

HAO WU

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EDUCATION

Peking University

M.S., School of Software & Microelectronics

Sept. 2026 – Jun. 2029

Beijing, China

Sichuan University

B.E., School of Cyber Science and Engineering

Sept. 2022 – Jun. 2026

Chengdu, China

- Rank: 1 / 161; GPA: 3.85 / 4.0

PUBLICATIONS & OPEN-SOURCE SOFTWARE

[†]Equal contribution. 6 additional manuscripts under review (2× NeurIPS, 1× ECCV, 2× VIS, 1× ASOC).

Juntang Wang[†], Yihan Wang[†], Hao Wu[†], Jiayu Gao, Shixin Xu, and Dongmian Zou. “StageGuard: Physiologically Constrained Sleep Staging.” *KDD 2026*.

Juntang Wang[†], Hao Wu[†], Yihan Wang[†], Dongmian Zou, and Shixin Xu. “Mixing Configurations for Downstream Prediction.” *ICML 2026*.

Hao Wu, Jiangchuan Chen, Wengang Ma, Ping He, Xiaolong Lan, Tao Li, and Junjiang He. “LLM-Based Immune Detection Method for Unknown Network Attacks in ICS Under Few-Shot Conditions.” *ICIC 2025*.

Juntang Wang[†], Yihan Wang[†], Hao Wu[†], Dongmian Zou, and Shixin Xu. “Brain-Inspired Perspective on Configurations: Unsupervised Similarity and Early Cognition.” *BICS 2025*.

mheatmap | [\[GitHub\]](#) | 683 Stars | Proportional heatmap visualization and matrix analysis with label alignment | 2nd contributor.

llmDataG | [\[GitHub\]](#) | 40 Stars | High-quality tabular data augmentation via LLMs | 1st contributor.

GCN4ETD | [\[GitHub\]](#) | 11 Stars | Encrypted traffic detection via graph convolutional networks | 1st contributor.

RESEARCH & WORK EXPERIENCE

Computer Immunity; Network Intrusion Detection; Noisy-Label Learning

Jul. 2023 – Present

Sichuan University, Research Assistant; Advisors: Prof. Tao Li, Prof. Junjiang He

Chengdu, China

- Contributed to the National Key R&D Program project “*Novel Network Architecture and Key Technologies Supported by Endogenous Security*”; designed an antigen-adaptive evolution algorithm based on immune gene mechanisms, improving detector-population diversity and attack-feature coverage.
- Designed an LLM-assisted artificial immune algorithm for few-shot unknown-attack detection via prompt-guided antibody generation and immune-tolerance-based detector filtering.
- Tackled noisy labels in encrypted traffic via a multi-resolution community-structure method, leveraging neighborhood consistency, community support, and cross-granularity stability to identify mislabeled samples, then encoded community configurations as structural features to improve downstream robustness.

Unsupervised Representation; Biomedical AI; Graph & Matrix Visualization

Dec. 2024 – Present

Duke Kunshan University, Research Assistant; Advisors: Prof. Shixin Xu, Prof. Dongmian Zou

Kunshan, China

- Engaged in multiple interdisciplinary research directions, producing peer-reviewed publications and open-source projects.
- Developed MixConfig (configuration-based feature augmentation), DSNI (16S rRNA cultivation-condition benchmark), MINN (manifold-prior ECG electrolyte inference), PPIDM-II (physics-informed diffusion with abstention), StageGuard (physiologically constrained sleep staging), DriftNeRF (sparse-view neural rendering), MHeatmap (matrix visualization), and Lambda Lens (graph-embedding parameter visualization).
- Industry collaborations: localization-error compensation for robotic-arm thermal drift; quality prediction and parameter recommendation for adhesive-dispensing processes.

RAG-based Question-Answering Service

Jun. 2025 – Jul. 2025

Topsec Networks, Product R&D

Chengdu, China

- Built a LangChain + Faiss RAG pipeline covering document chunking, vector indexing, similarity retrieval, and context-augmented generation.

HONORS & COMPETITIONS

- Sichuan Province Outstanding Graduate.
 - Sichuan Province Class-A Comprehensive Quality Certification.
 - National College Student Innovation & Entrepreneurship Program
 - China Undergraduate Mathematical Contest in Modeling
 - China Undergraduate Mathematical Contest in Modeling
 - China Undergraduate Mathematics Competition
- National Project Leader
National Second Prize
Sichuan Second Prize
Third Prize

ADDITIONAL INFORMATION

Service: Grade Leader of Class of 2022; President of St.808 Student Association; Lead in SCU Promotional MV.

Skills: Python, SQL, C; scikit-learn, PyTorch, NumPy, pandas; Git, L^AT_EX; SCSA-S.