

MINGYANG WEI

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EDUCATION	Department of Computer Science, Emory University <i>M.S. in Computer Science, GPA: 3.91/4.00</i>	Atlanta, USA 2023 - 2025
	School of Cyber Science and Engineering, Wuhan University <i>B.E. in Information Security, WES GPA: 3.51/4.00, Last 2 Y: 3.85/4.00</i>	Wuhan, China 2016 - 2020
PUBLICATIONS	<ol style="list-style-type: none">1. Mingyang Wei, Dehai Min, Zewen Liu, Yuzhang Xie, Guanchen Wu, Carl Yang, Max S. Y. Lau, Qi He, Lu Cheng, and Wei Jin. EpiQAL: Benchmarking Large Language Models in Epidemiological Question Answering for Enhanced Alignment and Reasoning. <i>Under Review</i>.2. Yunxiao Li, Mingyang Wei, Zewen Liu, Max S. Y. Lau, and Wei Jin. Efficient Epidemic Intervention Generation: A Graph Adversarial Attack Perspective. <i>In WWW WebST</i>, 2025.3. Zewen Liu, Yunxiao Li*, Mingyang Wei*, Guancheng Wan, Max S.Y. Lau, Wei Jin. EpiLearn: A Python Library for Machine Learning in Epidemic Modeling. <i>In KDD epi-DAMIK</i>, 2024. *Equal Contribution	
AWARDS	<ul style="list-style-type: none">• Bronze Prize, Kaggle: Harvard Medical School Brain Activity Classification• Emory Computer Science Graduate Scholarship, Emory University• Dean's List (Academic Year Annual GPA: 3.7+/4.0), Wuhan University• Memorial Undergraduate Scholarship, Wuhan University	2024 2023 2019 2018
EXPERIENCE	Emory Melody Lab Atlanta, USA <i>Advisor: Dr. Wei Jin</i> <ul style="list-style-type: none">• Leading the development of an automated question–answer dataset generation framework in epidemiology, benchmarking LLMs. I am designing and implementing modular components to mitigate model bias and ensure question quality and difficulty, integrating RAG on knowledge graphs and logic-chain reasoning.• Contributed to the development of EpiLearn, a Python package for epidemic modeling with PyTorch, integrating temporal and spatial models for analyzing epidemiological time-series data. My work focused on implementing spatial graph-based architectures such as GAT and GraphSAGE.• Collaborated on applying GNN attack methods to surrogate epidemic models for designing effective intervention strategies. I participated in methodological discussions, implemented surrogate models, and conducted experiments under the Mobility Intervention for Epidemic Challenge settings. Emory Graph Mining Lab Atlanta, USA <i>Advisor: Dr. Carl Yang</i> <ul style="list-style-type: none">• Utilizing a hypergraph model to predict patients' amputation status from medical diagnoses, aiming identify the most influential factor combinations associated with amputation. I am designing a customized loss function that leverages changes in prediction confidence when nodes are removed. Wuhan University Wuhan, China <i>2019.11 - 2020.06</i> <ul style="list-style-type: none">• Analyzed multimedia data to explore covert communication mechanisms on social media, employing FFmpeg for audio-visual extraction and evaluating steganography robustness through analysis of QMDCT coefficients and signal-level variations. SoC Workshop at National University of Singapore Singapore <i>2019.07 - 2019.08</i> <ul style="list-style-type: none">• Implemented a defense system against NFC attacks, using IPFS for verification.	2024.07 - Present 2025.07 - Present 2019.11 - 2020.06 2019.07 - 2019.08

PROJECTS

Harmful Brain Activity Classification

Emory University

2024.03 - 2024.04

- Participated in a team project to classify harmful brain activity from electroencephalography (EEG) recordings of critically ill patients.
- Led the **spatial-temporal modeling track**, applying preprocessing techniques such as **banana montage** configuration and **Fast Fourier Transform (FFT)**-based analysis to enhance signal clarity.
- Designed and trained deep neural networks including **WaveNet**, **ConvFormer**, and **EEGNet** to classify EEG signals, employing advanced training strategies such as **dual-stage training**, **pseudo-labeling**, and **cosine annealing**.
- Our team's solution achieved a **Bronze Prize** in a Kaggle competition.

Robust Watermark Algorithm Against Screen-Shooting Based on SIFT

Wuhan University

2020.04 - 2020.06

- Conducted an independent graduation project on designing a **watermarking system resilient to screen-shooting distortion**.
- Analyzed distortion patterns in screen-photographed images—such as **geometric deformation** and **moiré fringes**—to select appropriate **Scale-Invariant Feature Transform (SIFT)** keypoints and an optimal embedding domain for watermarking.
- Reviewed and refined existing methods to develop a **watermark embedding scheme** using SIFT features in the **Discrete cosine transform (DCT)** domain.
- Implemented an image restoration pipeline based on **Canny edge detection**, **edge tracing**, and **corner point mapping** to recover photographed images.
- Evaluated the system's robustness under **noise** and **geometric attacks**, and implemented a functional GUI using **VB .NET**.

SKILLS

Programming: Python, C, R, MATLAB

Scripting: SQL, VB.NET, HTML, PHP

Tools: PyTorch, vLLM, NumPy, Pandas, FFmpeg, Visual Studio, Wireshark, Nmap, Burp-suite, Metasploit, IDA, OllyDbg, X-ways Forensics

Languages: Chinese (native), English (fluent)

COMMUNITY ENGAGEMENT

Volunteer at Jiucaizhuang Village Government | Hohhot, China

2018.08

- Assisted with local administrative tasks and conducted interviews on the welfare of left-behind children.

Secretary Office of Volunteer Association | Wuhan, China

2016.10 - 2018.05

- Organized community outreach programs and managed the association's WeChat account for activity updates.

OTHERS

Interests: Table Tennis, Badminton, Hiking, Singing, The League of Legends, K-pop