

BAOQUAN ZHANG
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PROFESSIONAL SKILLS (LOOKING FOR SUMMER INTERNSHIP 2018)

C/C++, Java, Python, MATLAB and etc.
Linux Kernel Development, User-level Application Development
Distributed System Development

EDUCATION

Ph.D. Candidate at University of Minnesota – Twin Cities U.S., Sept. 2015 – Present

- Computer Science – Storage Systems, including Cloud Storage, New Devices, Key-Value Store etc.

M.S. and B.E. at Harbin Engineering University China, Sept. 2008 – April. 2015

- Computer Science – Cloud Storage and Distributed Systems (Hadoop, Impala and etc.)

WORKING EXPERIENCE

Dell EMC, Summer Intern Eden Prairie, Minnesota, May.22 2017 – Aug.11 2017
Performance improvements of the IO tracing module in OS of storage controllers

- Implemented a shared log pool including 40 tracing logs instead of single log in the existing solution.
- Realized a trace serialization method serializing outputs of entry retrieval from multiple logs.
- Achieved 50% – 300% performance improvements comparing to single-log implementations.

Tsinghua University, Full-Time Research Assistant Beijing, China, May 2013 – April 2015
Construction of general big data management systems (MySQL + Impala + HDFS)

- Constructed a hybrid system combining relational databases with distributed data warehouses.
- Realized data migrations between databases and data warehouses based on the data hotness.

RESEARCH EXPERIENCE

KVSNUM: A design of Key-Value Store on Non-Volatile Memory (NVM)

- Designed a Key-Value Store on NVM using B Tree as the key index to reduce the retrieval latencies.
- Proposed a mechanism combining write-ahead logs with shadow pages to guarantee consistencies.

Optimizing I/O scheduling in distributed systems for data-intensive computing

- Proposed a method merging the data retrievals with same data set within user-defined time windows.
- Realized a mathematical model selecting data replicas based on loads and performances of nodes.

SmartRAID: RAID 5 with Dynamic Spare Drive on Shingled Magnetic Recordings (SMR)

- Identified performance behaviors of RAID 5 on SMR drives by comprehensive evaluations.
- Proposed a RAID 5 design on SMR drives using dynamic spare drive to reduce data updating overheads.

Improving the end-to-end data integrity in Linux Software RAID

- Designed a new Software RAID in Linux kernel compatible with T10 Protection Information (T10 PI).
- Deployed PI buffers in stripe structures, in which PI could be generated, verified and passed.

MISCELLANEOUS

ADC Graduate Fellowship, University of Minnesota – Twin Cities, 2015 – 2016
National Fellowship of China, Harbin Engineering University, 2014 – 2015