WEIXUAN DING

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EDUCATION

Wuhan University, Wuhan, China — *September 2022 — June 2026 (Expected)*
School of Cyber Science and Engineering — GPA: 3.78/4.00
Undergraduate Student in Cyberspace Security — 90.6/100

RESEARCH EXPERIENCE

Stevens Institute of Technology — December 2024 - Present
Undergraduate Research Intern (Remote) — *Advisor: Hao Wang*

- Research on Harmless and Robust Watermarking in Federated Learning
- Enhancing client-server collaboration in efficient watermarking, optimizing white-box and black-box watermark integration while extending embedding capacity.

University of Louisville — October 2024 - Present
Undergraduate Research Intern (Remote) — *Advisor: Zeyan Liu*

- Research on Multimodal Large Language Model (MLLM)-Assisted Image Editing and Backdoor Attack.
- Extending the Chain-of-Thought (CoT) paradigm to MLLMs to manipulate open-domain image editing tasks.
- Exploring the potential of fine-grained image editing in backdoor attacks.

Data Security Lab, Wuhan University — March 2024 - June 2024
Undergraduate Research Intern

- Research on Privacy-Preserving Federated LLMs with Heterogeneous Data Distributions.
- Evaluated privacy-preserving techniques in Federated Learning for Large Language Models (LLMs), focusing on differential privacy approaches.
- Assessed the performance of methods such as FedProx, Bounded Local Update Regularization (BLUR), and Adaptive Noise Mechanism (ANDPFL), while exploring potential optimization strategies.

PROJECT EXPERIENCE

National College Student Blockchain + Application Competition — August 2024 - October 2024
Team Member

- Design TrxLLM, a blockchain transaction risk monitoring system based on Graph Neural Networks (GNN) and Transformer, to analyze complex dependencies in blockchain transaction data.
- Developed the frontend using Vite and Vue3, creating a user-friendly interface for real-time transaction display, risk evaluation, and transaction monitoring functionalities.

ACHIEVEMENTS

First Prize in the National College Student Blockchain + Application Competition — *Fall 2024*
Yearly Model Student of Academic Records — *Fall 2024*
Yearly Third-Class Scholarship — *Fall 2024*

INTERESTS

Trustworthy AI, Federated Learning, LLM, MLLM

SKILLS

Programming Languages	Python, C/C++, SQL, JavaScript, HTML/CSS, LaTeX
Libraries	Pytorch, Pandas, Matplotlib, Numpy, BeautifulSoup, Selenium
Frameworks	Vue, Node.js
Languages	Chinese(Native), English(Proficent)