

Lei Xu

- 3rd Year Computer Science Ph.D Candidate
- Computer Science and Engineering
- University of Nebraska-Lincoln
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Research Interests

Performance, Scalability and Reliability of Large-Scale Storage System, Benchmark and Performance Evaluation of Storage System, Metadata Management, File System, Distributed System, Cloud Computing

Education

Ph.D Candidate, Computer Science 09/2008 – 05/2013(*expected*)

University of Nebraska-Lincoln

Advisor: *Hong Jiang* and *David Swanson*

Bachelor of Engineering, Electronic Science and Technology 09/2001 – 06/2005

Wuhan University, Hubei, China.

Bachelor of Engineering, Computer Science and Technology 09/2001 – 06/2005

Wuhan University, Hubei, China.

Academic and Professional Experiences:

Research Assistant Fall 2009 ~ present

Professor Hong Jiang, University of Nebraska-Lincoln

Topic: *Scalable and Reliable Metadata Organization with Semantic-Awareness*

Research Assistant Fall 2008 ~ Summer 2009

Professor David Swanson, University of Nebraska-Lincoln

Topic: *Performance and Reliability Analyzing for Cluster Storage of High-End Computing*

Co-founder and Software Architect March 2007 ~ May 2008 Quarkware.com

I designed and implement a prototype for a Google File System like commercial cluster file system.

Software Engineer February 2006 ~ February 2007 Roxbeam.com

- Being a member of P2P VOD Group, I wrote several P2P servers in P2P VOD System.
- Designed and wrote a system-wide monitor system.
- An ajax based web interface for P2P Player

Storage Optimizing Engineer July 2005 ~ January 2006 Sina.com

I designed and implemented a distributed storage migrating system, which was used to detect healthy status of mail servers and provide strategies of balancing the storage between servers.

Selected Publications

1. Jian Hu, Hong Jiang, Lei Tian, **Lei Xu**, “PUD-LRU: An Erase-Efficient Write Buffer Management Algorithm for Flash Memory SSD”, MASCOTS 2010.
2. **Lei Xu**, Hong Jiang, Lei Tian, “Hifire: A High Fidelity Trace Replayer for Large-Scale Storage Systems”, Work-in-Progress in FAST’10,

Major abilities:

- Programming Languages
 - Expert in C++/C/Python. Four years experience of developing distributed system in ACE, Twisted.
 - Strong skills in Java. Contributed several patches for Hadoop.
 - Good skills in Ruby, PHP, JavaScript, Bash, Awk, Sed.
- Others

- Strong knowledges about Google File System/Hadoop, ext3/4 file, FUSE systems. I contributed several patches for Hadoop Distributed File System(HDFS).
- Strong knowledges of file system implementations, FUSE.
- Familiar with MapReduce model and distributed computing.
- 6+ Years experiences of Linux/FreeBSD development.
- Experience with Linux Kernel, File System, Distributed File System, Google File System, Hadoop, Dcache.
- Experience with RAID, Solid State Disk.
- Strong knowledges about Network Programming, Multi-Threads/Multi-Core Programming.
- Good at algorithms, data structures, design patterns, extreme programming.

Personal Activities

Membership in Professional Societies

- Student Member, USENIX

Awards

- **USENIX Student Grant**, 8th USENIX Conference on File and Storage Technologies(FAST'10)