CHUNFENG DU

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BIOGRAPHY

Chunfeng Du is a Ph.D. student in the Department of Computer Science at the School of Informatics, Xiamen University. His primary research interests include **computer architecture, storage systems, and hardware-software co-design**. Notable, his related research work has been published in international conferences and journals, such as ***HPCA, IPDPS, and IEEE-TC***, and he has applied for three inventions patents. Additionally, he has filed applications for three invention patents. His ongoing research endeavors are centered around enhancing the lifespan of non-volatile storage and optimizing the performance of storage systems. This involves leveraging a synergistic approach that combines the unique characteristics of non-volatile storage devices with the specific data characteristics of applications.

EDUCATION

Doctor of Philosophy | ***Ph.D.*** — Sep. 2020 – Now
Xiamen University - Computer Science and Technology — Xiamen, China

Master of Science | ***M.Sc.*** — Sep. 2017 – Jun. 2020
Zhengzhou University of Light Industry - Computer Science and Technology — Zhengzhou, China

Bachelor of Science | ***B.Sc.*** — Sep. 2013 – Jun. 2017
Zhengzhou University of Light Industry - Network Engineering — Zhengzhou, China

PUBLICATIONS

Conference Papers:

[C5] Chunfeng Du, Jiapeng Wu, Suzhen Wu, Jindong Zhou, Hong Jiang, Shengzhe Wang, Bo Mao.
Piggyback: A Security and Reliability Co-Design for Improving the Performance and Endurance of Non-Volatile Memories,
Submitted to the 51st IEEE/ACM International Symposium on Computer Architecture (ISCA '24),
In Submission.

[C4] Chunfeng Du, Shengzhe Wang, Bo Mao, Hong Jiang, Suzhen Wu, Jiahong Chen, and Yingchao Ji.
LodgeTree: A Last-Level Distributed and Surrogate Buffer Tree for Non-Volatile Memories,
Submitted to The 38th IEEE Symposium on Massive Storage Systems and Technologies (MSST'24),
In Submission.

[C3] Chunfeng Du, Suzhen Wu, Jiapeng Wu, Bo Mao and Shengzhe Wang.
ESD: An ECC-assisted and Selective Deduplication for Encrypted Non-Volatile Main Memory,
In Proceedings of the 29th IEEE international symposium on high-performance computer architecture (HPCA'23),
Montreal, QC, Canada, pp. 977-990, 2023.

[C2] Yuxuan Zhou, Suzhen Wu, Shengzhe Wang, **Chufeng Du** and Bo Mao.
LearnedSync: A Learning-based Sync Optimization for Cloud Storage,
In Proceedings of The 23rd International Conference on Algorithms and Architectures for Parallel Processing (ICA3PP'23),
Tianjin, China, pp. xxx-xxx, 2023.

[C1] Suzhen Wu, **Chunfeng Du**, Haijun Li, Hong, Jiang, Zhirong Shen and Bo Mao.
CAGC: A Content-aware Garbage Collection Scheme for Ultra-Low Latency Flash-based SSDs,
In Proceedings of the 2021 IEEE International Parallel and Distributed Processing Symposium (IPDPS'21),
Portland, OR, USA, pp. 162-171, 2021.

Journal Papers:

[J3] Chunfeng Du, Zihang Lin, Suzhen Wu, Yifei Chen, Jiapeng Wu, ShengZhe Wang, Bo Mao.
FSDedup: Feature-Aware and Selective Deduplication for Improving Performance of Encrypted Non-Volatile Main Memory,
Submitted to ACM Transactions on Storage (TOS), In Submission.

[J2] Suzhen Wu, **Chunfeng Du**, Weidong Zhu, Jindong Zhou, Hong Jiang, Bo Mao, Lingfang Zeng.
EaD: ECC-Assisted Deduplication With High Performance and Low Memory Overhead for Ultra-Low Latency Flash Storage,
In IEEE Transactions on Computers (TC), vol. 72, no. 1, pp. 208-221, Jan. 2023.

[J1] Suzhen Wu, **Chunfeng Du**, Weiwei Zhang, Bo Mao and Hong Jiang.
DedupHR: Exploiting Content Locality to Alleviate Read/Write Interference in Deduplication-Based Flash Storage,
In IEEE Transactions on Computers (TC), vol. 71, no. 6, pp. 1332-1343, Jun. 2022.

Honors and Awards

Merit Students Sep. 2023
Xiamem University

Bank of China Scholarship Apr. 2023
Xiamem University

Excellent Communist Party Member of School of Informatics Jun. 2021
Xiamem University

Advanced individuals of scientific and technological innovation May 2020
Zhengzhou University of Light Industry

Excellent Graduate Student May 2019
Zhengzhou University of Light Industry

Professional Services

Program Committee Member of Artifact Evaluation FAST 2024
The 22nd USENIX Conference on File and Storage Technologies.

Program Committee Member of Artifact Evaluation SOSP 2021
The 28th ACM Symposium on Operating Systems Principles

Service in Conference Volunteer CCFSys 2021
CCF Computer Systems Conference

Presentation

The 4th Peisu Xia Young Scholars Forum. ICS
Beijing, China Dec. 20 - Dec. 21, 2023

The 29th ieee international symposium on high-performance computer architecture. HPCA'23
Montreal, QC, Canada Feb. 25 - Mar. 01, 2023

The 23rd chinaSys workshop. ChinaSys 2022
Nanjing, China Dec. 17 - Dec. 18, 2022