

Youngjae Kim
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Education

- Ph.D. Computer Science and Engr., The Pennsylvania State University, University Park, PA, USA 2004-2009
- M.S. Computer Science, KAIST, Daejeon, Republic of Korea 2001-2003
- B.E. (*hons.*) Computer Science, Sogang University, Seoul, Republic of Korea 1995-2001

Professional Experience

- Co-Director, Data-Intensive Computing and Systems Laboratory, Sogang University, Seoul, Korea 2016-Present
- Professor, Dept. of Computer Science and Engineering, Sogang University, Seoul, Korea 2016-Present
- Visiting Professor, Memory System Research, SK hynix 2022-2023
- Assistant Professor, Dept. of Computer Engineering, Ajou University, Suwon, Korea 2015-2016
- R&D Staff Member, **US Department of Energy's Oak Ridge National Laboratory**, TN USA 2009-2015
- Adjunct Professor, Electrical and Computer Engineering, Georgia Institute of Technology, GA USA 2011-2014
- Faculty Affiliate, The University of Tennessee, Knoxville, TN USA 2011-2015
- Research Engineer, Embedded Operating Systems (OS) Team, Embedded Software Center, ETRI, Daejeon, Korea 2003-2004
- Military Army Service, Korea 1996-1998

Fields of Research Interest

- AI Systems, Cloud Computing, Database System, File System, Distributed Computing

Honors & Awards

- Sogang Ricci Engineering Young Fellow, 2021
- Best Paper Award Nomination in HotStorage 2021
- SK hynix 8th Industry-Academic Research Project Outstanding Invention Grand Prize 2020
- Best Paper Award for IEEE CAL 2018
- Best Paper Award in Korea Software Congress (KSC) 2018
- Best Paper Award Nomination in ISPASS 2011
- Best Paper Award Nomination in HPCA 2007
- Outstanding Research Award, Oak Ridge National Laboratory, 2012
- Korean Government IT Scholarship, Ministry of Information and Communication (45 students selected nationwide) (2004)

Professional Activities

- Program Committee:
 - IPDPS'24, CCGrid'24, Euro-Par'24, DAC'24, HiPC'24
 - IPDPS'23, Cluster'23, HiPC'23, HPCAsia'23, HCM'23, EESA'23, BTSD'23
 - HPCAsia'23, IPDPS'23

- PDSW'22, REX-I/O'22, SC'22 (External), BTSD'22, HotStorage'22, Systor'22, ISPASS'22, HPCAsia'22
 - PDSW'21, APSys'21, CCGrid'21, HPCAsia'21, BTSD'21
 - ICDCS'20, NVMSA'20, SIMUL'20, BTSD'20
 - HPCAsia'19, BTSD'19
 - HPCAsia'18, SNTA'18, NAS'18 (External)
 - NVMSA'17
 - INFLOW'16, IC2E'16, NVMSA'16, HotStorage'16 (External), DSN'16 (External)
 - NAS'15, NVMSA'15, HPDC'15 (External), MSST'15 (External)
 - CLUSTER'14, ICPP'14, CCGRID'14, PDSW'14, DSSCB'14
 - ICPAD'13, DSSCB'13, NAS'13 (External)
- Organizing Committee:
 - HPDC (Workshop co-chair)
 - NVRAMOS'22 (Workshop Chair)
 - HPC Asia'21 (Program Track Chair), AMGCC'21 (Workshop Co-Chair), Linux Kernel Camp'21 (Co-Chair), NVRAMOS'21 (Workshop Chair)
 - NVMSA'20 (Program Chair), NVRAMOS'20 (Program Chair)
 - FISS'19 (Workshop Chair), APSys'19 (Publication Chair)
 - NVMSA'16 (Publicity Chair)
- Journal Editor
 - Cluster Computing Journal'18 (Guest Editor), Scientific Programming'18 (Guest Editor)

Selected Publications ([All Publications](#))

1. Sungjin Byeon, Joseph Ro, Junyeong Han, Jeong-Uk Kang, Youngjae Kim, Ensuring Compaction and Zone Cleaning Efficiency through Same-Zone Compaction in ZNS Key-Value Store, In Proceedings of the International Conference on Massive Storage Systems and Technology (MSST), Santa Clara, CA, June, 2024.
2. Yoochan Kim, Kihyun Kim, Yonghyeon Cho, Jinwoo Kim, Awais Khan, Ki-Dong Kang, Baik-Song An, Myung-Hoon Cha, Hong-Yeon Kim, Youngjae Kim, DeepVM: Integrating Spot and On-Demand VMs for Cost-Efficient Deep Learning Clusters in the Cloud, In Proceedings of the IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGRID) (2024), Philadelphia, May, 2024.
3. Hongsu Byun, Safdar Jamil, Jungwook Han, Sungyong Park, Myungcheol Lee, Changsoo Kim, Beongjun Choi, Youngjae Kim, An Analytical Model-based Capacity Planning Approach for Building CSD-based Storage Systems, ACM Transactions on Embedded Computing Systems (TECS) (2023), (accepted)
4. Yeohyeon Park, Junhyeok Park, Awais Khan, Jungwhan Park, Chang-Gyu Lee, Woosuk Chung, Youngjae Kim, OctoKV: An Agile Network-based Key-Value Storage System with Robust Load Orchestration, In Proceedings of the IEEE Int'l Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS) (2023), Stony Brook, NY, USA, October 16-18, 2023. [Acceptance Rate: 30.0%]
5. Inhyuk Park, Qing Zeng, Dominic Manno, Soonyeoal Yang, Jason Lee, David Bonnie, Bradley Settlemyer, Youngjae Kim Woosuk Chung, Gray Grider, KV-CSD: A Hardware-Accelerated Key-Value Store for Data-Intensive Applications, In Proceedings of the IEEE International Conference on Cluster Computing (Cluster), Santa Fe, NM, October, 2023. [Acceptance Rate: $32/130 = 24.6\%$]
6. Donghyun Min, Kihyun Kim, Caewon Moon, Awais Khan, Seungjin Lee, Changhwan Youn, Woosuk Chung, Youngjae Kim, A Multi-Tenant Key-Value SSD with Secondary Index for Search Query Processing and Analysis, ACM Transactions on Embedded Computing Systems (TECS) (2023), Vol. 22, Issue 4, No. 65, pp. 1-27, July 2023.
7. Sungjin Byeon, Joseph Ro, Safdar Jamil, Jeong-Uk Kang, Youngjae Kim, A Free-Space Adaptive Runtime Zone-Reset Algorithm for Enhanced ZNS Efficiency, In Proceedings of the 14th ACM Workshop on Hot Topics in Storage and File Systems (HotStorage) (2023), Boston, MA, USA, July 9, 2023. [Acceptance Rate: $17/43 = 39.5\%$]
8. Seungjin Lee, Changgyu Lee, Donghyun Min, Inhyuk Park, Woosuk Chung, Anand Sivasubramanian, Youngjae Kim, Iterator Interface Extended LSM-tree-based KVSSD for Range Queries, In

- Proceedings of the 16th ACM International Systems and Storage Conference (SYSTOR) (2023), Haifa, Israel, June 2023. [Acceptance Rate: $12/30 = 40.0\%$]
9. Jinhoon Lee, Yeonwoo Jung, Suyeon Lee, Safdar Jamil, Sungyong Park, Kwangwon Koh, Hongyeon Kim, Kangho Kim, Youngjae Kim, MFence: Defending Against Memory Access Interference in a Disaggregated Cloud Memory Platform, In Proceedings of the 38th ACM/SIGAPP Symposium On Applied Computing (SAC) (2023) (Operating Systems Track), March 27-31, 2023.
 10. Abdul Salam, Safdar Jamil, Sungwon Jung, Sung-Soon Park, Youngjae Kim, Future-based Persistent Spatial Data Structure for NVM-based Manycore Machines, IEEE Access (2022), Vol.10 , pp. 114711-114724, October 2022.
 11. Donghyun Min, Yungwoo Ko, Ryan Walker, Junghee Lee, Youngjae Kim, A Content-based Ransomware Detection and Backup Solid-State Drive for Ransomware Defense, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD) (2022), Vol. 41, No. 7, pp. 2038-2051, July 2022.
 12. Hee-Rock Lee, Chang-Gyu Lee, Seungjin Lee, Youngjae Kim, Compaction-Aware Zone Allocation for LSM based Key-Value Store on ZNS SSDs, In Proceedings of the 14th ACM Workshop on Hot Topics in Storage and File Systems (HotStorage) (2022), Virtual, June 27-28, 2022. [Acceptance Rate: $19/47 = 40.0\%$]
 13. Hyungjoon Kwon, Yonghyeon Cho, Awais Khan, Yeohyeon Park, Youngjae Kim, DeNOVA: Deduplication Extended NOVA File System, In Proceedings of the 36th IEEE Int'l Parallel and Distributed Processing Symposium (IPDPS) (2022), Lyon, France, May 30-June 3, 2022. [Acceptance Rate: $123/474 = 25.9\%$]
 14. Jungwook Han, Hongsoo Byun, Hyeonjoon Kwon, Sungyong Park, Youngjae Kim, "Is Data Migration Evil in the NVM File System?", In Proceedings of the 9th International Workshop on Autonomic Management of high performance Grid and Cloud Computing (AMGCC) (2021), Virtual, September 27, 2021.
 15. Safdar Jamil, Awais Khan, Bernd Burgstaller, Youngjae Kim, "Towards Scalable Manycore-aware Persistent B+-Tree for Efficient Indexing in Cloud Environment", In Proceedings of the 9th International Workshop on Autonomic Management of high performance Grid and Cloud Computing (AMGCC) (2021), Virtual, September 27, 2021.
 16. Donghyun Min, Youngjae Kim, "Isolating Namespace and Performance in Key-Value SSDs for Multi-tenant Environments", In Proceedings of the 13th ACM Workshop on Hot Topics in Storage and File Systems (HotStorage) (2021), Virtual, July 27-28, 2021. [Acceptance Rate: $15/40 = 37.5\%$] [Best Paper Award Nomination]
 17. Khu-rai Kim, Youngjae Kim, Sungyong Park, "A Probabilistic Machine Learning Approach to Scheduling Parallel Loops with Bayesian Optimization", IEEE Transactions on Parallel and Distributed Systems (TPDS), Vol. 32, No. 7, pp. 1815-1827, July 2021.
 18. Awais Khan, Hyogi Sim, Sudharshan S. Vazhkudai, Youngjae Kim, "MOSIQS: Persistent Memory Object Storage with Metadata Indexing and Querying for Scientific Computing", IEEE Access (2021), Vol.09 , pp. 85217-85231, June 2021.
 19. Chang-Gyu Lee, Sunghyun Noh, Hyeongu Kang, Soon Hwang, Youngjae Kim, "Concurrent File Metadata Structure Using Readers-Writer Lock", In Proceedings of the 36th ACM/SIGAPP Symposium On Applied Computing (SAC) (2021) (Operating Systems Track), March 22-26, 2021.
 20. Min-Gyo Jeong, Chang-Gyu Lee, Dong-Gyu Park, Sungyong Park, Jungki Noh, Woosuk Chung, Kyoung Park, Youngjae Kim, "GPUKV: An Integrated Framework with KVSSD and GPU through P2P Communication Support", In Proceedings of the 36th ACM/SIGAPP Symposium On Applied Computing (SAC) (2021) (Operating Systems Track), March 22-26, 2021.
 21. Jaewon Son, Yonghyuk Yoo, Khu-rai Kim, Youngjae Kim, Kwonyong Lee, Sungyong Park, "A GPU Scheduling Framework to Accelerate Hyper-Parameter Optimization in Deep Learning Clusters", MDPI Electronics, Vol.10, No. 3, February 2021.
 22. June-Hyung Kim, Youngjae Kim, Safdar Jamil, Chang-Gyu Lee, Sungyong Park, "Parallelizing Shared File I/O Operations of NVM File System for Manycore Servers", IEEE Access (2021), Vol.09 , pp. 24570-24585, January 2021.
 23. Donghyun Min, Yungwoo Ko, Ryan Walker, Junghee Lee, Youngjae Kim, "A Content-based Ransomware Detection and Backup Solid-State Drive for Ransomware Defense", IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD) (2022), Vol. 41, No. 7, pp. 2038-2051, July 2022.

24. Hyungjoon Kwon, Yonghyeon Cho, Awais Khan, Yeohyeon Park, Youngjae Kim, "DeNOVA: Deduplication Extended NOVA File System", In Proceedings of the 36th IEEE Int'l Parallel and Distributed Processing Symposium (IPDPS) (2022), Lyon, France, May 30-June 3, 2022. [Acceptance Rate: $123/474 = 25.9\%$]
25. Heerock Lee, Chang-Gyu Lee, Seungjin Lee, Youngjae Kim, "Compaction-Aware Zone Allocation for LSM based Key-Value Store on ZNS SSDs", In Proceedings of the 14th ACM Workshop on Hot Topics in Storage and File Systems (HotStorage) (2022), Virtual, June 27-28, 2022. [Acceptance Rate: $19/47 = 40.0\%$]
26. Awais Khan, Hyogi Sim, Sudharshan S. Vazhkudai, Ali Butt, Youngjae Kim, "An Analysis of System Balance and Architectural Trends Based on Top500 Supercomputers," In Proceedings of the International Conference on High Performance Computing in Asia-Pacific Region (HPC Asia) (2021), January 20-22, 2021.
27. Jinwoo Ahn, Seungjin Lee, Jinhoon Lee, Youngwoo Ko, Junghee Lee, Youngjae Kim, "A Policy-based Versioning SSD with Intel SGX," Cryptography and Security (cs.CR), 14 pages, arXiv:2108.06459 [cs.CR], August 14, 2021.
28. Donghyun Min, Yungwoo Ko, Junghee Lee, Youngjae Kim, "A Content-based Ransomware Detection and Backup Solid-State Drive for Ransomware Defense," IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD) (accepted).
29. Donghyun Min, Youngjae Kim, "Isolating Namespace and Performance in Key-Value SSDs for Multi-tenant Environments," In Proceedings of the 13th ACM Workshop on Hot Topics in Storage and File Systems (HotStorage) (2021), Virtual, July 27-28, 2021. [Acceptance Rate: $15/40 = 37.5\%$] [Best Paper Award Nomination]
30. June-Hyung Kim, Youngjae Kim, Safdar Jamil, Chang-Gyu Lee, Sungyong Park, "Parallelizing Shared File I/O Operations of NVM File System for Manycore Servers," IEEE Access (2021), Vol.09 , pp. 24570-24585, January 2021.
31. Awais Khan, Hyogi Sim, Sudharshan S. Vazhkudai, Youngjae Kim, "MOSIQS: Persistent Memory Object Storage with Metadata Indexing and Querying for Scientific Computing," IEEE Access (2021), Vol.09 , pp. 85217-85231, June 2021.
32. Khu-rai Kim, Youngjae Kim, Sungyong Park, "A Probabilistic Machine Learning Approach to Scheduling Parallel Loops with Bayesian Optimization," IEEE Transactions on Parallel and Distributed Systems (TPDS), Vol. 32, No. 7, pp. 1815-1827, July 2021.
33. Soon Hwang, Changgyu Lee, Youngjae Kim, "Enabling Manycore Scalability in F2FS Metadata for unlink() Operation," In Proceedings of the 14th ACM International Systems and Storage Conference - Poster (SYSTOR-Posters) (2021), Virtual, June 2021. [Acceptance Rate: $10/18 = 55.6\%$, 10 papers accepted out of 18 submitted]
34. Chang-Gyu Lee, Sunghyun Noh, Hyeongu Kang, Soon Hwang, Youngjae Kim, "Concurrent File Metadata Structure Using Readers-Writer Lock," In Proceedings of the 36th ACM/SIGAPP Symposium On Applied Computing (SAC) (2021) (Operating Systems Track), March 22-26, 2021.
35. Min-Gyo Jeong, Chang-Gyu Lee, Dong-Gyu Park, Sungyong Park, Jungki Noh, Woosuk Chung, Kyoung Park, Youngjae Kim, "GPUKV: An Integrated Framework with KVSSD and GPU through P2P Communication Support," In Proceedings of the 36th ACM/SIGAPP Symposium On Applied Computing (SAC) (2021) (Operating Systems Track), March 22-26, 2021.
36. Jaewon Son, Yonghyuk Yoo, Khu-rai Kim, Youngjae Kim, Kwonyong Lee, Sungyong Park, "A GPU Scheduling Framework to Accelerate Hyper-Parameter Optimization in Deep Learning Clusters," Electronics, Vol.10, No. 3, February 2021.
37. Awais Khan, Hyogi Sim, Sudharshan S. Vazhkudai, Ali Butt, Youngjae Kim, "An Analysis of System Balance and Architectural Trends Based on Top500 Supercomputers," In Proceedings of the International Conference on High Performance Computing in Asia-Pacific Region (HPC Asia), January 20-22, 2021.
38. Jung-Hyung Kim, Youngjae Kim, Safdar Jamil, Chang-Gyu Lee, Sungyong Park, "Parallelizing Shared File I/O Operations of NVM File System for Manycore Servers," IEEE Access (2021), Vol.09 , pp. 24570-24585, DOI: 10.1109/ACCESS.2021.3054905.
39. Awais Khan, Hyogi Sim, Sudharshan S. Vazhkudai, Jinsuk Ma, Myeong-Hoon Oh, Youngjae Kim, "Persistent Memory Object Storage and Indexing for Scientific Computing," In Proceedings of the Workshop of Memory Centric High Performance Computing (MCHPC) (2020) held in conjunction with SC '20, November 11, 2020.

40. June-Hyung Kim, Youngjae Kim, Safdar Jamil, Sungyong Park, "A NUMA-aware NVM File System Design for Manycore Server Applications," (short paper) In Proceedings of the IEEE Int'l Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS) (2020), Nice, France, November 17-19, 2020. (Acceptance Rate: 27.0%)
41. Jinwoo Ahn, Junghee Lee, Yungwoo Ko, Donghyun Min, Jiyeon Park, Sungyong Park, Youngjae Kim, *DISKSHIELD: A Data Tamper-Resistant Storage for Intel SGX*, Proceedings of the 15th ACM ASIA Conference on Computer and Communications Security (ASIACCS) (2020), Taipei, Taiwan, October 5-9, Taipei, Taiwan, 2020. (Acceptance Rate: 67/308=21.7%)
42. Prince Hamandawana, Awais Khan, Chang-Gyu Lee, Sungyong Park, Youngjae Kim, *Crocus: Enabling Computing Resource Orchestration for Inline Cluster-wide Deduplication on Scalable Storage Systems*, IEEE Transactions on Parallel and Distributed Systems (TPDS), (2020), Vol. 31, No. 8, pp. 1740-1753, August 2020.
43. Awais Khan, Taeuk Kim, Hyunki Byun, Youngjae Kim, *SCISPACE: A Scientific Collaboration Workspace for GeoDistributed HPC Data Centers*, Future Generation Computer Systems (FGCS), Vol 101, December 2019, pp. 398-409. [SCI] (5-Year Impact Factor: 5.768)
44. Chang-Gyu Lee, Hyeongu Kang, Donggyu Park, Sungyong Park, Youngjae Kim, Jungki Noh, Woosuk Chung, Kyoung Park, *iLSM-SSD: An Intelligent LSM-tree based Key-Value SSD for Data Analytics*, In Proceedings of the IEEE Int'l Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS) (2019), Rennes, France, October 22-25, 2019. (Acceptance Rate: 29/122 = 23.8%)
45. Khu-rai Kim, Youngjae Kim, Sungyong Park, *Towards Robust Data-driven Parallel Loop Scheduling Using Bayesian Optimization*, (short paper) In Proceedings of the IEEE Int'l Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS) (2019), Rennes, France, October 22-25, 2019. (Acceptance Rate: 32.0%) (39 papers accepted for 29 regular and 10 short papers combined out of 122 submissions)
46. Joon-Hyung Kim, Jangwoong Kim, Hyeongu Kang, Chang-Gyu Lee, Sungyong Park, Youngjae Kim, *pNOVA: Optimizing Shared File I/O Operations of NVM File System on Manycore Servers*, Proceedings of the 10th ACM SIGOPS Asia-Pacific Workshop on Systems (APSys) (2019), Hangzhou, China, August 19-20, 2019. (Acceptance Rate: 15/35 = 42.8%)
47. Chang-Gyu Lee, Hyunki Byun, Sunghyun Noh, Hyeongu Kang, Youngjae Kim, *Write Optimization of Log-structured Flash File System for Parallel I/O on Manycore Servers*, Proceedings of the 12th ACM International Systems and Storage Conference (Systor) (2019), Haifa, Israel, June 2019. (Acceptance Rate: 14/44 = 31.8%, 14 full papers accepted out 44 submissions)
48. Donghyun Min, Donggyu Park, Jinwoo Ahn, Ryan Walker, Junghee Lee, Sungyong Park, Youngjae Kim, *Amoeba: An Autonomous Backup and Recovery SSD for Ransomware Defense*, Invited for presentation in the special session of 2018 best of CAL, HPCA 2019.
49. Hyogi Sim, Geffroy Vallée, Youngjae Kim, Sudharshan Vazhkudai, Devesh Tiwari, Ali Butt, *An Analysis Workflow-Aware Storage System for Multi-Core Active Flash Arrays*, IEEE Transactions on Parallel and Distributed Systems (TPDS) (2019), Vol. 30, No. 2, pp. 271-285, February 2019.
50. Donghyun Min, Donggyu Park, Jinwoo Ahn, Ryan Walker, Junghee Lee, Sungyong Park, Youngjae Kim, *Amoeba: An Autonomous Backup and Recovery SSD for Ransomware Defense*, IEEE Computer Architecture Letter (CAL) (2018), 17(2):245-248 (December 2018). (Acceptance Rate: Approximately 24%) (Best Paper Award)
51. Awais Khan, Chang-Gyu Lee, Prince Hamandawana, Sungyong Park, Youngjae Kim, *A Robust Fault-Tolerant and Scalable Cluster-wide Deduplication for Shared-Nothing Storage Systems*, (short paper) In Proceedings of the IEEE Int'l Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS) (2018), Milwaukee, WI, USA, September 25-28, 2018.
52. Junghee Lee, Kalidas Ganesh, Hyuk-Jun Lee, Youngjae Kim, *FeSSD: A Fast Encrypted SSD Employing On-Chip Access-Control Memory*, IEEE Computer Architecture Letters (CAL) (2017), 16(2):115-118 (December 2017). (Acceptance Rate: Approximately 24%)
53. Xu Ji, Chao Wang, Nosayba El-Sayed, Xiaosong Ma, Youngjae Kim, Sudharshan S. Vazhkudai, Wei Xue, Daniel Sanchez, *Understanding Object-level Memory Access Patterns Across the Spectrum*, In Proceedings of the 2017 ACM/IEEE International Conference on High Performance Computing, Networking, Storage and Analysis (SC) (2017), Denver, CO, November 2017. (Acceptance Rate: 61/327 = 18.9%)

54. Hyogi Sim, Youngjae Kim, Sudharshan Vazhkudai, Geoffroy R. Vallée, Seung-Hwan Lim, Ali Butt, *TagIt: An Integrated Search and Discovery Service for File Systems*, In Proceedings of the 2017 ACM/IEEE International Conference on High Performance Computing, Networking, Storage and Analysis (SC) (2017), Denver, CO, November 2017. (Acceptance Rate: 61/327 = 18.9%)
55. Kalidas Ganesh, Youngjae Kim, Monobrata Debnath, Sungyong Park, Junghee Lee, *LAWC: Optimizing Write Cache using Layout-Aware I/O Scheduling for All Flash Storage*, IEEE Transactions on Computer (TC) (2017), Vol. 66, No. 11, pp. 1890-1902, November 2017.
56. Chintan Chavda, Ethan C. Ahn, Yu-Sheng Chen, Youngjae Kim, Kalidas Ganesh, Junghee Lee, *Vulnerability Analysis of On-Chip Access-Control Memory*, In Proceedings of the 9th USENIX Workshop on Hot Topics in Storage and File Systems (HotStorage) (2017), Santa Clara, CA, July 10-11, 2017. (Acceptance Rate: 21/51 = 41.1%)
57. Matt S. Lee, Hyogi Sim, Youngjae Kim, Sudharshan Vazhkudai, *AnalyzeThat: A Programmable Shared-Memory System for an Array of Processing-In-Memory Devices*, IEEE/ACM International Symposium on Cluster, Cloud and Grid Computing (CCGRID) (2017) (accepted as a short paper), Madrid, Spain, May 2017.
58. Seung-Hwan Lim, Youngjae Kim, *A Quantitative Model of Application Slow-Down in Multi-Resource Shared Systems*, Performance Evaluation (PEVA) (2017), Vol. 108, pp. 32-47, February 2017.
59. Youngjae Kim, Scott Atchley, Geoffroy R. Vallée, Matt S. Lee, Galen M. Shipman, *Optimizing End-to-End Big Data Transfers over Terabits Network Infrastructure*, IEEE Transactions on Parallel and Distributed Systems (TPDS) (2017), Vol. 28, No. 1, pp. 188-201, January 2017.
60. Hyogi Sim, Youngjae Kim, Sudharshan Vazhkudai, Devesh Tiwari, Ali Anwar, Ali Butt, Lavayna Ramakrishnan, *AnalyzeThis: An Analysis Workflow-Aware Storage System*, In Proceedings of the 2015 ACM/IEEE International Conference on High Performance Computing, Networking, Storage and Analysis (SC) (2015), Austin, TX, November 2015. (Acceptance Rate: 79/358 = 22.0%)
61. Junghee Lee, Youngjae Kim, Jongman Kim, Galen Shipman, *Synchronous I/O Scheduling of Independent Write Caches for an Array of SSDs*, IEEE Computer Architecture Letters (CAL) (2015), 14(2):79-82 (July 2015). (Acceptance Rate: Approximately 24%)
62. Youngjae Kim, Scott Atchley, Geoffroy Vallée, Galen Shipman, *LADS: Optimizing Data Transfers using Layout-Aware Data Scheduling*, In Proceedings of the USENIX Conference on File and Storage Technologies (FAST) (2015), San Jose, CA, February 2015. (Acceptance Rate: 28/130 = 21.5%)
63. S. Oral, J. Simmon, J. Hill, D. Leverman, F. Wang, M. Ezell, R. Miller, D. Fuller, R. Gunasekaran, Y. Kim, S. Gupta, D. Tiwari, S. Vazhkudai, J. Rogers, D. Dillow, A. Bland, G. Shipman, *Best Practices and Lessons Learned from Deploying and Operating Large-Scale Data-Centric Parallel File systems*, In Proceedings of the 2014 ACM/IEEE International Conference on High Performance Computing, Networking, Storage and Analysis (SC) (2014), New Orleans, LA, November 16-21, 2014. (Acceptance Rate: 82/394=21.3%)
64. Youngjae Kim, Junghee Lee, Sarp Oral, David Dillow, Feiyi Wang, Galen M. Shipman, *Coordinating Garbage Collection for Arrays of Solid-state Drives*, IEEE Transactions on Computers (TC) (2014), Vol. 63, No. 4, pp. 888-901, April 2014.
65. Junghee Lee, Youngjae Kim, Galen M. Shipman, Sarp Oral, Jongman Kim, *Preemptible I/O Scheduling of Garbage Collection for Solid-state Drives*, IEEE Transactions on Computer-Aided Design of Integrated Circuits and Systems (TCAD) (2013), Vol. 32, No. 2, pp. 247-260, February 2013.
66. Devesh Tiwari, Simona Bobila, Sudharshan Vazhkudai, Youngjae Kim, Xiaosong Ma, Peter Desnoyers, Yan Solin, *Active Flash: Towards Energy-Efficient, In-Situ Data Analytics on Extreme-Scale Machines*, In Proceedings of the USENIX Conference on File and Storage Technologies (FAST) (2013), San Jose, CA, February, 2013. (Acceptance Rate: 24/127 = 18.9%)
67. Devesh Tiwari, Sudharshan Vazhkudai, Youngjae Kim, Xiaosong Ma, Simona Boboila, Peter Desnoyers, *Reducing Data Movement Costs using Energy-Efficient Active, Computation on SSD*, In Proceedings of the USENIX Workshop on Power-Aware Computing and Systems (HotPower) (2012), co-located with OSDI, Hollywood, CA, October 2012. (Acceptance Rate: 10/39 = 25.6%)
68. Seung-Hwan Lim, Jae-Seok Huh, Youngjae Kim, Galen M. Shipman, Chita Das, *D-Factor: A Quantitative Model of Application Slow-Down in Shared Service Systems with Multiple Resources*, In Proceedings of the ACM Int'l Conference on Measurement and Modeling of Computer Systems (SIGMETRICS) (2012), London, United Kingdom, June 11-15, 2012. (Acceptance Rate: 31/203 = 15.2%)

69. Chao Wang, Sudharshan Vazhkudai, Xiaosong Ma, Fei Meng, Youngjae Kim, Christian Engelmann, *NVMalloc: Exposing an Aggregate SSD Store as a Memory Partition in Extreme-Scale Machines*, In Proceedings of the IEEE Int'l Parallel and Distributed Processing Symposium (IPDPS) (2012), Shanghai, China, May 21-25, 2012. (Acceptance Rate: $118/569 = 20.7\%$)
70. Simona Boboila, Youngjae Kim, Sudharshan Vazhkudai, Peter Desnoyers, Galen M. Shipman, *Active Flash: Out-of-core Data Analytics on Flash Storage*, In Proceedings of the IEEE Symposium on Massive Storage Systems and Technologies (MSST) (2012), Monterey, CA, April 16-20, 2012. (Acceptance Rate: $14/57 = 24.5\%$)
71. Youngjae Kim, Aayush Gupta, Bhuvan Urgaonkar, Piotr Berman, Anand Sivasubramaniam, *Hybrid-Store: A Cost-Efficient, High-Performance Storage System Combining SSDs and HDDs*, In Proceedings of the IEEE Int'l Symposium on Modeling, Analysis and Simulation of Computer and Telecommunication Systems (MASCOTS) (2011), Singapore, July 25-27, 2011. (Acceptance rate: $41/157 = 26.1\%$)
72. Ramya Prabhakar, Sudharshan Vazhkudai, Youngjae Kim, Ali Butt, Min Li, Mahmut Kantemir, *Provisioning a Multi-Tiered Data Staging Area for Extreme-Scale Machines*, In Proceedings of the International Conference on Distributed Computing Systems (ICDCS) (2011), Minneapolis, Minnesota, June 20-24, 2011. (Acceptance Rate: $87/565 = 15.1\%$)
73. Seung-Hwan. Lim, Jae-Seok. Huh, Youngjae Kim, Chita Das, *Migration, Assignment, and Scheduling of Jobs in Virtualized Environment*, In Proceedings of the USENIX Workshop on Hot Topics in Cloud Computing (HotCloud) (2011), co-located with USENIX ATC, Portland, OR, June 2011. (Acceptance Rate: $23/72 = 31.0\%$)
74. Youngjae Kim, Sarp Oral, Galen M. Shipman, Junghee Lee, David Dillow, Feiyi Wang, *Harmonia: A Globally Coordinated Garbage Collector for Arrays of Solid-state Drives*, In Proceedings of the IEEE Symposium on Massive Storage Systems and Technologies (MSST) (2011), Denver, Colorado, May 23-27, 2011. (Acceptance Rate: $15/63 = 23.8\%$)
75. Junghee Lee, Youngjae Kim, Galen M. Shipman, Sarp Oral, Feiyi Wang, Jongman Kim, *A Semi-Preemptive Garbage Collector for Solid State Drives*, In Proceedings of the IEEE Int'l Symposium on Performance Analysis of Systems and Software (ISPASS) (2011), Austin, TX, April 10-12, 2011. (Best Paper Award Nomination)
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