

Shenming Ji

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EDUCATION BACKGROUND

Northwestern University

Master of Science in Computer Science

Evanston, IL

Sep. 2025 – Dec. 2026 (Expected)

Xi'an Jiaotong-Liverpool University

Bachelor of Science in Information and Computing Science

Suzhou, China

Sep. 2021 – Jul. 2025

- Graduated with First Class (Honours) | GPA: 3.77/4.0

PUBLICATIONS

[1] Gefei Zhang, **Shenming Ji**, Yicao Li, Jingwei Tang, Jihong Ding, Meng Xia, Guodao Sun, Ronghua Liang, "CPVis: Evidence-based Multimodal Learning Analytics for Evaluation in Collaborative Programming" in ACM CHI 2025. <https://doi.org/10.48550/arXiv.2502.17835>

[2] **Shenming Ji**, Wei Wang, Jianjun Chen, Jun Qi, "EEG-TBSANet: Temporal-Spectral Fusion Network for Robust Epilepsy Diagnosis from EEG" in IEEE INDIN 2025 (Accepted)

RESEARCH EXPERIENCE

EEG-TBSANet: A Temporal-Spectral Fusion Network for Robust Epilepsy Diagnosis from EEG Signals.

Xi'an Jiaotong-Liverpool University | AI in Healthcare

Suzhou, China

Supervisor: Prof. Jun Qi

Sep. 2024 - Jun. 2025

- Built EEG-TBSANet integrating **TCN**, **BiLSTM**, and **Self-Attention** for robust and accurate EEG-based seizure detection.
- Achieved up to **99.40% accuracy** across diverse public datasets (CHB-MIT, Bonn, and Guinea-Bissau).
- Applied **Gaussian noise augmentation**, **focal loss**, and adaptive learning rate schedulers to enhance model generalization.
- Implemented and optimized in **PyTorch** with extensive **ablation studies** and rigorous cross-model comparisons.

Evaluating Collaborative Programming in the Classroom through Data-driven Multimodal Learning Analytics.

Texas A&M University | Human-Computer Interaction

College Station, TX

Supervisor: Prof. Meng Xia

May. 2024 - Sep. 2024

- Implemented **Faster-Whisper** and **Pyannote_audio** for speech recognition and diarization to analyze student collaboration.
- Used **LLM APIs (GPT-4o)** with custom prompts to classify behaviors, assess scaffolding, and evaluate submitted code.
- Applied **T-SNE** for visualization and **NMF** to quantify behavioral and cognitive engagement using LLM-derived features.
- Built an interactive **Vue**-based dashboard with **D3.js** enabling instructors to monitor student collaboration and coding progress.
- Conducted **RM-ANOVA** and **Bonferroni tests** to evaluate system performance, confirming significant positive results.

Investigating the effect of collaboration patterns on bilibili's video performance and creator's individual growth

Xi'an Jiaotong-Liverpool University | Social Computing

Suzhou, China

Supervisor: Prof. Teng Ma

Jun. 2023 - Sep. 2023

- Used **Python** for **web scraping** to build a six-month dataset of 37K videos and 43K creators, and **pandas** for data cleaning.
- Applied **NetworkX** to construct a collaboration network for videos, and prepared cross-sectional data for regression analysis.
- Conducted **linear regressions** to link network position with video performance, revealing a U-shaped effect.
- Translated results into **data-driven** recommendations on collaboration strategies to boost creator growth and reach.

PROJECT

Full-Stack Online Food Ordering Platform

Suzhou, China

Full-Stack Developer

Feb. 2024 – Apr. 2024

- Designed and implemented a responsive front-end using JavaScript, HTML5, and CSS3 under the **MVC** pattern.
- Developed and consumed **RESTful APIs** with **Spring Boot** backend and **Axios** for dynamic menu and order data exchange.
- Designed a 20-table **MySQL** database for efficient order processing, using **MyBatis-Plus** and **Redis** caching to reduce query load.

SKILLS

- Programming languages:** C/C++, Python, Java, JavaScript, HTML/CSS, SQL
- Tools/Frameworks:** Git, Docker, Vue, React, Spring Boot, Redis, PyTorch, MySQL, MATLAB, Unity, Figma