# Tianxin Wei

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## CURRENT STATUS

I'm a fourth-year Ph.D. student at the University of Illinois at Urbana Champaign. My research primarily centers on enhancing the transferability of machine learning algorithms across multi-modalities and disciplines, with the ultimate goal of making ML models more accessible and inclusive. I am particularly interested in applying these principles to critical applications, most notably in the field of generative modeling, recommender system and information retrieval.

## EDUCATION

**University of Illinois Urbana Champaign (UIUC)**                                                    Champaign, USA

*Doctorate in School of Information Sciences, iDEA-iSAIL Lab*                         Sep. 2021 – May 2026 (Expected)

➤ Advisor: Prof. Jingrui He, working with Prof. Hanghang Tong

**University of Science and Technology of China (USTC)**                                              Anhui, China

*Bachelor's Degree in Computer Science, School of the Gifted Young (Honor School)*          Sep. 2016 – Jul. 2020

➤ Honors: Artificial Intelligence Talent Class

## PUBLICATIONS (* DENOTES EQUAL CONTRIBUTION, ^ DENOTES MENTORSHIP)

### Conference

**2025**

➤ **Connecting Domains and Contrasting Samples: A Ladder for Domain Generalization**

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

  Accepted by the **KDD 2025** (**Full Research**)

➤ **ResMoE: Space-efficient Compression of Mixture of Experts LLMs via Residual Restoration**

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

  Accepted by the **KDD 2025** (**Full Research**)

**2024**

➤ **Towards Unified Multi-Modal Personalization: Large Vision-Language Models for Generative Recommendation and Beyond [PDF]**

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

  Accepted by the **ICLR 2024** (**Full Research**)

➤ **Neural Collaborative Filtering Bandits via Meta Learning [PDF]**

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

  Accepted by the **KDD 2024** (**Full Research**)

- **TAU: Trajectory Data Augmentation with Uncertainty for Next POI Recommendation [PDF]**

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

  Accepted by the **AAAI 2024 (Full Research)**

- **Graph Mixup on Approximate Gromov–Wasserstein Geodesics [PDF]**

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

  Accepted by the **ICML 2024** (**Full Research**)

- **Language Models as Semantic Indexers [PDF]**

  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

  Accepted by the **ICML 2024 (Full Research)**

- **Scalable and Effective Generative Information Retrieval [PDF]**

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

  Accepted by the **WWW 2024 (Full Research)**

  **2023**

- **NTK-approximating MLP Fusion for Efficient Language Model Fine-tuning [PDF]**

  **Tianxin Wei\*^**, Zeming Guo\*, Yifan Chen\*, Jingrui He

  Accepted by the **ICML 2023** (**Full Research**)

- **Adaptive Test-Time Personalization for Federated Learning [PDF]**

  Wenxuan Bao\*, **Tianxin Wei\***, Haohan Wang, Jingrui He

  Accepted by the **NeurIPS 2023** (**Full Research**)

- **Robust Basket Recommendation via Noise-tolerated Graph Contrastive Learning [PDF]**

  Xinrui He\*, **Tianxin Wei\***, Jingrui He

  **Accepted by the CIKM 2023 (Full Research)**

- **Meta-Learning with Neural Bandit Scheduling [PDF]**

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

  Accepted by the **NeurIPS 2023** (**Full Research**)

  **2022**

- **Augmentations in Hypergraph Contrastive Learning: Fabricated and Generative [PDF]**

  **Tianxin Wei\***, Yuning You\*, Tianlong Chen, Yang Shen, Jingrui He, Zhangyang Wang

  Accepted by the **NeurIPS 2022** (**Full Research**)

- **Comprehensive Fair Meta-learned Recommender System [PDF]**

  **Tianxin Wei**, Jingrui He

Accepted by the **KDD 2022** (**Full Research**)

**2021**

➤ **Model-Agnostic Counterfactual Reasoning for Eliminating Popularity Bias in Recommender System [[PDF](#)]**

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

Accepted by the **KDD 2021** (**Full Research**)

➤ **Causal Intervention for Leveraging Popularity Bias in Recommendation [[PDF](#)]**

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

Accepted by the **SIGIR 2021**. (**Full Research, <span style="color:red">Best Paper Honorable Mention</span>**)

➤ **Unpaired Multimodal Neural Machine Translation via Reinforcement Learning [[PDF](#)]**

Yijun Wang*, **Tianxin Wei***, Qi Liu, Enhong Chen

Accepted by **DASFAA 2021** (**Full Research**)

➤ **AR-Stock: Deep Augmented Relational Stock Prediction [[PDF](#)]**

**Tianxin Wei**, Yuning You, Tianlong Chen

Present in the **AAAI 2021** Workshop on Knowledge Discovery from Unstructured Data (Oral).

**2020**

➤ **Fast Adaptation for Cold-start Collaborative Filtering with Meta-learning [[PDF](#)]**

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

Accepted by ICDM 2020 (**Full Research**)

## Journal

➤ **Graph Contrastive Learning: An Odyssey towards Generalizable, Scalable and Principled Representation Learning on Graphs [[PDF](#)]**

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

Accepted by the **IEEE Data Engineering Bulletin (Survey)**

## Preprint

➤ **Generalizing LLM Watermarking to Image Diffusion: A Holistic Framework [[PDF](#)]**

**Tianxin Wei**, Ruizhong Qiu, Yifan Chen, Yunzhe Qi, etc.

In submission at a key conference

➤ **Automatic Task-aware Instruction Optimizer for Black-box LLMs [[PDF](#)]**

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

In submission at a key conference

➤ **Unleashing the Power of LLMs as Multi-Modal Encoders for Text and Graph-Structured Data [[PDF](#)]**

Jiacheng Lin, Kun Qian, Haoyu Han, Nurendra Choudhary, **Tianxin Wei**, …, Sheng Wang, Karthik Subbian, Danai Koutra, Jimeng Sun

In submission at a key conference

➢ **MLP Fusion: Towards Efficient Fine-tuning of Dense and Mixture-of-Experts Language Models [PDF]**

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

In submission to a key journal

➢ **WAPITI: A Watermark For Finetuned Opensource LLMs [PDF]**

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

In submission at a key conference

➢ **Information Retrieval in Finance**

Fuli Feng*, **Tianxin Wei***, Xiangnan He, Cheng Luo, Tat-seng Chua

In submission at a key Journal

## INTERN EXPERIENCE

➢ Foundational Shopping AI Team, **Amazon Inc.**                                      Palo Alto, US

*Research Intern* with Xianfeng Tang                                      May. 2024 - Aug. 2024

*Project*: Invisble watermarking for information systems. (In submission.)

➢ Search org, **Amazon Inc.**                                      Palo Alto, US

*Research Intern* with Xianfeng Tang                                      May. 2023 - Aug. 2023

*Project*: Generative multimodal personalization; LLM for IR. Published at ICLR'24, WWW'24 and ICML'24.

➢ Department of Computer Science, University of California, Los Angeles (UCLA)                                      California, USA

*Visiting Scholar* in Professor **Wei Wang** & **Yizhou Sun's** Group                                      Jul. 2019 – Sep. 2019

*Project*: Graph-based recsys; Automated meta-path discovery. Published at ICDM'20.

➢ Department of Electrical & Computer Engineering, University of Texas at Austin                                      (Virtual) Texas, USA

*Research Intern* in Professor **Zhangyang Wang's** Group                                      Jan. 2020 – Aug. 2020

*Project*: Self-supervised graph learning; fintech. Published at NeurIPS'22.

➢ Department of Data Science, University of Science and Technology of China                                      Hefei, China

*Research Intern* in Professor **Xiangnan He's** Group                                      Aug. 2019 – Jan. 2021

*Project*: Robustness and bias of recsys. Published at KDD'21 and SIGIR'21.

## COMMUNITY SERVICES

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

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

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

# AWARDS

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