2024

Journal Reviewer:

- Computers and Security (C&S), 2024
- IEEE Transactions on Circuits and Systems for Video Technology (TCSVT), 2024

Student Volunteer:

• Conference on Neural Information Processing Systems (NeurIPS), 2023

UAB 2025 Spring 2024 Fall PSU 2021 Spring 2019 Fall - 2024 Spring 2018 Fall