

XINLU ZHANG

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RESEARCH INTERESTS

My research focuses on building efficient, reliable, and domain-aware LLMs through post-training and evaluation to boost reasoning, instruction-following, and domain expertise. Broader interests include multimodal learning, time-series modeling, and label-efficient training.

EDUCATION

Ph.D. in Computer Science Sep. 2020 - July 2024

University of California, Santa Barbara

Advisor: Prof. Linda Petzold

M.S. in Statistics Aug. 2018 - May 2020

Indiana University, Bloomington

B.S. in Statistics and Mathematics Aug. 2015 - July 2018

Indiana University, Bloomington

PUBLICATIONS AND PREPRINTS

Post Training & Data Recipe for LLMs

1. **Unveiling the Impact of Coding Data Instruction Fine-Tuning on Large Language Models Reasoning**

Xinlu Zhang, Zhiyu Zoey Chen, Xi Ye, Lichang Chen, Xianjun Yang, William Yang Wang, Linda Petzold

Proceedings of AAAI 2025 (oral)

2. **Explanations from Large Language Models Make Small Reasoners Better**

Shiyang Li, Jianshu Chen, Yelong Shen, Zhiyu Chen, Xinlu Zhang, Zekun Li, Hong Wang, Jing Qian, Baolin Peng, Yi Mao, Wenhui Chen, and Xifeng Yan

AAAI 2024 Workshop on Sustainable AI (SAI-AAAI2024)

3. **AlpaCare: Instruction-tuned Large Language Models for Medical Applications**

Xinlu Zhang, Chenxin Tian, Xianjun Yang, Lichang Chen, Zekun Li, Linda Petzold

ICLR 2025 Open Science for Foundation Models (SCI-FM) Workshop

4. **Enhancing Small Medical Learners with Privacy-preserving Contextual Prompting**

Xinlu Zhang, Shiyang Li, Xianjun Yang, Chenxin Tian, Yao Qin, Linda Petzold

Proceedings of ICLR 2024

Evaluation & Analysis

1. **Do Retrieval-Augmented Language Models Adapt to Varying User Needs?**

Peilin Wu*, Xinlu Zhang*, Wenhao Yu, Xingyu Liu, Xinya Du, Zhiyu Zoey Chen (*Equal Contribution)

Under review

2. **GPT-4V(ision) as a Generalist Evaluator for Vision-Language Tasks**

Xinlu Zhang*, Yujie Lu*, Weizhi Wang*, An Yan, Jun Yan, Heng Wang, Xifeng Yan, William Yang Wang, Linda Petzold (*Equal Contribution)

Preprint

3. **CBT-Bench: Evaluating Large Language Models on Assisting Cognitive Behavior Therapy**

Mian Zhang, Xianjun Yang, Xinlu Zhang, Travis Labrum, Jamie C Chiu, Shaun M Eack, Fei Fang, William Yang Wang, Zhiyu Zoey Chen

Proceedings of NAACL 2025

4. **Exploring the Limits of ChatGPT for Query or Aspect-based Text Summarization**

Xianjun Yang, Yan Li, Xinlu Zhang, Haifeng Chen, Wei Wang

Preprint

5. **A Survey on Large Language Models for Critical Societal Domains: Finance, Healthcare, and**

Law

Zhiyu Zoey Chen, Jing Ma, **Xinlu Zhang**, Nan Hao, An Yan, Armineh Nourbakhsh, Xianjun Yang, Julian McAuley, Linda Petzold, William Yang Wang
TMLR 2024 (Survey Certification)

Architectures, Datasets & Domain Applications

- 1. **Improving Medical Predictions by Irregular Multimodal Electronic Health Records Modeling**
Xinlu Zhang*, Shiyang Li*, Zhiyu Zoey Chen, Xifeng Yan, and Linda Petzold (*Equal Contribution)
Proceedings of ICML 2023
- 2. **PcMSP: A Dataset for Scientific Action Graphs Extraction from Polycrystalline Materials Synthesis Procedure Text**
Xianjun Yang, Ya Zhuo, Julia Zuo, **Xinlu Zhang**, Stephen Wilson, and Linda Petzold
Findings of EMNLP 2022
- 3. **Domain Adaptation for Trauma Mortality Prediction in EHRs with Feature Disparity**
Xinlu Zhang, Shiyang Li, Zhuowei Cheng, Rachael Callcut, and Linda Petzold
Proceedings of BIBM 2021
- 4. **An Analysis of Relation Extraction from Wet Lab Protocols**
Xianjun Yang, **Xinlu Zhang**, Julia Zuo, Stephen Wilson, and Linda Petzold
Proceedings of BigData 2021
- 5. **BERTSurv: BERT-Based Survival Models for Predicting Outcomes of Trauma Patients**
Yun Zhao, Qinghang Hong, **Xinlu Zhang**, Yu Deng, Yuqing Wang, Paul K. Hansma, and Linda Petzold
Proceedings of ICDM 2021

PROFESSIONAL EXPERIENCE

Senior Machine Learning Engineer LinkedIn, Sunnyvale, CA	Sep. 2024 - Current
<ul style="list-style-type: none">• LLM Agent: Develop a LLM-based multi-agent system to optimize LinkedIn’s hiring process, incorporating customized recruiter preferences.• LLM Semantic Search: Conduct applied research on building robust LLM semantic search system to incorporate user needs.	
Research Scientist Intern Meta Reality Labs, Burlingame, CA	Sep. 2023 - Dec. 2023
Machine Learning Engineer Intern LinkedIn, Sunnyvale, CA	June 2023 - Sep. 2023
Machine Learning Engineer Intern LinkedIn, Sunnyvale, CA	June 2022 - Sep. 2022

ONGOING PROJECT

Enhancing LLM Reasoning for Search Efficiency via Reinforcement Learning	March 2025 – Present
<ul style="list-style-type: none">• Improving LLMs reasoning on search via reinforcement learning to balance internal knowledge utilization and external search engine interactions for searching effectiveness and efficiency.	

AWARDS& SERVICES

- **Selected Reviewer:** ICML 2024/2025, NeurIPS 2023/2024, ICLR 2024/2025, AAAI 2023/2024/2025, AISTATS 2023
- Academic Excellence Fellowship, Department of CS at UCSB 2020
- Full tuition scholarship for graduate students, Department of Statistics at IU 2018-2020
- Howard W.Fieber Scholarship 2016