

# Jing Liu

Senior Researcher  
System Research Group  
Microsoft Research Asia

Email: [jingliu3@microsoft.com](mailto:jingliu3@microsoft.com)  
Homepage: <http://jingliu.xyz>

## EDUCATION

### Department of Computer Sciences, University of Wisconsin – Madison

Ph.D. in Computer Sciences

August 2024

M.S. in Computer Sciences

May 2022

Advisors: Prof. Andrea Arpaci-Dusseau & Prof. Remzi Arpaci-Dusseau

Thesis: *Scale, Performance, and Fault Tolerance in a Filesystem Semi-Microkernel*

### Software Institute, Nanjing University

B.E. in Software Engineering Rank: 1/238

May 2016

Thesis: *Depth-aware layered edge for elastic RGB-D object proposal*

## APPOINTMENTS

Senior Researcher, Microsoft Research Asia

September 2024 – Present

## REFEREED CONFERENCE PUBLICATIONS

[1] Shawn Zhong, **Jing Liu**, Andrea Arpaci-Dusseau, Remzi Arpaci-Dusseau. *Revealing the Unstable Foundations of eBPF-Based Kernel Extensions*. In Proceedings of the 20th European Conference on Computer Systems (Eurosys '25), Rotterdam, Netherlands, 2025

[2] **Jing Liu**, Yifan Dai, Andrea C. Arpaci-Dusseau, and Remzi H. Arpaci-Dusseau. *Fast, Transparent Filesystem Microkernel Recovery with Ananke*. In Proceedings of the 23rd USENIX Conference on File and Storage Technologies (FAST '25), Santa Clara, CA, 2025.

[3] Yifan Dai, **Jing Liu**, Andrea C. Arpaci-Dusseau, and Remzi H. Arpaci-Dusseau. *Symbiosis: The Art of Application and Kernel Cache Cooperation*. In Proceedings of the 22th USENIX Conference on File and Storage Technologies (FAST '24), Santa Clara, 2024.

[4] **Jing Liu**, Anthony Rebello, Yifan Dai, Chenhao Ye, Sudarsun Kannan, Andrea C. Arpaci-Dusseau, and Remzi H. Arpaci-Dusseau. *Scale and Performance in a Filesystem Semi-Microkernel*. In Proceedings of the 28th ACM Symposium on Operating Systems Principles (SOSP '21), Virtual Event, Germany, 2021.

[5] Irene Zhang, Amanda Raybuck, Pratyush Patel, Kirk Olynyk, Jacob Nelson, Omar S. Navarro Leija, Ashlie Martinez, **Jing Liu**, Anna Kornfeld Simpson, Sujay Jayakar, Pedro Henrique Penna, Max Demoulin, Piali Choudhury, and Anirudh Badam. *The Demikernel Library OS Architecture for Microsecond, Kernel-Bypass Datacenter Systems*. In Proceedings of the 28th ACM Symposium on Operating Systems Principles (SOSP '21), Virtual Event, Germany, 2021.

[6] Suli Yang, **Jing Liu**, Andrea C. Arpaci-Dusseau, and Remzi H. Arpaci-Dusseau. *Principled Scheduling Analysis for Distributed Storage Systems using Thread Architecture Models*. In Proceedings of the 13th Symposium on Operating System and Design Implementation (OSDI '18), CA, USA, 2018.

[7] Ramnath Alagappan, Aishwarya Ganesan, **Jing Liu**, Andrea Arpaci-Dusseau, and Remzi Arpaci-Dusseau. *Fault-Tolerance, Fast and Slow: Exploiting Failure Asynchrony in Distributed Systems*. In Proceedings of the 13th Symposium on Operating System and Design Implementation (OSDI '18), CA, USA, 2018.

[8] **Jing Liu**, Tongwei Ren, Bingkun Bao and Jia Bei. *Depth-aware Layered Edge for Object Proposal*. In Proceedings of IEEE International Conference on Multimedia and Expo (ICME '16), Seattle, USA, 2016.

[9] **Jing Liu**, Tongwei Ren and Jia Bei. *Elastic Edge Boxes for Object Proposal on RGB-D images*. In Proceedings of International Conference on Multimedia Modeling (MMM '16), Miami, USA, 2016.

## JOURNALS AND WORKSHOPS

- [1] **Jing Liu**, Xiangpeng Hao, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau, and Tej Cheped. *Shadow Filesystems: Recovering from Filesystem Runtime Errors via Robust Alternative Execution* In Proceedings of the 16th ACM Workshop on Hot Topics in Storage and File Systems (HotStorage '24), Santa Clara, CA, 2024.
- [2] Suli Yang, **Jing Liu**, Andrea C. Arpaci-Dusseau, and Remzi H. Arpaci-Dusseau. *Principled Schedulability Analysis for Distributed Storage Systems using Thread Architecture Models*. In ACM Transactions on Storage (TOS), March, 2023.
- [3] **Jing Liu**, Andrea C. Arpaci-Dusseau, Remzi H. Arpaci-Dusseau, and Sudarsun Kannan. *File Systems as Processes*. In 11th USENIX Workshop on Hot Topics in Storage and File Systems (HotStorage '19), Renton, WA, 2019.
- [4] Irene Zhang, **Jing Liu**, Amanda Austin, Michael Lowell Roberts, and Anirudh Badam. *I'm Not Dead Yet! The Role of the Operating System in a Kernel-Bypass Era*. In Workshop on Hot Topics in Operating Systems (HotOS '19), Bertinoro, Italy, 2019.
- [5] **Jing Liu**, Tongwei Ren, Yuantian Wang, Sheng-Hua Zhong, Jia Bei, and Shengchao Chen. *Object proposal on RGB-D images via elastic edge boxes*. In Neurocomputing (NEUCOM), 236:134-146, May, 2017.

## HONORS AND AWARDS

Meta PhD Research Fellowship, Meta Inc.	2022 – 2024
Student Travel Grant (SOSP '17, OSDI '18, and OSDI '22)	2017, 18, & 22
CS Department Golden Brick Award, CS@UW-Madison	2022
CS Summer Research Award, UW-Madison	2017
Graduate Research Fellowship, UW-Madison	2016 – 2017
Outstanding Graduate, Nanjing University	2016
Departmental Best Undergraduate Thesis, University Highest Honor	2016
Outstanding National Undergraduate Innovation Project (Role: Lead, Grant: ~3000\$)	2016
National Encouraging Scholarship, Ministry of Education of China	2014, 2015
National Scholarship, Ministry of Education of China	2013

## TEACHING EXPERIENCE

<b>Computer Sciences Department of UW–Madison, WI</b> <i>Instructor</i>	Summer 2023
Class: Introduction to Operating Systems.	
<b>Computer Sciences Department of UW–Madison, WI</b> <i>Teaching Assistant</i>	Spring 2022, Spring 2023
Class: Distributed Systems. Instructor: Prof. Andrea Arpaci-Dusseau	
<b>Computer Sciences Department of UW–Madison, WI</b> <i>Teaching Assistant</i>	Spring 2018
Class: Advanced Operating System. Instructor: Prof. Andrea Arpaci-Dusseau	
<b>Software Institute of Nanjing University, Nanjing, China</b> <i>Teaching Assistant, and Head Teaching Assistant</i>	Spring 2015, Spring 2016
Class: Computer Operating System. Instructors: Prof. Bin Luo & Prof. Jidong Ge	

## INDUSTRY EXPERIENCE

<b>Google, Madison, WI</b>	Summer 2019
----------------------------	-------------

*Software Engineering Intern*  
Mentor: Dr. Marc De Kruijf

**Microsoft Research, Redmond, WA**  
*Research Intern*  
Mentor: Dr. Irene Zhang

Summer 2018

## SERVICE

Program Committee: SOSP '25, NSDI '26

External Review Committee: ATC '24

ATC/OSDI Artifact Evaluation Committee

2022

Topic (OS & Emerging Hardware) Moderator, SOSP '21 Diversity Workshop

Oct. 2021

President, W-ACM, UW Madison Chapter of ACM's Women in Computing

Aug. 2021 – Aug. 2022

FAST External Reviewer

2018

## PRESENTATIONS AND INVITED TALKS

### **Scale and Performance in a Filesystem Semi-Microkernel.**

Invited talk at UIUC, Champaign, IL.

Oct. 2022

Invited talk at ENS de Lyon – France, virtual.

Mar. 2022

Invited talk at Samsung MSL Tech Talk, virtual.

June 2021

Talk at SOSP '21, virtual.

Oct. 2021

### **File Systems as Processes.**

Talk at HotStorage '19, Renton, WA.

July 2019

### **Elastic Edge Boxes for Object Proposal on RGB-D Images.**

Talk at MMM '16, Miami, MI.

Jan. 2016