

Weichao Guo

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Education

Tsinghua University Beijing, P.R. China 09,2011 ~ present
Ph.D candidate in Computer Science and Technology
Advisor: Prof. Weimin zheng
Research Interests: Cloud Computing, Storage techniques, and Mobile Systems

Harbin Institute of Technology Heilongjiang, P.R. China 09,2007 ~ 07,2011
B.S. in Software Engineering, July 2011 (Rank: 3/155)

Research & Internship Experience

Mobile and Distributed System Group, Tsinghua University Sep. 2011 to present
Research Assistant Supervisor: Prof. Yongwei Wu
(1) Implementing parts of a rebasable file system for enhanced management of virtual machines
(2) Designing and implementing a binary instrumentation tracing and clustering analysis based outlier-aware scheduler for parallel processing of massive compute-intensive tasks
(3) Improving mobile applications launching experience on Android with retrofitting page swapping module in Linux kernel
(4) Proposing a bidding framework for reducing cost of SMR (State Machine Replication) based distributed services with spot instances while keeping HA (High Availability) at the same time
(5) Designing and implementing a light-weight warm standby pair based failover mechanism for hosting online service on spot clouds addressing the forced unavailability and performance limitations
(6) Designing an efficient open channel SSDs array controller which improves the reliability and write performance across all flash chips of SSDs through interacting with SSD FTL (Flash Translation Layer)
Browser Development Group, Wireless Business Division, Tencent Inc. Jul. 2010 to Sep. 2010
R.&D. Intern Mentor: Engineer Shi Ling
(1) Porting Flirt, an open source Linux flash runtime to Windows Mobile Platform

Publications

1. *MARS: Mobile Application Relaunching Speed-up through Flash-Aware Page Swapping*,
Weichao Guo, Kang Chen, Yongwei Wu, Weimin Zheng
IEEE Transactions on Computers (TC), Vol. 65, No. 3, pp. 916 - 928, Mar. 2016.
2. *Bidding for Highly Available Services with Low Price in Spot Instance Market*,
Weichao Guo, Kang Chen, Yongwei Wu, Weimin Zheng
Proceedings of the 24th ACM International Symposium on High-Performance Parallel and Distributed Computing (HPDC'15)
3. *NO2: Speeding Up Parallel Processing of Massive Compute-Intensive Tasks*,
Yongwei Wu, **Weichao Guo**, Jinglei Ren, Xun Zhao, Weimin Zheng,
IEEE Transactions on Computers (TC), Vol. 63, No. 10, pp. 2487 - 2499, Oct. 2014.

Honors and Awards

National Scholarship	2014 - 2015
Second-Class Outstanding Scholarship, Tsinghua University	2013 - 2014
Second-Class Kwang-Hua Scholarship, Tsinghua University	2012 - 2013
Outstanding Graduates Award, Heilongjiang Province	2011
First Prize, Northeast Mathematical Contest in Modeling	2010
Second Prize, National College Information Security Competition	2010
HIT Jianke Excellent Scholarship, Harbin Institute of Technology	2009 - 2010
National Scholarship	2008 - 2009
First-Class People Scholarship, Harbin Institute of Technology	2008, 2009, 2010

References

Weimin Zheng zwm-dcs@tsinghua.edu.cn Tsinghua University	Research Advisor
Kai Hwang kaihwang@usc.edu University of Southern California	Instructor
Jinglei Ren jinren@microsoft.com Microsoft Research Asia	Co-Author