

Kaiwen Xue (Kevin)

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EDUCATION

University of Michigan

Ph.D. in Computer Science and Engineering
Advisors: Ryan P. Huang, Mosharaf Chowdhury

Ann Arbor, MI
2024.9–2029.6 (Expected)

Carnegie Mellon University

Master of Science in Computer Science
(Worked at a research assistant at CMU from 2023.12 to 2024.7 before joining U-M)

Pittsburgh, PA
2022.9–2023.12

Columbia University*

Bachelor of Arts, Major: Computer Science
• Graduated *summa cum laude* and Phi Beta Kappa

New York, NY
2020.6–2022.5

City University of Hong Kong*

Bachelor of Science, Major: Computer Science
• Graduated with First Class Honours

Hong Kong
2017.9–2020.5 (Conferred 2022.5)

**Joint Bachelor's Degree, equivalent to completion of a degree at either institution*

RESEARCH

Research interests: computer systems

- Current: system support for the emerging AI-enabled applications running on personal devices
- Past: operating systems, computer architecture

Publications

[1] (Workshop) Fang-Jie Yang, Jian-Lin Li, Kaiwen Xue, Shih-Wei Li, “Designing and Implementing Live Migration Support for Arm-based Confidential VMs,” *APSys 2024*, Kyoto, Japan, September 4-5, 2024.

[2] (Conference) Kaiyang Zhao, **Kaiwen Xue**, Ziqi Wang, Dan Schatzberg, Leon Yang, Antonis Manousis, Johannes Weiner, Rik van Riel, Bikash Sharma, Chunqiang Tang, and Dimitrios Skarlatos, “Contiguitas: The Pursuit of Physical Memory Contiguity in Datacenters,” *ISCA 2023*, Orlando, FL, June 17-21, 2023. (**Best Paper Award**)

[3] (Journal) Libin Liu, Jingzong Li, Hong Xu, Kaiwen Xue, Jason Chun Xue, “Efficient Real-time Video Conferencing with Adaptive Frame Delivery,” *Elsevier Computer Networks*, March 2023.

INDUSTRY

Rivos Inc.

Member of Technical Staff Intern - Software

Mountain View, CA
2023.5–2023.8

- Improved full-stack software support for RISC-V Performance Monitoring Unit (PMU)
- Implemented 3 RISC-V Instruction Set Architecture (ISA) extensions related to PMU on Linux kernel, QEMU, and OpenSBI
- Reduced context switch cost by 64% and end-to-end runtime of `perf` command line tool on QEMU by 3.5%
- Sent Linux kernel, QEMU, and OpenSBI patches to corresponding mailing lists for upstreaming discussion

TEACHING

COMS W4118 Operating Systems I

Teaching Assistant

Columbia University

Semesters Fall 2021 and Spring 2022

- Cooperated with a teaching team of 8 to mentor a graduate-level 120-student class composed of advanced UNIX programming, operating systems concepts, and Linux kernel hacking for two consecutive semesters
- Held office hours, graded homework and exams, and maintained assignments on Linux kernel programming
- Received over 4.5 out of 5.0 in individual TA evaluation submitted by students

SERVICE

- Artifact Evaluation Committee, OSDI 2025

SKILLS

- Programming Languages: C, C++, Python, Go, OCaml, Haskell, Java, Assembly
- Tools: UNIX, Git, Docker, Vim
- Codebase familiarity: Linux kernel, QEMU, Hugging Face Transformers, llama.cpp
- Natural Languages: English (bilingual proficiency); Mandarin (native) and Cantonese (bilingual proficiency) Chinese; Japanese (limited working proficiency)

HONORS AND AWARDS

- ISCA Best Paper Award - ACM SIGARCH, 2023
- Member, Sigma Xi - Sigma Xi Committee, 2022
- Russell C. Mills Award - Columbia Fu Foundation School of Engineering and Applied Science, 2022
- Member, Phi Beta Kappa - Phi Beta Kappa New York Delta Chapter, 2022
- Member, GS Honor Society - Columbia School of General Studies, 2021
- Chow Sang Sang Joint Bachelor's Degree Scholarship - Chow Sang Sang Group, 2019
- Hong Kong SAR Government Scholarship - Hong Kong SAR Government Education Bureau, 2019
- Dean's List - Columbia University and City University of Hong Kong, all semesters enrolled in full-time in 2017-2022

EXTRACURRICULAR ACTIVITIES

Weilu.Flame ([Website in Chinese](#))

Hong Kong

Person in Charge - City University of Hong Kong

2018.10–2019.9

- Served in a web media founded by students, publishing opinion pieces on student life and social issues
- Wrote and edited pieces, collaborating with students from various universities around the globe
- Organized multiple iterations of Weilu Yehua (Fireside chat), a panel for members to express opinions on given topics