SHENMING JI

Northwestern University
McCormick School of Engineering
Evanston, IL

shenmingji2027@u.northwestern.edu
shenming-ji.github.io

EDUCATION

Northwestern University — Evanston, IL
M.S. in Computer Science (Thesis Track); GPA: 3.92/4.00 — Sep. 2025 - Present
Advisors: Prof. Connor Bain, Prof. Marcelo Worsley

Xi'an Jiaotong-Liverpool University & University of Liverpool — Suzhou, China
B.S. (Hons) in Information and Computing Science (First Class) — Sep. 2021 - Jul. 2025
Advisor: Prof. Jun Qi, Prof. Wei Wang

SELECTED PUBLICATIONS

[1] Gefei Zhang, **Shenming Ji**, Yicao Li, Jingwei Tang, Jihong Ding, Meng Xia, Guodao Sun, and Ronghua Liang. "CPVis: Evidence-based Multimodal Learning Analytics for Evaluation in Collaborative Programming." *ACM CHI*, 2025. doi:10.1145/3706598.3713353.

[2] Shenming Ji, Wei Wang, Jianjun Chen, and Jun Qi. "EEG-TBSANet: Temporal-Spectral Fusion Network for Robust Epilepsy Diagnosis from EEG." *IEEE INDIN*, 2025. doi:10.1109/INDIN64977.2025.11279416.

RESEARCH EXPERIENCE

Adaptive AI Tutoring and Critical Engagement — Evanston, IL
Researcher, Northwestern University — Sep. 2026 - Present
Advisors: Prof. Connor Bain and Prof. Marcelo Worsley

- Investigating engagement in AI tutoring using simulated student agents.
- Developing an adaptive AI tutoring system that dynamically responds to students' states.

Dialogic Feedback and Interactive AI Tutors — Pittsburgh, PA / Remote
Research Project, CMU LearnLab Summer School (2026) — Jul. 2026 - Present
Mentors: Prof. Bita Akram (NC State University) and Prof. Xinran Zhu (UIUC)

- Investigating critical engagement with GenAI through mixed-methods analysis of student–AI tutor dialogue turns; adapted and refined a multidimensional coding framework.
- Developed and evaluated an LLM-assisted multi-label coding pipeline across prompt configurations, with reliability checks and analysis of dialogue and programming artifacts.

Scientific Data Reuse, Innovation, and Research Impact — Remote
Research Assistant, University of Arizona — Apr. 2026 - Present
Supervisor: Prof. Yulin Yu

- Developed scalable Python workflows integrating approximately 1.47 million dataset-publication pairs to examine how scientific data reuse relates to innovation and research impact.
- Designed reproducible empirical analyses using fixed-effects models, robustness checks, lifecycle clustering, and bootstrap inference to characterize reuse patterns and research outcomes.

RESEARCH EXPERIENCE (CONTINUED)

EEG-TBSANet: Robust Epilepsy Diagnosis from EEG Suzhou, China
Research Assistant, Xi'an Jiaotong-Liverpool University Sep. 2024 - Jun. 2025

Supervisor: Prof. Jun Qi

- Developed a PyTorch temporal-spectral network combining TCN, BiLSTM, and self-attention; achieved 99.40% accuracy on CHB-MIT and evaluated generalization across three public EEG datasets.
- Improved robustness with Gaussian-noise augmentation, focal loss, learning-rate scheduling, ablation studies, and cross-model comparisons. Work published at IEEE INDIN 2025.

CPVis: Multimodal Learning Analytics for Collaborative Programming College Station, TX
Visiting Research Intern, Texas A&M University Apr. 2024 - Sep. 2024

Supervisor: Prof. Meng Xia

- Created a multimodal educational-data pipeline using Faster-Whisper, pyannote.audio, and GPT-4o prompts to analyze classroom dialogue, collaborative behaviors, scaffolding, and programming traces.
- Built an interactive Vue and D3.js dashboard for instructors; evaluated the system using repeated-measures ANOVA and Bonferroni-corrected comparisons. Work published at ACM CHI 2025.

Collaboration Networks and Creator Performance on Bilibili Suzhou, China
Research Assistant, Xi'an Jiaotong-Liverpool University Jun. 2023 - Sep. 2023

Supervisor: Prof. Teng Ma

- Collected and analyzed data from 36,909 videos and 43,273 creators on Bilibili, a Chinese video-sharing platform; constructed collaboration networks using Python and NetworkX and conducted regression analysis in Stata.
- Found that collaborating with successful creators was associated with higher video performance, while repeated collaborations showed a U-shaped relationship with video popularity.

TEACHING EXPERIENCE

Peer Mentor, Northwestern University Fall 2026
COMP_SCI 150: Fundamentals of Programming and Computational Problem Solving

- Grading, office hours, and one-on-one tutoring

PROJECT EXPERIENCE

Prytaneum: AI-Powered Online Deliberation Platform Remote
Software Engineer, UC Riverside TeCD-Lab Jul. 2026 - Present

Supervisor: Prof. Kevin Esterling

- Leading the development of an LLM-based user simulation feature for automated participant interactions and its moderation pipeline.
- Developing AI-powered backend and moderation features, including toxic-text detection, text classification, caching, error handling, and integration testing.

SKILLS

Languages: Python, JavaScript/TypeScript, C/C++, SQL, Java
ML/LLM: PyTorch, Hugging Face
Frameworks: Vue, React, Tailwind, D3.js
Data & DevOps: PostgreSQL, Prisma, Docker, Git/GitHub, AWS