

XINYU LIAN

RESEARCH INTEREST

I study machine learning and systems, focus on elastic and efficient LLM training and finetuning. I am also a core contributor to **DeepSpeed**, and my work has been adopted by Microsoft, BigScience, Baidu and UC Berkeley for end-to-end training of real-world models up to 176B parameters.

EDUCATION

University of Illinois Urbana-Champaign

Ph.D. in Computer Science

Aug. 2024 – Present

Advisor: Minjia Zhang

University of Illinois Urbana-Champaign

MS in Computer Science (Research-Oriented)

Aug. 2022 – May 2024

Advisors: Tianyin Xu and Darko Marinov

Zhejiang University

B.Eng. in Electronic and Computer Engineering

Sept. 2018 – June 2022

PUBLICATIONS

- **ASPLOS'26 SuperOffload: Unleashing the Power of Large-Scale LLM Training on Superchips**
Xinyu Lian, Masahiro Tanaka, Olatunji Ruwase, Minjia Zhang
31st ACM International Conference on Architectural Support for Programming Languages and Operating System
- **ATC'25 Universal Checkpointing: Efficient and Flexible Checkpointing for Large Scale Distributed Training**
Xinyu Lian, Sam Ade Jacobs, Lev Kurilenko, Masahiro Tanaka, Stas Bekman, Olatunji Ruwase, Minjia Zhang
2025 USENIX Annual Technical Conference
Adopted by Microsoft for Phi-3.5-MoE (42B) Pre-Training
Adopted by BigScience for BLOOM (176B) Pre-Training
Selected for Presentation on PyTorch Day 2025 and FMS 2025
- **ICSE'25 Large Language Models as Configuration Validators**
Xinyu Lian, Yinfang Chen, Runxiang Cheng, Jie Huang, Parth Thakkar, Minjia Zhang, Tianyin Xu
47th International Conference on Software Engineering
- **FSE'24 Ctest4J: A Practical Configuration Testing Framework for Java**
Shuai Wang, Xinyu Lian, Qingyu Li, Darko Marinov, Tianyin Xu
32nd ACM International Conference on the Foundations of Software Engineering, Demo Papers
- **ICSE'23 Test Selection for Unified Regression Testing**
Shuai Wang, Xinyu Lian, Darko Marinov, Tianyin Xu
45th International Conference on Software Engineering
- **ABZ'21 Towards Refinement of Unbounded Parallelism in ASMs Using Concurrency and Reflection**
Fengqing Jiang, Neng Xiong, Xinyu Lian, Senén González, Klaus-Dieter Schewe
8th International ABZ Conference on ASM, Alloy, B, TLA, VDM, Z

ACADEMIC SERVICES

Organizer:

Brett Daniel Software Engineering Seminar

Program Committee:

MSR'25

Artifact Evaluation Committee:

SOSP'24

Reviewer:

TSE

SELECTED AWARDS & HONORS

Amazon Fellowship (\$70K)

2025

USENIX Student Grant

2025

SIGSOFT CAPS Travel Grant

2025

Provincial Outstanding Graduate

2022

Academic Scholarship, Zhejiang University (¥10K)

2021