

Xicheng Wan

Research Interest: Applied cryptography, Machine learning security & privacy

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Education

The Chinese University of Hong Kong

M.SC IN INFORMATION ENGINEERING

- GPA 3.71/4.00

Shatin, Hong Kong

Sept. 2021 - Jun. 2022

Nanjing University of Science and Technology

B.S. IN AUTOMATION

- GPA 86.3/100 (Top 10%)

Nanjing, Jiangsu

Sept. 2017 - Jun. 2021

Publication

Towards Privacy-Preserving and Verifiable Federated Matrix Factorization

Knowledge-Based Systems 2022

XICHENG WAN, YIFENG ZHENG, QUN LI, ANMIN FU, MANG SU, AND YANSONG GAO

Research Experience

Privacy-preserving for machine learning

Research Intern

ADVISOR: **PROF. YIFENG ZHENG** (HARBIN INSTITUTE OF TECHNOLOGY, SHENZHEN), **PROF. YANSONG GAO**

(NANJING UNIVERSITY OF SCIENCE AND TECHNOLOGY)

Nov. 2020 - Present

- Utilizing light-weight cryptography technology secure aggregation and commitment scheme for privacy-preserving federated matrix factorization, preventing sensitive information leakage and verifying the model result.
- Combining with different privacy-preserving schemes such as differential privacy and cryptography techniques, which achieves both privacy and accuracy from these hybrid protocols.

Graph neural network for network representation

Research Intern

ADVISOR: **PROF. XIAOBO SHEN** (NANJING UNIVERSITY OF SCIENCE AND TECHNOLOGY)

Jun. 2019 - Sept. 2020

- Implementing graph convolution network on network representing learning task.

Selected Honors & Awards

Outstanding Student Scholarship

MScIE Academic Achievement

THE CHINESE UNIVERSITY OF HONG KONG

Mar. 2022

- Department of Information and Engineering

Outstanding Student Scholarship

First & Second Prize

NANJING UNIVERSITY OF SCIENCE AND TECHNOLOGY

2018, 2019, 2020

The 8th Huawei Code Craft Software Competition

Second Prize

RANK: 16/32, GUANGDONG-HONG KONG-MACAO GREATER BAY AREA

Apr. 2022

- Designing a scheme to allocate the network traffic with minimum bandwidth cost. The total bandwidth cost of each edge node is constrained by limited computation resource.

The 8th TipDM Cup Data Mining Competition

Third Prize

JIANGSU PROVINCE

May. 2020

- Text mining task for "Intelligent government"
- Being responsible for the classification of LSTM first-level tags, TF-IDF keyword extraction results, and the establishment of interpretability, correlation, and completeness models

MCM & APMCM Mathematical Contest in Modeling

Third Prize

NATIONWIDE COMPETITION

Jan. 2020, Mar. 2020

- Working as a group leader.
- APMCM: Being responsible for the establishment of forecasting economic growth trend model using the principal components analysis method.
- MCM: Utilizing LSTM sentiment classification and partial least squares model to analyze online comments from Amazon website.

Extracurricular Activities

Table Tennis Team, School of Automation

LEADING TEAM MEMBERS TO PARTICIPATE IN COMPETITIONS

Leader

Nov. 2020

Table Tennis Association of Nanjing University of Science and Technology

ORGANIZING COMPETITIONS WITH OTHER MEMBERS

Vice President

Sept. 2018- June. 2019

Technical Skills

Programming, C/C++, Python, Matlab

Tool, Linux, \LaTeX , Multisim

Language, Chinese, English (IELTS 6.5)