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, GPA: 3.44/4.00, Last two years: 3.75/4.00　　　2016 - 2020

PUBLICATIONS

1. **Mingyang Wei**, Dehai Min, Zewen Liu, Yuzhang Xie, Guancheng Wu, Carl Yang, Lu Cheng, Max S. Y. Lau, and Wei Jin. EpiQ: A Multi-Granular Benchmark for Assessing Epidemiological Reasoning Capabilities. *Planned submission to ACL*, 2026.

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** using **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 lightweight defense system against **NFC attacks** by integrating **IPFS** for multi-layer verification and real-time alerts.

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   **Volunteer at Jiucaizhuang Village Government** | Hohhot, China   2018.08
ENGAGEMENT
- 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