

XINYU LIAN

🏠 Homepage | ✉️ lian7@illinois.edu | 🌐 [xylian86](https://xylian86.github.io)

RESEARCH INTEREST

I study machine learning and systems, with a focus on efficient LLM training. I am also a core contributor to **DeepSpeed**, specifically, I developed **Universal Checkpointing**, a checkpoint system that enables flexible and efficient training with reconfigurable parallelism, that has been used for the end-to-end training of several real-world large-scale models, including **BLOOM (176B)** and **Phi-3.5-MoE (42B)**.

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

- **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
Under Review
Deployed at Microsoft and Amazon for LLM training including BLOOM (176B) and Phi-3.5-MoE (42B)
- **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

Provincial Outstanding Graduate

2022

Academic Scholarship, Zhejiang University (¥10K)

2021