

# 2025 Spring Systems Reading Group

**Welcome Everyone!**

Jiyang Wang & Kunzhao Xu

2025.02.25

# Agenda

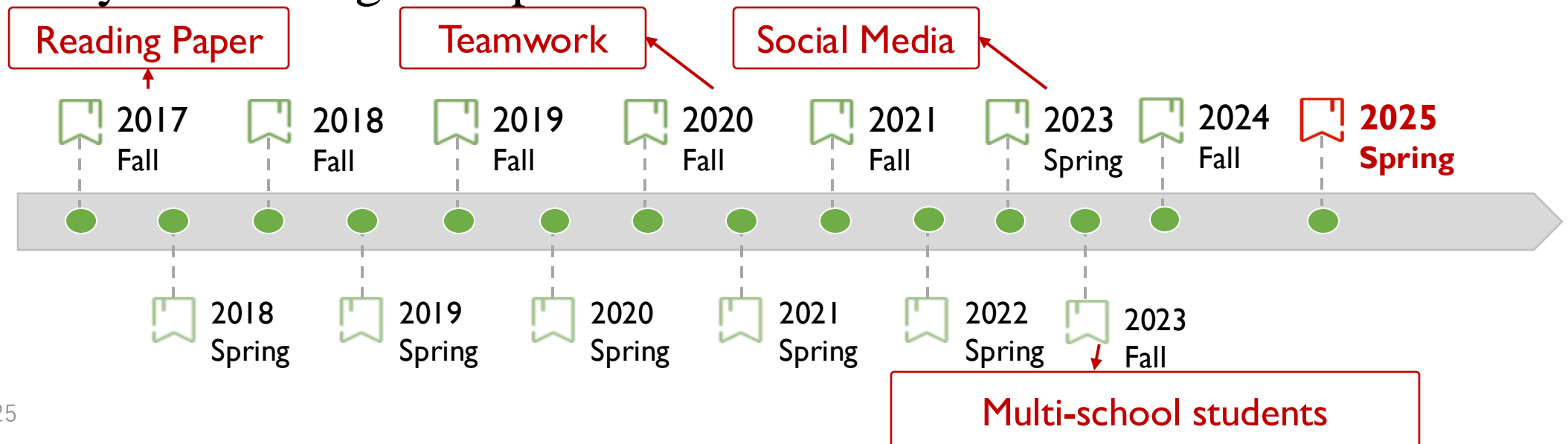
- **Introduction to Reading Group**
  - Mission
  - Arrangement
  - Format & Requirements
- Advices for reading a paper
- Advices for giving a talk

# Mission of reading group

- Understand and keep abreast of “latest research in **systems research**”
- Learn “how to do **high-quality** systems research”
- Polish soft skills
  - Understanding
  - Presentation
  - Critical thinking
  - Communication
  - ...

# Mission of reading group

- Understand and keep abreast of “latest research in **systems research**”
- Learn “how to do **high-quality** systems research”
- History of Reading Group



# Mission of reading group

- Understand and keep abreast of “latest research in **systems research**”
- Learn “how to do **high-quality** systems research”
- Target of this semester
  - **Paper Sharing**
    - Improve the presentation quality
    - More discussion and brainstorming
  - **More than one paper**
    - Choose one more paper from arXiv

# Previous RG

- We read papers from:
  - SOSP' 23, 24
  - OSDI' 24
- 17 presentations were given
- Presenters were from
  - USTC ADSL
  - Tianjin University
  - Northwestern Polytechnical University
  - ...

## ADSL Reading Group

### Schedule

#### September 03

- 💡 [OSDI'24] Parrot: Efficient Serving of LLM-based Applications with Semantic Variable
- 👤 Chaoyi Ruan, Kunzhao Xu, Bosen Yang
- 📄 slides, 📄 Q&A summary, 📺 video

#### September 10

- 💡 [SOSP'23] PIT: Optimization of Dynamic Sparse Deep Learning Models via Permutation Invariant Transformation
- 👤 Jiaan Zhu (Andy), Qinghe Wang, Long Zhao
- 📄 slides, 📄 Q&A summary, 📺 video

#### September 18

- 💡 [OSDI'24] Nomad: Non-Exclusive Memory Tiering via Transactional Page Migration
- 👤 Jiahao Li
- 📄 slides, 📄 Q&A summary, 📺 video

#### September 24

- 💡 [OSDI'24] μSlope: High Compression and Fast Search on Semi-Structured Logs
- 👤 Yuming Xu, Hengyu Liang
- 📄 slides, 📄 Q&A summary, 📺 video

#### October 08

- 💡 How (and How Not) to Write a Good Systems Paper
- 👤 Xiaosong Ma (MBZUAI), Kang Chen (THU), Cheng Li (USTC)
- 📄 slides

### 2024 Fall

Specific Requirements

Other Information

### Schedule

September 03

September 10

September 18

September 24

October 08

October 15

October 22

October 29

November 05

November 12

November 19

November 26

December 03

December 10

December 17

December 24

January 7

# Previous RG

- Topic
  - Storage / Memory
    - Page migration
    - CPU Stall
    - Disaggregated memory
    - ZNS-SSD
  - LLM / AI
    - Latency optimization
    - Serverless
    - KV Cache
    - Parallelism
- How to Write a Good Systems Paper
- . . . . .

ADSL Reading Group

## Schedule

### September 03

- 💡 [OSDI'24] Parrot: Efficient Serving of LLM-based Applications with Semantic Variable
- 👤 Chaoyi Ruan, Kunzhao Xu, Bosen Yang
- 📄 slides, 📄 Q&A summary, 📺 video

### September 10

- 💡 [SOSP'23] PIT: Optimization of Dynamic Sparse Deep Learning Models via Permutation Invariant Transformation
- 👤 Jiaan Zhu (Andy), Qinghe Wang, Long Zhao
- 📄 slides, 📄 Q&A summary, 📺 video

### September 18

- 💡 [OSDI'24] Nomad: Non-Exclusive Memory Tiering via Transactional Page Migration
- 👤 Jiahao Li
- 📄 slides, 📄 Q&A summary, 📺 video

### September 24

- 💡 [OSDI'24] μSlope: High Compression and Fast Search on Semi-Structured Logs
- 👤 Yuming Xu, Hengyu Liang
- 📄 slides, 📄 Q&A summary, 📺 video

### October 08

- 💡 How (and How Not) to Write a Good Systems Paper
- 👤 Xiaosong Ma (MBZUAI), Kang Chen (THU), Cheng Li (USTC)
- 📄 slides

2024 Fall

Specific Requirements

Other Information

Schedule

September 03

September 10

September 18

September 24

October 08

October 15

October 22

October 29

November 05

November 12

November 19

November 26

December 03

December 10

December 17

December 24

January 7

# What do we read?



OSDI<sup>24</sup> ATTEND PROGRAM PARTICIPATE SPONSORS ABOUT

# OSDI<sup>24</sup>

## 18th USENIX Symposium on Operating Systems Design and Implementation

JULY 10–12, 2024  
SANTA CLARA, CA, USA

Co-located with **USENIX ATC '24**

Sponsored by USENIX in cooperation with ACM SIGOPS



SOSP 2024 Home Participate Attend Program Workshops Organizers Sponsors Contact

# SOSP 2024

## The 30<sup>th</sup> Symposium on Operating Systems Principles

November 4–6, 2024 · **Hilton Austin**, Texas, USA

*Early **registration** (and hotel) deadline on October 4!*



**Read best papers!!!**



# What do we read?



## Native Sparse Attention: Hardware-Aligned and Natively Trainable Sparse Attention

Jingyang Yuan<sup>\*1,2</sup>, Huazuo Gao<sup>1</sup>,  
Y. X. Wei<sup>1</sup>, Lean Wang<sup>1</sup>, Zhipin

<sup>2</sup>Key Laboratory for Multimed  
{yuanjy, mzhang\_cs}@pk

## Mooncake: A KVCache-centric Disaggregated Architecture for LLM Serving

Ruoyu Qin<sup>♠♥1</sup> Zheming Li<sup>♠1</sup> Weiran He<sup>♠</sup>  
Mingxing Zhang<sup>♥2</sup> Yongwei Wu<sup>♥</sup> Weimin Zheng<sup>♥</sup> Xinran Xu<sup>♠2</sup>  
♠Moonshot AI ♥Tsinghua University



**Read latest papers!!!**

# Paper sharing: arrangement

- Time: 19:00 – 21:00, every Tuesday
- Location:
  - Offline: 高新区信智楼B707
  - Online: Tencent meeting 877-6724-4752
- Webpage: [https://adsl-rg.github.io/2025\\_spring.html](https://adsl-rg.github.io/2025_spring.html)

# Paper sharing: arrangement

- Time: 19:00 – 21:00, every Tuesday

- Location:

- Offline: 高新区信智
- Online: Tencent meet

- Webpage: <https://adsl-rg.ustc.edu.cn/>

## 2025 Spring


### Specific Requirements

- We focus on the latest papers from SOSP and OSDI, as well as papers released on arXiv. Each time presenters select one paper from SOSP or OSDI and one from arXiv.
- The presentation follows a "1+N" format, where one person delivers the main content while supporting members assist with preparation and manage the Q&A session. These supporting members are also encouraged to contribute to the presentation.
- The discussion should provide a thorough analysis of the paper's strengths and weaknesses, along with a comprehensive review of related work from the past three years. The presentation must be at least 45 minutes long.

### Other Information

The playback video and text summary will be uploaded to [bilibili](#) and [zhihu](#) as soon as possible.

# Paper sharing: arrangement

- Each presentation led by two students
  - Choose the paper (one paper from OSDI or SOSP and one from arXiv)
  - Find your teammates (one team for OSDI/SOSP paper and the other for arXiv)
  - **Guarantee the quality**
  - Presentation video: Upload to 
- We also encourage students from other schools or labs to participate in the RG :)

# Paper sharing: format

- Primary focus: **understanding the paper**
  - What is the problem?
  - What are the challenges?
  - What are state-of-the-arts, and their deficiencies?
  - What are the key insights/techniques?
  - Lessons learned from experiments?
- Whole discussion: 1.5~2 hours, presentation: **70~80 minutes**

# Paper sharing: tips

- Please make around **70 slides!**
  - Too much text ☹️
  - Copy paste figures ☹️
  - Animations 😊
  - Transitions between slides 😊
- One slide: 1 - 2 minutes
- Please do rehearsals offline

# Paper sharing: tips

- Please make around **70 slides!**
  - Too much text ☹️
  - Copy paste figures ☹️
  - Animations 😊
  - Transitions between slides 😊
- One slide: 1 - 2 minutes
- Please do rehearsals offline
- Additional requirement:
  - **A mind map**
  - **Summary after sharing**
    - Problem
    - Key insights/techniques
    - Evaluation
    - Strengths
    - Improvement
    - Record Q&A (by Jiyang & Kunzhao)
    - Submit to 知 (by Jiyang & Kunzhao)

# Ready to share?

- Please make around **70 slides!**
  - Too much text ☹️
  - Copy paste figures ☹️
  - Animations 😊
  - Transitions between slides 😊
- Additional requirement:
  - **A mind map**
  - **Summary after sharing**
    - Problem
    - Key insights/techniques
    - Evaluation

**Ready to share? Fill the **follow document!****

<https://docs.qq.com/sheet/DRWdyZVpGTIJKSWJR>

If you are from other schools or labs, let us know :)



# Agenda

- Introduction to Reading Group
  - Mission
  - Arrangement
  - Format & Requirements
- **Advices for reading a paper**
- Advices for giving a talk

# How to read a paper!

- From Srinivasan Keshav
  - The Robert Sansom Professor of Computer Science at the University of Cambridge
  - ACM/IEEE Fellow
- **Three passes**
  - 1st: get a bird's-eye view
  - 2nd: grasp the content
  - 3rd: rethink, recreate the work
- <http://ccr.sigcomm.org/online/files/p83-keshavA.pdf>



# Agenda

- Introduction to Reading Group
  - Mission
  - Arrangement
  - Format & Requirements
- Advices for reading a paper
- **Advices for giving a talk**

# Advices

- <https://people.eecs.berkeley.edu/~jrs/speaking.html>
  - Preparing a talk
  - Giving the talk
- <http://pages.cs.wisc.edu/~markhill/conference-talk.html>
  - Oral presentation advice
  - How to give a bad talk

# 2025 Spring Systems Reading Group

**Q&A**

