

# Jiahao Lu

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## EDUCATION

### Xiamen University

Xiamen, Fujian, China

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

08/2024 - Present

- Xiamen Key Laboratory of Intelligent Storage and Computing, [ERAS Reasearch 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

Jinhua, Zhejiang, China

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

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 [Hybrid<sup>2</sup>@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.