

Youwei Liu

[\[Email\]](#)[\[GitHub\]](#)[\[Personal Website\]](#)[\[Google Scholar\]](#)

EDUCATION



Central South University

Sep 2023 – 2027 (expected)

Undergraduate Student

Changsha, China

- **Major:** Data Science Excellence Talent Program | **GPA:** 86.74/100
- **Coursework:** Convex Optimization, Machine Learning, Deep Learning, Multivariate Statistics, etc.

RESEARCH EXPERIENCE



CUHK(Shenzhen) & KAUST

Jul 2024

Visiting Student

Shenzhen, China

- Supervised by [Jinchao Xu](#), research on multi-scale feature transmission across token, embedding, and contextual layers in Large Language Models.



The Hong Kong Polytechnic University (Polyu-NLP Lab)

Apr 2025 – Present

Research Assistant

Hong Kong, China

- Served as a research assistant at the [PolyU NLP Lab](#), under the supervision of [Maggie Professor](#), conducting research on agents by integrating LLM-Agent, embodied agents, and world models.

PUBLICATION

- [Imagine-then-Plan: Agent Learning from Adaptive Lookahead with World Models](#) [\[PDF\]](#) [\[G\]](#)
Youwei Liu, Jian Wang, Hanlin Wang, Beichen Guo, Wenjie Li March ARR (oa: 3.5 & meta: 4), 2026
- [Co-Evolving World Models and Agent Policies for LLM Agents](#) [\[PDF\]](#) [\[G\]](#)
Youwei Liu, Jian Wang, Hanlin Wang, Wenjie Li May ARR (under review), 2026

PROJECTS

- **Preference-aware GNN Framework for Fake News Detection** Feb 2025
Developed GNN in Fake News Detection [\[G\]](#)
 - Using a heterogeneous dynamic GCN (HetDGCN) to integrate pattern-based and fact-based detectors via Model Preference Learning, which is better than individual model baselines.
- **Multi-Objective p Selection for the Morris Method** Feb 2026
Global Sensitivity Analysis and Multi-Objective Optimization [\[G\]](#)
 - Developed a reproducible framework to determine the optimal grid level p in the Morris method, jointly optimizing ranking reproducibility, cross-candidate convergence, and diagnostic-plane separability.
- **Latent Feature Translator in Recommender Systems: DMCF model** Dec 2024
Deep Learning in Recommender Systems and Latent Feature Interpretability [\[G\]](#)
 - Combining MLP and CF to capture implicit user–item interactions, the model adopts an encoder–decoder architecture to learn latent features of users and items in complex social networks.

HONORS AND AWARDS

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|-----------------------------------|---|----------|
| • Outstanding Paper (Oral) | “Shenzhen Cup” Math Modeling Challenge | Aug 2024 |
| • First Prize | National Undergraduate Math Modeling Competition | Sep 2024 |
| • First Prize | National Undergraduate Market Research Analysis (CP Cup) | May 2024 |
| • Second Prize | CSU Mathematical Modeling Competition | Jun 2024 |
| • National-Level Award | Innovation and Entrepreneurship Training Program | Apr 2024 |
| • National Second Prize | Service Outsourcing Innovation and Entrepreneurship Competition | May 2025 |
| • Honorable Mention | Mathematical Contest in Modeling (MCM) | Jan 2025 |

LEADERSHIP EXPERIENCE

- **Vice President, Mathematical Modeling Association** Central South University (Nov 2023 – Present)

SKILLS

- **Code:** Python, MATLAB, LaTeX
- **Research Frameworks:** LLM Infra (Verl), Scientific Illustration (PowerPoint, Adobe Illustrator)
- **Languages:** Mandarin (native), English (CET-4/6, IELTS: 6.5), Cantonese