Jianshun Zhang

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Education

Huazhong University of Science and Technology 2019/07 – 2025/09
Ph.D in Computer Architecture - Data Storage and Application Lab. - Advisor: Fang Wang & Dan Feng Wuhan, China
- Research Interests: **Key-Value Stores**, File System, Cache, Storage System.

University of Electronic Science and Technology of China 2015/09 – 2019/06
B. Eng in Software Engineering Chengdu, China

Work Experience

ByteDance - Data Management and Intelligence - TerarkDB/LavaStore Team 2023/06 – 2025/06
Storage System - Research Intern Beijing, China

SAP Labs China - Cloud Service Center - EMS Team 2018/01 – 2019/06
Microservice - Java Developer Intern Chengdu, China

Publications

- **Jianshun Zhang**, Fang Wang, Jiaxin Ou, Yi Wang, Ming Zhao, Sheng Qiu, Junxun Huang, Baoquan Li, Peng Fang. Dan Feng. "Scavenger+: Revisiting Space-Time Tradeoffs in Key-Value Separated LSM-trees", IEEE Transactions on Computers (**IEEE TC, CCF-A**), 2025
- **Jianshun Zhang**, Fang Wang, Sheng Qiu, Yi Wang, Jiaxin Ou, Junxun Huang, Baoquan Li, Peng Fang, Dan Feng. "Scavenger: Better Space-Time Trade-Offs for Key-Value Separated LSM-trees", IEEE 40th International Conference on Data Engineering (**ICDE, CCF-A**), 2024
- **Jianshun Zhang**, Fang Wang, Chao Dong. "HaLSM: A Hotspot-aware LSM-tree based Key-Value Storage Engine", IEEE 40th International Conference on Computer Design (**ICCD, CCF-B**), 2022.
- Hao Wang, Jiaxin Ou, Ming Zhao, Sheng Qiu, Yizheng Jiao, Yi Wang, Qizhong Mao, Zhengyu Yang, Yang Liu, **Jianshun Zhang**, Jianyang Hu, Jingwei Zhang, Jinrui Liu, Jiaqiang Chen, Yong Shen, Lixun Cao, Heng Zhang, Hongde Li, Ming Li, Yue Ma, Lei Zhang, Jian Liu, Guanghui Zhang, Fei Liu, Jianjun Chen. "LavaStore: ByteDance's Purpose-built, High-performance, Cost-effective Local Storage Engine for Cloud Services", International Conference on Very Large Databases (**VLDB, CCF-A, Industrial Paper**), 2024
- Hang An, Fang Wang, Dan Feng, Xiaomin Zou, Zefeng Liu, **Jianshun Zhang**. "A Scalable and Write-Optimized Disaggregated B+-tree with Adaptive Cache Assistance", IEEE Transactions on Cloud Computing (**IEEE TCC, JCR-Q1**), 2024.
- Chao Dong, Fang Wang, Yuxin Yang, Mengya Lei, **Jianshun Zhang** and Dan Feng. "Low-Latency and Scalable Full-path Indexing Metadata Service for Distributed File Systems", IEEE 41th International Conference on Computer Design (**ICCD, CCF-B, Best Paper Candidate**), 2023.
- Hang An, Fang Wang, Dan Feng, Xiaomin Zou, Zefeng Liu, **Jianshun Zhang**. "Marlin: A Concurrent and Write-Optimized B+-tree Index on Disaggregated Memory", Proceedings of the 52nd International Conference on Parallel Processing (**ICPP, CCF-B**), 2023.

Projects

Next-generation LSM-tree based storage engine 2023/06 – 2024/16
- Purpose-built, High-performance, Cost-effective Local Storage Engine for Cloud Services **(VLDB'24)**
- I/O efficient Garbage Collection & Space-aware Compaction Strategy (**ICDE'24**)
- Disaggregated LSM-trees (**in-progress**)

Hotspot-aware LSM-tree based Key-Value Storage Engine (ICCD'22) 2021/09 – 2022/07
- Fine-grained read/write hybrid caching
- Hotspot-aware compaction strategy

Distributed Block Device and Cache System 2019/07 – 2021/07

- Block device server implementation (tcmu-runner)
- Ceph hierarchical cache acceleration

Skills

- **Programming Languages**: C++, Java, Python, Shell
- **Tech Skills**: Key-Value Storage Systems (LevelDB and RocksDB), Distributed Storage Systems (Ceph)

Talks & Services

- **Talks**:
  - Scavenger: Better Space-Time Trade-Offs for Key-Value Separated LSM-trees, ChinaStorage'24 (Guangzhou, China)
  - Scavenger: Better Space-Time Trade-Offs for Key-Value Separated LSM-trees, ICDE'24 (Utrecht, Netherlands)
  - HaLSM: A Hotspot-aware LSM-tree based Key-Value Storage Engine, ICCD'22 (Lake Tahoe, USA, Remote).
- **Services**:
  - FAST'2026 Artifact Evaluation Committee Member
  - FAST'2025 Artifact Evaluation Committee Member
  - FAST'2024 Artifact Evaluation Committee Member
  - International Conference on Data Engineering (ICDE 2026) Sub-Reviewer
  - Extending Database Technology (EDBT 2026) Sub-Reviewer
  - Journal of Systems Architecture (JSA) Sub-Reviewe