

Jiahao Lu

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EDUCATION

Xiamen University

M.Eng. Student, Artificial Intelligence, GPA: 3.59/4.00

Xiamen, Fujian, China

08/2024 - Present

- Xiamen Key Laboratory of Intelligent Storage and Computing, *ERAS Research Group*

- Advisor: Prof. *Zhirong Shen*

- Research Interests: Computer Architecture & Operating System

- Detailed Focus: Memory Tiering/Pooling Systems & Memory Reliability & Page Fault Optimization

Zhejiang Normal University

B.Eng., Software Engineering, GPA: 89/100, Rank: Top 5%

Jinhua, Zhejiang, China

09/2020 - 06/2024

TECHNICAL SKILLS

Programming: C/C++, Python, Java, Rust

Tools: ZSim, gem5 (only memory subsystem), QEMU

PUBLICATIONS AND PRESENTATIONS

Memory Pooling and Tiering

- [Paper#1 (Under Review)] *Main Content:* Managing DRAM Cache via hardware-software co-design (*first author*).
- [Paper#2 (Under Review)] *Main Content:* A Novel Paradigm for HBM-DDR Hybrid Memory Systems (*second author*).

Memory Reliability

- [USENIX ATC'24] *Removing Obstacles before Breaking Through the Memory Wall: A Close Look at HBM Errors in the Field.* Ronglong Wu, Shuyue Zhou, Jiahao Lu, Zhirong Shen*, Zikang Xu, Jiwu Shu, Kunlin Yang, Feilong Lin and Yiming Zhang.
- [TOS] *Looking Back to Move Forward: Unveiling the Mysteries of HBM Errors to Predict Future Failures.* Shuyue Zhou, Xinbin Hu, Ronglong Wu, Jiahao Lu, Zhirong Shen*, Zikang Xu, Yue Yu, Jiwu Shu, Kunlin Yang, Feilong Lin and Yiming Zhang. (extended ATC'24 paper).

Address Translation & Page Fault Handling

- [Paper#1 (Work in progress)] *Main Content:* A Novel Paradigm for Minor Page Fault Handling (*first author*).

SERVICE AND EXPERIENCE

Program Committee Member: 2025 gem5 Workshop (@ISCA'25)

Teaching Assistant: Scientific Writing; Fall 2025; Supervisor: Prof. Zhirong Shen

Research Intern:

- (2023.06-2024.05) Memory Reliability about HBM Errors(@ERAS Research Group, XMU)

Open Souce Project (Participated):

- (2022.08-2023.04) ChinaSys Academic Open-Source Innovation Platform, *RepairBoost* [About Erasure Code]

Open Souce Project (Lead):

- (2023.10-2024.12) Reproduce and open source [Hybrid²@HPCA'20, Bumblebee@DAC'23, etc.]

HONORS AND AWARDS

- Outstanding Graduate from the School of Computer Science, Zhejiang Normal University (Summer, 2024).
- 1st Place in the 3rd OceanBase Database Competition, Fujian Division (Fall, 2023).

ASPIRATION FOR THE FUTURE

I aspire to (i) engage in meaningful operating systems research, (ii) pursue forward-looking computer architecture, and (iii) contribute to hardware-software co-design and optimization.