Sang-Woo Jun

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EDUCATION

Ph.D., Electrical Engineering & Computer Science (2013–Present)
Massachusetts Institute of Technology, Cambridge, MA, USA
Computation Structures Group *(Advisor: Arvind)*

Master of Science, Electrical Engineering & Computer Science (2011–2013)
Massachusetts Institute of Technology, Cambridge, MA, USA

Bachelor of Science, Computer Science and Engineering (2004–2009)
Seoul National University, Seoul, Korea

SKILLSET

Languages & Software: C, C++, Bluespec, Verilog, Java, PHP, Javascript, x86 assembly, SQL (MSSQL, MySQL, SQLite), OCaml.

Expertise: Experience with low-level hardware design on FPGAs. System software development.

Personal Projects: Operating System development for x86 (bootloader and up), Linux device driver development, Mobile games, distributed file sharing tools, reverse-engineering binaries.

RESEARCH PROJECTS

BlueDBM - Distributed Flash Store for Big Data Analytics   2011–Present
BlueDBM is a complete HW/SW stack of a distributed flash storage system with FPGA-based reconfigurable controllers and a hardware-accelerated storage network, aiming to aid in high-throughput analytics and rapid development of hardware accelerators. Jointly funded by Quanta, Samsung, Intel and Lincoln Labs.
(`http://people.csail.mit.edu/wjun/ssd.htm`)

Personalized Power/Performance Optimization for Android Smartphones 2010–2011
National Research Laboratory project funded by the Ministry of Education, Science and Technology, Korean Government.

Visualizing and Detecting Concurrency Bugs in Multicore Software   2009–2009
Part of the National Information Technology Research Center project (on Development of Embedded Software for Multicore-based Avionics), funded by the Ministry of Knowledge and Economy, Korean Government.

WORK EXPERIENCE

Software Engineer, Security Engineer   2005–2007
Nexon Inc, Seoul, Korea
- Client and server developer for MapleStory, Nexon's biggest MMORPG.
- Client security engineer for MaplerStory, preventing and detecting reverse engineering of client software.

TEACHING EXPERIENCE

Teaching Assistant   Fall 2012
6.s195 Computer Architecture Laboratory
Department of Electrical Engineering and Computer Science, MIT, Cambridge, USA

- Worked with another TA to develop in-class activities and programming lab assignments.
- Gave TA lectures and mentored students for their final projects.
- Graded student programming assignments.

NOTABLE PUBLICATIONS

Sang Woo Jun. Ming Liu, Sungjin Lee, Jamey Hicks, John Ankcorn, Myron King, Shuotao Xu, Arvind.   2015
"BlueDBM: An Appliance for Big Data Analytics," International Symposium on Computer Architecture

Sang Woo Jun. Ming Liu, Kermin Fleming, Arvind.   2014
"Scalable Multi-Access Flash Store for Big Data Analytics," International Symposium on Field-Programmable Gate Arrays

Sang Woo Jun, Kermin Fleming, Michael Adler, Joel Emer.   2012
"ZIP-IO: Architecture for Application-Specific Compression of Big Data," International Conference on Field Programmable Technology

Mun-Hye Jang, Ok-Kyoon Ha, **Sang-Woo Jun**, Yong-Kee Jun.   2009
"A Tool for Detecting First Races in OpenMP Programs," International Conference on Parallel Computing Technologies