Jiawei Chen

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Education

Old Dominion University, Virginia, USA — Jan. 2023 – Present
Ph.D. Candidate in Computer Science

- Advisor: Dr. Rui Ning
- GPA: 4.0/4.0
- Research Interests: Practical Graph Backdoor in Real-World, Security of Graph-Related LLMs

Northeastern University, Shenyang, China — Sep. 2019 – Jul. 2022
M.S. in Computer Science and Technology

- Advisor: Dr. Lan Shi & Dr. Yuhai Zhao
- GPA: 3.21/4.0
- Specialization: Graph Learning, Anomaly Detection, Imbalanced Learning
- Thesis: Detection of Cryptocurrency Phishing Fraud Based on Graph Feature Learning

Tibet University, Tibet, China — Sep. 2015 – Jul. 2019
B.S. in Computer Science and Technology

- Advisor: Prof. Sonam Gyatso
- Ranking: 3/40 (Top 10%)
- Specialization: Tibetan Natural Language Processing, VR Panorama
- Thesis: Research and Implementation of Tibetan Function Word Proofreading Algorithm

PUBLICATIONS

J. Chen, L. Li, D. Takabi, M. Sosonkina, R. Ning, "*Heterogeneous Graph Backdoor Attack*", arXiv preprint arXiv:2506.00191.

J. Chen, Y. Yin, Y. Zhao, L. Shi, "*Ether Phishing Account Detection Device and Method Based on Multi-Feature Learning*", China Patent (CN114782051B, Granted: March 14, 2025).

X. Wang, H. Lv, **J. Chen**, "*AGST-LSTM: The ConvLSTM Model Combines Attention and Gate Structure for Spatiotemporal Sequence Prediction*", in *Chinese Conference on Pattern Recognition and Computer Vision* (PRCV), Springer, 2023.

S. Jiancuo, **J. Chen**, "*Research and Implementation of Tibetan Function Word Proofreading Algorithm Using Python*", in *Computer Era*, 2019(9), pp. 13–15.

S. Jiancuo, **J. Chen**, "*Making Method and Application of Campus VR Panorama Based on Pano2VR*", in *Computer Era*, 2018(11), pp. 70–72.

PROJECTS

Exploring Security of Heterogeneous Graph Neural Networks — 2023 – 2025

- The **first** systematic investigation of the effect of existing graph backdoor attacks on heterogeneous graphs.
- Proposed Heterogeneous Graph Backdoor Attack (HGBA), the **first** backdoor attack on HGNNs.

Exploring Security of Large Language Models — 2023 – 2024

- Conducted an in-depth investigation into backdoor attacks targeting LLMs.

Generate network traffic data using Large Language Models. — 2023 – 2024

- Evaluated the feasibility of LLMs in generating realistic network traffic data.
- Utilized specific datasets to fine-tune LLMs (e.g., Llama 3) for network traffic data generation.
- Validated the quality and realism of the generated network traffic data.

Detect Cryptocurrency Phishing Fraud 2021 – 2022

- Proposed a multi-feature learning method to detect Ethereum phishing fraud account.
- Made full use of effective information in the Ethereum phishing scam network to improve classification effect.
- Eliminated the impact of the class imbalance in the Ethereum phishing scam network on classification results.

Develop a Tibetan text duplicate checking software demo Jan. 2018 – May 2019
(Copyright: 2019SR0626706)

- Implemented a dictionary-based inverse maximum matching algorithm for word segmentation.
- Calculated sentence similarity using cosine similarity.
- Developed front-end with VB6.0 and managed back-end with SQL database.

National Undergraduate Innovation and Entrepreneurship Training Program Oct. 2017 – Oct. 2018
Role: PI (Code:201710694035, $1,300)

- Created a VR panorama of Tibet University's campus.

TEACHING & MENTORING

Teaching Assistant (TA)

- T3-CIDERS Program (NSF-Funded) Sep. 2023 – Aug. 2025
- DeapSECURE Program (NSF-Funded) Jun. 2023 – Sep. 2023
- Communication Principles Spring 2022
- Principles of Modern Switching Spring 2022
- C++ Program Designing Spring 2022
- Intorduction of Computer Fall 2018

Mentoring Experience

- Provided guidance to Miao Lin (ODU, Ph.D., 2023) regarding backdoor attacks on imbalanced datasets.
- Provided guidance to Zemin Chen (ODU, Ph.D., 2024) on fine-tuning with imbalanced datasets for backdoor attack defense.

WORK EXPERIENCE

Research Assistant, Old Dominion University Jan. 2023 – Present

Programming Teacher & STEM Tutor, Education Training School, China Aug. 2022 – Nov. 2022

New Media Intern, Tibet ByteDance Information Technology Co., Ltd., China Jul. 2018 – May 2019

Awards & Honors

- First-Class Academic Scholarship, Northeastern University Sept. 2019
- Outstanding Graduate Award, Tibet University May 2019
- Chinese Modern Scientist Scholarship (1st Place) Dec. 2018
- Second-Class Merit Scholarship, Tibet University Oct. 2017

SKILLS

Developer Tools: Linux, Slurm, Docker, VS Code, Git, GitLab, SSH, Jupyter
Programming Languages: Python, C, C++, Java, Visual Basic 6.0, C#, R, HTML, CSS, JavaScript, MATLAB, SQL
ML & DL Frameworks: PyTorch, TensorFlow, Keras, Transformers
Specialized Libraries: Scikit-learn, imbalanced-learn, PyTorch Geometric, Deep Graph Library, Pandas, NumPy, Matplotlib
Languages: Mandarin–Native, English–Fluent, Tibetan–Beginner