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Education:

1. 2014.9-Present Chongqing University, study for Ph.D.'s degree, Major: Computer Science and Technology.
2. 2010.9-2014.6 Chongqing University, Bachelor's degree in College of Computer Science, Major: Computer Science and Technology

Awards and Group Memberships:

- 1, Doctoral Students National Scholarship (2014);
- 2, Doctoral Students National Scholarship (2015).

Publications:

1, **Congming Gao**, Liang Shi, Mengying Zhao, Chun Jason Xue, Kaijie Wu, and Edwin Sha. "Exploiting Parallelism in IO Scheduling for Access Conflict Minimization in Flash-based Solid State Drives". (The 30th International Conference on Massive Storage Systems and Technology, MSST'14) –**Published**

2, **Congming Gao**, Liang Shi, Kaijie Wu, Chun Jason Xue, and Edwin H.-M. Sha. "Exploit Asymmetric Error Rates of Cell States to Improve the Performance of Flash Memory Storage Systems". (The 32nd IEEE International Conference on Computer Design, ICCD'14) –**Published**

3, Qiao Li, Liang Shi, **Congming Gao**, Kaijie Wu, Jason Chun Xue, Qingfeng Zhuge and H.-M. Edwin Sha. "Maximizing IO Performance via Conflict Reduction for Flash Memory Storage Systems". (The 2015 Design, Automation & Test in Europe Conference, DATE'15) –**Published**

4, Yejia Di, Liang Shi, **Congming Gao**, Kaijie Wu, Chun Jason Xue and Edwin H.-M. Sha. "Minimizing cell-to-cell interference by exploiting differential bit impact characteristics of scaled MLC NAND flash memories". (Non-Volatile Memory Systems and Applications Symposium, NVMSA'16) –**Published**

5, Edwin H.-M. Sha, **Congming Gao**, Liang Shi, Kaijie Wu, Mengying Zhao and Chun Jason Xue. "Asymmetric Error Rates of Cell States Exploration for Performance Improvement on Flash Memory based Storage Systems". (IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2016) –**Published**

6, **Congming Gao**, Liang Shi, Cheng Ji, Yejia Di, Kaijie Wu, Chun Jason Xue and Edwin H.-M. Sha. "Exploiting Parallelism for Access Conflict Minimization in Flash-based Solid

State Drives". (IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems, 2017) –**Published**

7, **Congming Gao**, Liang Shi, Yejia Di, Qiao Li, Chun Jason Xue, Kaijie Wu and Edwin H.-M. Sha. "Exploiting Chip Idleness for Minimizing Garbage Collection Induced Chip Access Conflict on SSDs". (ACM Transactions on Design Automation of Electronic Systems, 2017) –**Published**

8, Cheng Ji, Li-Pin Chang, Liang Shi, **Congming Gao**, Chao Wu, YuanGang Wang, Chun Jason Xue. "Lightweight Data Compression for Mobile Flash Storage". (ACM Transactions on Embedded Computing Systems (TECS) - Special Issue ESWEEK, 2017) –**Published**

9, Yejia Di, Liang Shi, **Congming Gao**, Qiao Li, Kaijie Wu and Chun Jason Xue. "Loss is Gain: Shortening Data for Lifetime Improvement on Low-Cost ECC Enabled Consumer-Level Flash Memory". (The 2018 Great Lakes Symposium on VLSI, GLSVLSI'18) –**Published**

10, **Congming Gao**, Liang Shi, Yejia Di, Qiao Li, Chun Jason Xue and Edwin H.-M. Sha. "An Efficient Cache Management Scheme for Capacitor Equipped Solid State Drives". (The 2018 Great Lakes Symposium on VLSI, GLSVLSI'18) –**Published**

11, Qiao Li, Liang Shi, **Congming Gao**, Yejia Di, Chun Jason Xue. "Access Characteristic Guided Read and Write Regulation on Flash based Storage Systems". (IEEE Transactions on Computers, 2018) –**Published**

12, Yejia Di, Liang Shi, **Congming Gao**, Qiao Li, Chun Jason Xue and Kaijie Wu, "Minimizing Retention Induced Refresh Through Exploiting Process Variation of Flash Memory". (IEEE Transactions on Computers, 2018) –**Published**

13, Yejia Di, Liang Shi, **Congming Gao**, Qiao Li and Chun Jason Xue. "Revisiting Wear Leveling Design on Compression Applied 3D NAND Flash Memory: work-in-progress", (The Proceedings of 2018 International Conference on Hardware/Software Codesign and System Synthesis, CODES+ISSS'18) –**Published**

14, **Congming Gao**, Yejia Di, Aosong Deng, Duo Liu, Cheng Ji, Chun Jason Xue and Liang Shi. "Flash Friendly File System Aware Mapping Cache Design on Solid State Drives". (The 7th IEEE Non-Volatile Memory Systems and Applications Symposium, NVMSA'18) –**Published**

15, Qiao Li, Liang Shi, Yejia Di, **Congming Gao**, Cheng Ji, Yu Liang and Chun Jason Xue, "Process Variation Aware Read Performance Improvement for LDPC-Based nand Flash Memory". (IEEE Transactions on Reliability, February 2019) –**Published**

16, Qi Li, Aosong Deng, **Congming Gao**, Yu Liang, Liang Shi and Edwin Sha. "Optimizing Fragmentation and Segment Cleaning for CPS based Storage Devices". (The 34th ACM/SIGAPP Symposium on Applied Computing SAC'19, April, 2019) –**Published**

17, **Congming Gao**, Liang Shi, Chun Jason Xue, Jun Yang and Youtao Zhang. "Parallel all the time: Plane Level Parallelism Exploration for High Performance SSDs". (The 35th International Conference on Massive Storage Systems and Technology, MSST'19, May 2019) –**Published**

18, Yina Lv, Liang Shi, Qiao Li, **Congming Gao**, Chun Jason Xue and Edwin Sha. "Optimizing Tail Latency of LDPC based Flash Memory Storage Systems Via Smart Refresh". (The 14th International Conference on Networking, Architecture, and Storage, NAS'19, August 2019) –**to appear**

19, Cheng Ji, Lun Wang, Qiao Li, **Congming Gao**, Liang Shi, Chia-Lin Yang and Chun Jason Xue. "Fair Down to the Device: A GC-Aware Fair Scheduler for SSD". (The 8th IEEE Non-Volatile Memory Systems and Applications Symposium, NVMSA'19, August 2019) –**to appear**