Runzhou Han

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Iowa State University
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Research Interests

Large-scale storage systems; Serverless computing; Data provenance

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Education

- **Iowa State University:** *Sept.2019-now*
  Ph.D., Computer Engineering.
- **Boston University:** *Sept.2017-Jan.2019*
  Master of Science, Electrical and Computer Engineering.
- **Wuhan University:** *Sept.2013-July.2017*
  Bachelor of Science, Physics.

Publication

[1] **PROV-IO$^+$: A Cross-Platform Provenance Framework for Scientific Data on HPC Systems**

Runzhou Han, Mai Zheng, Suren Byna, Houjun Tang, Bin Dong, Dong Dai, Yong Chen, Dongkyun Kim, Joseph Hassoun, David Thorsley, Matthew Wolf

Preprint, 2023

[2] **λFS: Elastically Scaling Distributed File System Metadata Service using Serverless Functions**

Benjamin Carver, Runzhou Han, Jingyuan Zhang, Mai Zheng, and Yue Cheng

To appear in Proceedings of the 29th ACM International Conference on Architectural Support for Programming Languages and Operating Systems *(ASPLOS),* 2024.

[3] **On the Reproducibility of Bugs in File-System Aware Storage Applications**

Duo Zhang, Tabassum Mahmud, Om R. Gatla, Runzhou Han, Yong Chen, and Mai Zheng

Proceedings of the 16th IEEE International Conference on Networking, Architecture, and Storage (NAS), 2022.

[4] **PROV-IO: An I/O-Centric Provenance Framework for Scientific Data on HPC Systems**

Runzhou Han, Suren Byna, Houjun Tang, Bin Dong, and Mai Zheng

Proceedings of the 31st International Symposium on High-Performance Parallel and Distributed Computing (HPDC), 2022

[5] **A Study of Failure Recovery and Logging of High-Performance Parallel File Systems**

Runzhou Han, Om R. Gatla, Mai Zheng, Jinrui Cao, Di Zhang, Dong Dai, Yong Chen, Jonathan Cook.

ACM Transactions on Storage (TOS), 2022.

[6] **SentiLog: Anomaly Detecting on Parallel File Systems via Log-based Sentiment Analysis**

Di Zhang, Dong Dai, Runzhou Han, Mai Zheng.

Proceedings of the 13th ACM Workshop on Hot Topics in Storage and File Systems (HotStorage), July 2021.

Best paper nominee!

[7] **Fingerprinting the Checker Policies of Parallel File Systems**

Runzhou Han, Duo Zhang, Mai Zheng.

IEEE/ACM Fifth International Parallel Data Systems Workshop (PDSW), Nov 2020.

[8] **On Failure Diagnosis of the Storage Stack**

Duo Zhang, Om R. Gatla, Runzhou Han, Mai Zheng.

12th USENIX Workshop on Hot Topics in Storage and File Systems (HotStorage-P), 2020.

[9] **Sound-mediated stable configurations for polystyrene particles**

Mudi Wang, Chunyin Qiu, Shenwei Zhang, Runzhou Han, Manzhu Ke, Zhengyou Liu.

Physical Review E, 2017.

Employment

Samsung, Santa Clara, CA *May.2022-Aug.2022*
- Research Scientist Intern
- Advisor: Yong Chen

Lawrence Berkeley National Laboratory, Berkeley, CA *May.2021-Aug.2021*
- PhD Research Intern
- Advisor: Suren Byna

Selected Awards

Student Grant, ACM *HPDC.* *July.2022*
Student Grant, USENIX *FAST.* *Feb.2020&2022*
Wendell Miller Scholarship, Iowa State University. *Sept.2019*

Invited Talks

[1] **Improving Storage Reliability and I/O Observability in High-performance Computing Systems.** IBM Research, Virtual, *Mar. 2023.*