

Min Lee

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Objective

To seek a research position in the system area such as virtualization, multi/manycore technology, and OS kernel development utilizing my research experience and problem solving skills.

Education

- Ph.D. student, Computer Science, Georgia Institute of Technology, Atlanta, GA 2006 Fall ~ Present
- M.S., Computer Science, KAIST, Daejeon, Korea February 2006
Best paper award of 2006 graduation, Computer Science Department, KAIST
- B.S., Computer Science, Yonsei University, Seoul, Korea February 2004
Graduation with highest honor in Computer Science Department

Research Areas

- System virtualization – Xen, VM scheduling and consolidation, Memory management, MMU virtualization
- Operating System – Linux, Physical memory management, Buffer cache
- Computer Architecture – Multicore, last-level/distributed cache management
- Cache and memory hierarchy – NUMA memory support, interconnect
- Power-aware system – Power-aware memory support

Papers

- Min Lee, Karsten Schwan. "Region Scheduling: Efficiently Using the Cache Architectures via Page-level Affinity." ASPLOS 2012, London, UK, March 3-7, 2012.
 - ASPLOS 2012 Student Travel Grant
- Mrinmoy Ghosh, Ripal Nathuji, Min Lee, Karsten Schwan, and Hsien-Hsin S. Lee. "Symbiotic Scheduling for Shared Caches in Multi-Core Systems Using Memory Footprint Signature." ICPP 2011 (IEEE International Conference on Parallel Processing), Taipei, Taiwan, September, 2011.
- Min Lee, A. S. Krishnakumar, P. Krishnan, Navjot Singh, Shalini Yajnik. "Hypervisor-Assisted Application Checkpointing in Virtualized Environments." DSN 2011 (International Conference on Dependable Systems and Networks), Hong Kong, June 27-30, 2011.
 - DSN 2011 Student Travel Grant
- Min Lee, A. S. Krishnakumar, P. Krishnan, Navjot Singh, Shalini Yajnik. "XenTune: Detecting Xen Scheduling Bottlenecks for Media Applications." IEEE Globecom 2010 (Communications Software, Services and Multimedia Applications Symposium), Miami, FL, Dec 6-10, 2010.
- Min Lee, A. S. Krishnakumar, P. Krishnan, Navjot Singh, Shalini Yajnik. "Supporting Soft Real-Time Tasks in the Xen Hypervisor." VEE 2010, Pittsburgh, PA, March 17-19, 2010.
 - Invited and presented at Xen Summit North America at AMD April 28-29, 2010.
- Jiantao Kong, Karsten Schwan, Min Lee, and Mustaque Ahamad. "ProtectIT: Trusted Distributed Services Operating on Sensitive Data." EuroSys 2008, Glasgow, Scotland, March 31 – April 4, 2008.
- Min Lee, Euseong Seo, Joonwon Lee, Jin-soo Kim. "PABC: Power Aware Buffer Cache Management for Low Power Consumption." IEEE Transactions on computers, April 2007 (Vol. 56, No. 4) pp. 488-501.
 - Three awards received. (See Awards section, KAIST bullet.)

Book

- Operating System Inside (In Korean)
 - <http://osinside.net/osinside/osinside.htm>

Research/Work Experience

- Avaya Labs, Basking Ridge, New Jersey Summer 2009/10
 - Design/Implement Xen real-time scheduler to support enterprise IP Telephony server workload including Xen monitoring tools [VEE2010, Globecom2010] and hypervisor-assisted application checkpointing work for high availability [DSN2011].
- Georgia Institute of Technology, Atlanta, Georgia 2008~Present
 - Design/Implement software approach at hypervisor-level (Xen) for cache management in CMP environment. Departing from traditional CPU-centric scheduler, newly memory-centric scheduler is proposed [ASPLOS2012].
 - Design and evaluate shared-memory based communication among Xen-domains. Develop and evaluate kernel module for efficient communication [EuroSys2008].
- Intel, Portland, Oregon Summer 2007
 - Design and analyze on NUCA-aware scheduling policy using SESC microprocessor simulator and Bochs full system simulator. To make efficient use of NUCA architecture for CMP processors, new OS policies are proposed. [ICPP2011]
- KAIST, Daejeon, Korea 2004~2006
 - Design/implement PABC (Power-Aware Buffer Cache) management scheme in Linux kernel [TOC2007], which led to my master thesis.
- ETRI (Electronics and Telecommunications Research Institute), Daejeon, Korea Fall 2005
 - RFID/USN project hosted by ETRI
 - Implementing RFID reader protocols and tag processing engines
- Yonsei University, Seoul, Korea 2003
 - Internet-based radio project for embedded devices. Personal Audio Station, Undergraduate thesis. Kernel scheduler and memory allocator modification and evaluation. First place prize in the Yonsei creativity fair.
- A co, 122Sig, 2nd Infantry Division, US 8th Army in Korea (Military service) 2000~2002

Fellowships, Grants, and Awards

- KAIST
 - Best paper award of 2006 graduation, Computer Science Department, KAIST.
 - Bronze Prize in the Samsung Humantech Thesis Award competition, Feb 2006.
 - Prize in the 25th student's thesis competition, Korea Information Science Society. (2006)
- KFAS (Korea Foundation for Advanced Study)
 - Doctoral Study Abroad Scholarship (2004)
- Yonsei University
 - Scholarships for academic excellence (1999 Fall, 2002/2003 Spring)
 - Prizes with high honor (1999 Fall, 2003 Spring)
 - Prize with highest honor (2002 Spring)
 - Graduation with highest honor in CS department. (2003 Fall)
 - First place prize in the Yonsei creativity fair (Undergraduate thesis competition)

Skills

- Linux kernel / Xen development experience
- C/C++/Java experience

Extra Activities

- Organizing/leading kernel study groups in Yonsei CS dept.
- KTF mobile futurist activity (internship)
- Winner of KTF-cup Alkkagi Tournament.
- Small College 20th class. (Classic reading and discussion activity)

Last Updated: Nov 2011