Yuhan **Yang**

(+86) 15262915631 | yuhan_yang_@outlook.com | yhyang04.github.io

Education

Sichuan University *Sep. 2022 – Jun. 2026*

Major in Information Management

- GPA: 3.92/4.0 (91.56/100) Rank: **1/54**
- Relevant Courses: Calculus, Linear Algebra, Computer Networks, C Programming, Probability & Statistics, Data Structure

University of Michigan *Sep. 2025 – Present*

Research intern advised by Prof. Alexander Rodríguez

- Conduct the project: LLM Driven Comparative Explanation across Scientific Simulators, plan to submit to ICML 2026

University of Virginia *Feb. 2025 – Sep. 2025*

Research intern advised by Prof. Jundong Li

- Conduct the project: Adaptive Dual Prompting for Fairness-aware Graph Neural Networks, submitted to ICLR 2026

University of Oxford *Jul. 2023 – Aug. 2023*

Summer research intern, supervised by Prof. Bernardo Cuenca Grau

Research Interests

- Machine Learning, Trustworthy AI, Natural Language Processing, Large Language Models, Data Mining

Publications

Adaptive Dual Prompting: Hierarchical Debiasing for Fairness-aware Graph Neural Networks.
Yuhan Yang, Xingbo Fu, Jundong Li.
Under review at *The Fourteenth International Conference on Learning Representations (ICLR 2026)*.

Hybrid Topology Representation and SAO-enhanced Semantics for Time-aware Link Prediction in Co-word Network.
Yuhan Yang, Jiahui Wang, Xiaojuan Zhang.
Under review at *Scientometrics* (SCI Q1).

Multi-Scale Transformers with Dual Attention and Adaptive Masking for Sequential Recommendation.
Haiqin Li, **Yuhan Yang**, Jun Zeng, Min Gao, Junhao Wen.
Information Processing & Management (SCI Q1, IF=7.4), Full Paper.

Dual-Perspective Modeling: Interest Trend-Detection and Diversity-Aware for Multi-behavior Recommendation.
Peixuan Sun, Zhida Zheng, **Yuhan Yang**, Wei Zhou, Junhao Wen.
In Proceedings of the *21st International Conference on Intelligent Computing (ICIC 2025)*.

Research Experience

Adaptive Dual Prompting: Hierarchical Debiasing for Fairness-aware GNN *Feb.2025 – Sep.2025*

Advisor: Prof. Jundong Li, Department of Computer Science, University of Virginia

- **Proposed Adaptive Dual Prompting (ADPrompt), a fairness-aware framework that adapts pretrained GNNs to downstream tasks while mitigating both attribute and structural bias.**
- **Designed dual-prompt modules for Adaptive Feature Rectification and Adaptive Message Calibration to suppress sensitive input data and generate structure prompts for dynamic, layer-wise regulation of information flow.**
- **Conducted experiments on four datasets with four pretraining strategies, outperforming seven baselines by 3% in fairness metrics; performed ablation and fairness evaluations to verify method effectiveness.**
- **Developed a sparse learnable prompt method that mitigates bias and improves efficiency when adapting pre-trained GNNs, advancing fairness-aware graph learning; submitted to *ICLR 2026* as first author.**

LLM-Driven Multi-Simulator Framework for Comparative Analysis and Explanation *Sep.2025 – Present*

Advisor: Prof. Alexander Rodriguez, Department of Computer Science, University of Michigan

- **Developed an LLM-driven Multi-Simulator Framework that improves the explanation of discrepancies across simulator results and reduces the cost of manual interpretation, thereby enhancing transparency and trust in scientific simulators.**
- **Integrated simulator generation, causal inference techniques, retrieval-augmented generation, and LLM-based analysis to automate comparative reasoning and explanation across heterogeneous simulators.**
- **Conducted several experiments in COVID-19 transmission simulators, demonstrating enhanced transparency and efficiency in LLM-driven multi-simulator analysis. Plan to submit to *ICML 2026* as *first author*.**

Hybrid Topological and Deep Semantic Features for Time-aware Link Prediction *Sep.2024 – Jul.2025*

Advisor: Prof. Xiaojuan Zhang, Department of Information Management, Sichuan University

- Proposed HTST, a novel hybrid topology-semantic framework for time-aware link prediction in co-word networks, enhancing the detection of emerging research trends by modeling the evolving structure of scientific knowledge and semantic relevance between keywords.
- Designed three modules to extract features for link prediction: (1) hybrid topological representation combining GAT and Node2Vec to represent comprehensive topological information; (2) fine-grained semantic modeling of syntactic structure and contextual information; (3) dynamic time-decay model analysis.
- Led data collection, preprocessing, and model training; executed extensive experiments on four datasets, validating model effectiveness. Submitted a paper as **first author** to *Scientometrics*.

Multi-Scale Transformers with Dual Attention for Sequential Recommendation *Dec.2024 – Jul.2025*

Advisor: Prof. Junhao Wen and Prof. Min Gao, School of Software Engineering, Chongqing University

- Developed ScaleRec, a multi-scale Transformer architecture for sequential recommendation that captures dynamic user behaviors across various temporal scales to enhance prediction accuracy.
- Designed a patch-based segmentation to capture diverse interaction patterns and a dual-attention mechanism using Gaussian intra-patch attention and context-aware inter-patch aggregation for short- and long-term preference modeling.
- Conducted experiments on six datasets against eight baselines, confirming robustness via ablation studies and parameter analysis; published the work in ***Information Processing & Management*** .

Interest Trend-Detection and Diversity-Aware for Multi-Behavior Recommendation *Oct.2024 – May.2025*

Advisor: Prof. Junhao Wen and Prof. Wei Zhou, School of Software Engineering, Chongqing University

- Developed TDBSR, a novel framework for multi-behavior sequential recommendation, to address the challenge of modeling both user interest trends and diversity.
- Designed a dual-perspective framework: (1) A mask generation module decouples data; (2) The HITM and ABIP MLP-based modules extract user interest tendencies; (3) MLP and max-pooling layers capture user interest diversity.
- Helped implement the TDBSR model and conducted extensive experiments on public datasets, outperforming eight baselines; this work has been accepted for publication in ***ICIC 2025***.

Honors & Awards

2023	**National First Prize**, The National Mathematics Competition for College Students	*Top 1%*
2024	**Outstanding Student Award**, Sichuan University	*Top 3%*
2025	**Outstanding Graduate Award**, Sichuan University	*Top 3%*
2024	**National Third Prize**, National Information Resource Case Competition	*Top 3%*
2024	**Best Creative Paper**, Shanghai Library Open Data Competition	*Top 3%*
2024	**Provincial Outstanding Project**, National College Student Innovation Competition	*Top 5%*
2024	**Honor Prize**, American College Students Mathematical Contest In Modeling	*Top 10%*

Service

Reviewer CIKM 2025, AAAI 2026

Skills

Programming: Proficient in Python, Java, C/C++, SQL, JavaScript, HTML, CSS, and MATLAB.

Core Skills: Data analysis & modeling; database construction; full-stack development for websites and apps.

Software & Tools: LaTeX; Microsoft Office; Adobe Photoshop; photography.

Leadership & Community Engagement

Disaster Prevention and Risk Management Innovation Society *Jul. 2023 — Jun. 2025*

Vice-Chairman

- Led the planning and execution of large-scale community activities, including field trips and volunteer programs with 200+ participants to advance disaster awareness and public education.
- Managed society operations and member coordination, optimizing team structure and workflows to improve project efficiency and student engagement.