

MINGYANG WEI

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EDUCATION **Department of Computer Science, Emory University** Atlanta, USA
M.S. in Computer Science, GPA: 3.91/4.00 2023 - 2025

School of Cyber Science and Engineering, Wuhan University Wuhan, China
B.E. in Information Security, WES GPA: 3.51/4.00, Last 2Y: 3.85/4.00 2016 - 2020

- PUBLICATIONS
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. *Under Review*.
 2. Yunxiao Li, **Mingyang Wei**, Zewen Liu, Max S. Y. Lau, and Wei Jin. Efficient Epidemic Intervention Generation: A Graph Adversarial Attack Perspective. *In WWW WebST*, 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. *In KDD epi-DAMIK*, 2024. *Equal Contribution

- AWARDS
- **Bronze Prize**, Kaggle: Harvard Medical School Brain Activity Classification 2024
 - **Emory Computer Science Graduate Scholarship**, Emory University 2023
 - **Dean's List (Academic Year Annual GPA: 3.7+/4.0)**, Wuhan University 2019
 - **Memorial Undergraduate Scholarship**, Wuhan University 2018

EXPERIENCE **Emory Melody Lab** | Atlanta, USA 2024.07 - Present
Advisor: Dr. Wei Jin

- 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 2025.07 - Present
Advisor: Dr. Carl Yang

- 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 2019.11 - 2020.06

- 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 2019.07 - 2019.08

- Implemented a defense system against **NFC attacks**, using **IPFS** for verification.

PROJECTS	Harmful Brain Activity Classification	2024.03 - 2024.04
	<i>Emory University</i> <ul style="list-style-type: none"> 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	2020.04 - 2020.06
	<i>Wuhan University</i> <ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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
	<ul style="list-style-type: none"> 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	