

Tianxin Wei | Ph.D., University of Illinois Urbana-Champaign

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Google Scholar: [scholar.google.com \(1631 Citations\)](https://scholar.google.com/citations?user=HgkzQAAJAAQ&hl=en&oi=ao)

Research Interests

I am a final-year Ph.D. student at the University of Illinois Urbana-Champaign. My research focuses on personalized and trustworthy large language model agents, with an emphasis on user-centric generation, long-term agentic reasoning with self-evolving memory, and LLM efficiency. I am particularly interested in how personalization and agency contribute to building self-improving, reliable, and scalable LLM systems, with applications in recommender systems, information retrieval, and broader domains.

Education

University of Illinois Urbana-Champaign

➤ *Ph.D. in Information Sciences* Champaign, USA
2021–2026 (exp.)

Advisors: Prof. Jingrui He, working with Prof. Hanghang Tong

University of Science and Technology of China

➤ *B.S. in Computer Science* Hefei, China
2016–2020

School of the Gifted Young, Artificial Intelligence Talent Class

Research Experience

Google DeepMind, GenAI Org

Mountain View, CA

Research Intern

2025

➤ Project: Evo-Memory: Benchmarking LLM Agent Test-time Learning with Self-Evolving Memory (In submission).
Advised by Wang-Cheng Kang, Noveen Sachdeva, Chi Wang, Fernando Pereira, and Ed Chi

Meta AI, Ranking Foundational Org

Remote

Research Intern

2025

➤ Project: CoFiRec: Coarse-to-Fine Tokenization for Generative Recommendation (In submission).

Amazon, Shopping Foundational Org

Palo Alto, CA

Research Intern

2024

➤ Project: DiffKGW: Stealthy and Robust Diffusion Model Watermarking (TMLR).
Advised by Xianfeng Tang, and Suhang Wang

Amazon, Search Org

Palo Alto, CA

Research Intern

2023

➤ Project: Generative multimodal personalization; LLM for IR. (ICLR'24, WWW'24, ICML'24)
Advised by Xianfeng Tang, and Suhang Wang

UT Austin, Electrical and Computer Engineering

Remote

Research Intern

2020

➤ Project: Self-supervised graph learning; fintech (NeurIPS'22).
Advised by Prof. Zhangyang Wang

UCLA, Computer Science

Los Angeles, CA

Visiting Scholar

2019

➤ Project: Graph-based recommender systems; meta-path discovery (ICDM'20).
Advised by Prof. Yizhou Sun

USTC, Data Science

Hefei, China

Research Intern

2019–2021

➤ Project: Robustness and bias of recommender systems (KDD'21, SIGIR'21).
Advised by Prof. Xiangnan He

Publications (* denotes equal contribution and † denotes supervision)

Conference Papers.....

➤ **ICLR 2026**

MC-Search: Evaluating and Enhancing Multimodal Agentic Search with Structured Long Reasoning Chains
Xuying Ning*, Dongqi Fu*, **Tianxin Wei***†, Mengting Ai, Jiaru Zou, Ting-Wei Li, Hanghang Tong, Yada Zhu, Hendrik Hamann, Jingrui He

Oral (Top 1%)

➤ **ICLR 2026**

Seeing but Not Believing: Probing the Disconnect Between Visual Attention and Answer Correctness in VLMs

Zhining Liu, Ziyi Chen, Hui Liu, Chen Luo, Xianfeng Tang, Suhang Wang, Jingying Zeng, Zhenwei Dai, Zhan Shi, **Tianxin Wei**, Hanqing Lu, Benoit Dumoulin, Hanghang Tong

➤ **AAAI 2026**

Panda: Test-Time Adaptation with Negative Data Augmentation

Ruxi Deng, Wenxuan Bao, **Tianxin Wei**, Jingrui He

➤ **KDD 2025**

Connecting Domains and Contrasting Samples: A Ladder for Domain Generalization

Tianxin Wei*, Yifan Chen*, Xinrui He, Wenxuan Bao, Jingrui He

➤ **KDD 2025**

ResMoE: Residual Approximation for Compressing Mixture-of-Experts in Large Language Models

Mengting Ai*, **Tianxin Wei***†, Yifan Chen*, Zhichen Zeng, Ritchie Zhao, Girish Varatkar, Bita Darvish Rouhani, Xianfeng Tang, Hanghang Tong, Jingrui He

➤ **NeurIPS 2025**

CLIMB: Class-imbalanced Learning Benchmark on Tabular Data

Zhining Liu, Zihao Li, Ze Yang, **Tianxin Wei**, Jian Kang, Yada Zhu, Hendrik Hamann, Jingrui He, Hanghang Tong

➤ **ICCV 2025**

Latte: Collaborative Test-Time Adaptation of Vision-Language Models in Federated Learning

Wenxuan Bao, Ruxi Deng, Ruizhong Qiu, **Tianxin Wei**, Hanghang Tong, Jingrui He

➤ **EMNLP 2025 (Findings)**

Learning to Instruct: Fine-Tuning a Task-Aware Instruction Optimizer for Black-Box LLMs

Yunzhe Qi, Jinjin Tian, Tianci Liu, Ruirui Li, **Tianxin Wei**, Hui Liu, Xianfeng Tang, Monica Xiao Cheng, Jingrui He

➤ **CIKM 2025**

PyG-SSL: A Graph Self-Supervised Learning Toolkit

Lecheng Zheng, Baoyu Jing, Zihao Li, Zhichen Zeng, **Tianxin Wei**, Mengting Ai, Xinrui He, Lihui Liu, Dongqi Fu, Jiaxuan You, Hanghang Tong, Jingrui He

➤ **ACL 2025 (Main)**

SelfElicit: Your Language Model Secretly Knows Where is the Relevant Evidence

Zhining Liu, Rana Ali Amjad, Ravinarayana Adkathim, **Tianxin Wei**, Hanghang Tong

➤ **ACL 2025 (Findings)**

LLM-Forest: Ensemble Learning of LLMs with Graph-Augmented Prompts for Data Imputation

Xinrui He, Yikun Ban, Jiaru Zou, **Tianxin Wei**, Curtiss Cook, Jingrui He

➤ **UAI 2025**

i²VAE: Interest Information Augmentation with Variational Regularizers for Cross-Domain Sequential Recommendation

Xuying Ning, Wujiang Xu, **Tianxin Wei**, Xiaolei Liu

➤ **ICML 2025**

Graph4MM: Weaving Multimodal Learning with Structural Information

Xinrui He, Yikun Ban, Dongqi Fu, **Tianxin Wei**, Wujiang Xu, Jingrui He

➤ **ICML 2025**

Breaking Silos: Adaptive Model Fusion Unlocks Better Time Series Forecasting

Zhining Liu, Ze Yang, Xiao Lin, Ruizhong Qiu, **Tianxin Wei**, Yada Zhu, Hendrik Hamann, Jingrui He, Hanghang Tong

➤ ICLR 2024

Towards Unified Multi-Modal Personalization: Large Vision-Language Models for Generative Recommendation and Beyond

Tianxin Wei, Bowen Jin, Ruirui Li, Hansi Zeng, Zhengyang Wang, Jianhui Sun, Qingyu Yin, Hanqing Lu, Suhang Wang, Jingrui He, Xianfeng Tang

➤ KDD 2024

Neural Collaborative Filtering Bandits via Meta Learning

Yikun Ban, Yunzhe Qi, Tianxin Wei, Lihui Liu, Jingrui He

➤ AAAI 2024

TAU: Trajectory Data Augmentation with Uncertainty for Next POI Recommendation

Zhuang Zhuang, Tianxin Wei, Lingbo Liu, Heng Qi, Yanming Shen, Baocai Yin

➤ ICML 2024

Graph Mixup on Approximate Gromov–Wasserstein Geodesics

Zhichen Zeng, Ruizhong Qiu, Zhe Xu, Zhining Liu, Yuchen Yan, Tianxin Wei, Lei Ying, Jingrui He, Hanghang Tong

➤ ICML 2024

Language Models as Semantic Indexers

Bowen Jin, Hansi Zeng, Guoyin Wang, Xiusi Chen, Tianxin Wei, Ruirui Li, Zhengyang Wang, Zheng Li, Yang Li, Hanqing Lu, Suhang Wang, Jiawei Han, Xianfeng Tang

➤ WWW 2024

Scalable and Effective Generative Information Retrieval

Hansi Zeng, Chen Luo, Bowen Jin, Sheikh Muhammad Sarwar, Tianxin Wei, Hamed Zamani

➤ ICML 2023

NTK-approximating MLP Fusion for Efficient Language Model Fine-tuning

Tianxin Wei^{*†}, Zeming Guo^{*}, Yifan Chen^{*}, Jingrui He

➤ NeurIPS 2023

Adaptive Test-Time Personalization for Federated Learning

Wenxuan Bao^{*}, Tianxin Wei^{*}, Haohan Wang, Jingrui He

➤ CIKM 2023

Robust Basket Recommendation via Noise-tolerated Graph Contrastive Learning

Xinrui He^{*}, Tianxin Wei^{*}, Jingrui He

➤ NeurIPS 2023

Meta-Learning with Neural Bandit Scheduling

Yunzhe Qi, Yikun Ban, Tianxin Wei, Jiaru Zou, Huaxiu Yao, Jinrui He

➤ NeurIPS 2022

Augmentations in Hypergraph Contrastive Learning: Fabricated and Generative

Tianxin Wei^{*}, Yuning You^{*}, Tianlong Chen, Yang Shen, Jingrui He, Zhangyang Wang

➤ KDD 2022

Comprehensive Fair Meta-learned Recommender System

Tianxin Wei, Jingrui He

➤ KDD 2021

Model-Agnostic Counterfactual Reasoning for Eliminating Popularity Bias in Recommender System

Tianxin Wei, Fuli Feng, Jiawei Chen, Ziwei Wu, Jinfeng Yi, Xiangnan He

➤ SIGIR 2021

Causal Intervention for Leveraging Popularity Bias in Recommendation

Yang Zhang, Fuli Feng, Xiangnan He, Tianxin Wei, Chonggang Song, Guohui Ling, Yongdong Zhang

Best Paper Honorable Mention

➤ DASFAA 2021

Unpaired Multimodal Neural Machine Translation via Reinforcement Learning

Yijun Wang^{*}, Tianxin Wei^{*}, Qi Liu, Enhong Chen

➤ AAAI 2021 Workshop

AR-Stock: Deep Augmented Relational Stock Prediction

Tianxin Wei, Yuning You, Tianlong Chen

Oral

➤ ICDM 2020

Fast Adaptation for Cold-start Collaborative Filtering with Meta-learning

Tianxin Wei, Ziwei Wu, Ruirui Li, Ziniu Hu, Fuli Feng, Xiangnan He, Yizhou Sun, Wei Wang

Journal Articles.....

➤ TMLR

DiffKGW: Stealthy and Robust Diffusion Model Watermarking

Tianxin Wei, Ruizhong Qiu, Yifan Chen, Yunzhe Qi, Jiacheng Lin, Wenju Xu, Sreyashi Nag, Ruirui Li, Hanqing Lu, Zhengyang Wang, Chen Luo, Hui Liu, Suhang Wang, Jingrui He, Qi He, Xianfeng Tang

➤ TMLR

Pave Your Own Path: Graph Gradual Domain Adaptation on Fused Gromov–Wasserstein Geodesics

Zhichen Zeng, Ruizhong Qiu, Wenxuan Bao, **Tianxin Wei**, Xiao Lin, Yuchen Yan, Tarek F. Abdelzaher, Jiawei Han, Hanghang Tong

➤ npj Artificial Intelligence

Flow Matching Meets Biology and Life Science: A Survey

Zihao Li, Zhichen Zeng, Xiao Lin, Feihao Fang, Yanru Qu, Zhe Xu, Zhining Liu, Xuying Ning, **Tianxin Wei**, Ge Liu, Hanghang Tong, Jingrui He

➤ IEEE Data Engineering Bulletin

Graph Contrastive Learning: An Odyssey towards Generalizable, Scalable and Principled Representation Learning on Graphs

Yan Han, Yuning You, Wenqing Zheng, Scott Hoang, **Tianxin Wei**, Majdi Hassan, Tianlong Chen, Ying Ding, Yang Shen, Zhangyang Wang

In Submission.....

2025

➤ **Evo-Memory: Benchmarking LLM Agent Test-time Learning with Self-Evolving Memory**

Tianxin Wei, Noveen Sachdeva, Benjamin Coleman, Zhankui He, Yuanchen Bei, Xuying Ning, Mengting Ai, Yunzhe Li, Jingrui He, Ed H. Chi, Chi Wang, Shuo Chen, Fernando Pereira, Wang-Cheng Kang, Derek Zhiyuan Cheng

➤ **Agentic Reasoning for Large Language Models: A Survey**

Tianxin Wei, etc.

➤ **CoFiRec: Structuring Token Granularity for Generative Recommendation**

Tianxin Wei*, Xuying Ning*, Xuxing Chen, Yan Xie, Ruizhong Qiu, Zhigang Hua, Jingrui He

➤ **Inference Scaling of LLM Ensembling: Bridging Token Spaces with Token Translation**

Tianxin Wei, Zhichen Zeng, Ruizhong Qiu, Zhining Liu, Xuying Ning, Xinrui He, Wenxuan Bao, Qi He, Xianfeng Tang, Hanghang Tong, Jingrui He

➤ **AdaFuse: Adaptive Ensemble Decoding with Test-Time Scaling for LLMs**

Chengming Cui*, Tianxin Wei*, Ziyi Chen, Ruizhong Qiu, Zhichen Zeng, Zhining Liu, Xuying Ning, Jingrui He

➤ **MLP Fusion: Towards Efficient Fine-tuning of Dense and Mixture-of-Experts Language Models**

Mengting Ai*, Tianxin Wei*, Yifan Chen*, Zeming Guo, Jingrui He

➤ **NIRVANA: Structured Pruning Reimagined for Large Language Models Compression**

Mengting Ai, Tianxin Wei, Sirui Chen, Jingrui He

➤ **CATS: Mitigating Correlation Shift for Multivariate Time Series Classification**

Xiao Lin, Zhichen Zeng, Tianxin Wei, Zhining Liu, Yuzhong Chen, Hanghang Tong

➤ **Saffron-1: Towards an Inference Scaling Paradigm for LLM Safety Assurance**

Ruizhong Qiu, Gaotang Li, Tianxin Wei, Jingrui He, Hanghang Tong

➤ **TRQA: Time Series Reasoning Question And Answering Benchmark**

Baoyu Jing, Sanchen Chen, Lecheng Zheng, Boyu Liu, Zihao Li, Jiaru Zou, **Tianxin Wei**, Zhining Liu, Zhichen Zeng, Ruizhong Qiu, Xiao Lin, Yuchen Yan, Qi Yu, Dongqi Fu, Jingrui He, Hanghang Tong

➤ **Geometri-Disentanglement Unlearning**

Duo Zhou, Yuji Zhang, **Tianxin Wei**, Ruizhong Qiu, Ke Yang, Xiao Lin, Cheng Qian, Jingrui He, Hanghang Tong, Heng Ji, Huan Zhang

➤ **WAPITI: A Watermark for Finetuned Open-Source LLMs**

Lingjie Chen, Ruizhong Qiu, Siyu Yuan, Zhining Liu, **Tianxin Wei**, Hyunsik Yoo, Zhichen Zeng, Deqing Yang

- **ReMix: Reinforcement Routing for Mixtures of LoRAs in LLM Finetuning**
Ruizhong Qiu, Hanqing Zeng, Yinglong Xia, Yiwen Meng, Ren Chen, Jiarui Feng, Dongqi Fu, Qifan Wang, Jiayi Liu, Jun Xiao, Xiangjun Fan, Benyu Zhang, Hong Li, Zhining Liu, Hyunsik Yoo, Zhichen Zeng, **Tianxin Wei**, Hanghang Tong
- **Simple is Better than Complex: A Representation-centric Perspective for Prompt-based Vision-Language Fusion**
Jinhong Ni, Renjie Wu, Yujia Yin, **Tianxin Wei**, Zhongli Li, Yifan Chen
- **GT2Vec: Large Language Models as Multi-Modal Encoders for Text and Graph-Structured Data**
Jiacheng Lin, Kun Qian, Haoyu Han, Nurendra Choudhary, **Tianxin Wei**, Zhongruo Wang, Sahika Genc, Edward W Huang, Sheng Wang, Karthik Subbian, Danai Koutra, Jimeng Sun

Before

- **Information Retrieval in Finance**
Fuli Feng*, **Tianxin Wei***, Xiangnan He, Cheng Luo, Tat-seng Chua

Community Service

PC/Reviewer: CIKM 2021–2024, ICML 2022–2025, NeurIPS 2022–2025, AAAI 2023–2025, ICLR 2023–2026, KDD 2023–2026, ACL 2023, EMNLP 2023, LoG 2022, WSDM 2023

Journal Reviewer: TOIS, Machine Learning, TKDE, DMKD, Information Fusion, TMLR, TKDD

Subreviewer: WWW 2020, SIGIR 2021–2022, KDD 2022

Awards

- 2026:** Google Educational Award (\$10k)
- 2025:** KDD Outstanding Reviewer
- 2024:** Amazon Internship Fellowship (\$40k)
- 2024:** University Nomination (Top 3) for Apple Scholars in AI/ML
- 2023:** NeurIPS Scholar Award
- 2022:** NeurIPS Scholar Award
- 2023:** ICML Grant Award
- 2023:** UIUC Conference Presentation Award
- 2021:** Best Paper Honorable Mention, SIGIR
- 2017–2020:** USTC Outstanding Undergraduate Scholarship
- 2016:** USTC Freshman Undergraduate Scholarship