Jung Gyu Park

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SUMMARY

An experienced and capable software engineer with a demonstrated ability to produce high quality software solutions. Solid leadership and teamwork skill backed by strong technical ability obtained from academia and industry. Experienced software systems from Operating System kernel up to mobile software platform with proven ability to quickly learn new systems. Excellent analytical and problem solving skill. Strong written and verbal communication.

EMPLOYMENT HISTORY

2010.5 ~ 2013.3, General Dynamics Broadband (Open Kernel Labs, Sydney/Australia)

Full-time Senior Software Engineer. Open Kernel Labs was acquired by General Dynamics in August 2012, and is now General Dynamics Broadband.

2011 ~ 2013, Virtualization of Linux/Android using OKL4 Hypervisor
- Carried out the virtualization of Linux/Android for smartphones
- Platform: LG Optimus 3D Max, Optimus L9 smartphone, OMAP4/OMAP3
- Developed dual Android smartphone: Dual Persona (personal/enterprise domain)
- Developed high-assurance framework for defense-grade security on Optimus 3D Max
- SMP support, virtual device driver, porting to Smartphone, secure mobility, etc.

2010 ~ 2011, Microkernel Design and Implementation
- Designed and implemented OKL4 microkernel products (C, Python)
- Platform: Qualcomm platform (shipped to Qualcomm)
- Implemented cache driver, inter-process communication, threading and pthread API, refactoring of OKL4 microkernel, client/server testing framework, etc.

2002.9 ~ 2010.4, Samsung Electronics (Suwon/Korea)

Full-time Senior Engineer/Technical Team Lead

2006 ~ 2010, Multi-core Software Solutions for Smartphone and SmartTV
- Designed and implemented gcc-based parallelizing compiler (OpenMP) for IBM Cell processor (CPU + GPU)and ARM SMP
- Carried out optimizations for multi-threaded SW (i.e., H.264) by using cache, bus-bandwidth, and automatic performance tuning
- Implemented verification tools (in C++) for multi-thread or memory bugs

2004 ~ 2006, C++ Software Platform for Smartphone (Samsung Wave Smartphone)
- http://www.bada.com
- Designed and implemented C++ library/framework (i.e., runtime, component, utility, TCP/IP/UDP, string, etc)

2002 ~ 2004: Java Virtual Machine for Mobile Phones
- Sprint PCS USA, model numbers are SPH-A700, SPH-A620, and SHP-A600
- Ported Java virtual machine and library (CLDC/MIDP) for mobile phone
- Carried out optimizations on graphics algorithm, memory access, and JVM

1995.3 ~ 2002.8, Korea University (Seoul/Korea)

Full-time Graduate Student. My research interest was how programming language can be used to solve the issues in the software engineering (i.e., optimization)

2000 ~ 2002: Ph. D Thesis
- A study on the specialization and optimization of computer programs in Java language

1997 ~ 2002: Part Time Lecturer
- Teaching first year courses in computer science

1999 ~ 2000: Disk Array Device Management Object Modeling Prototype
- Associate researcher at University of Idaho
- Sponsored by Hewlett Packard
- Implemented a prototype software system for managing HP RAID

1998: Software Reuse using Open Implementation and Aspect Orient Programming
- Carried out a research on the theory of software reuse by Open Implementation Analysis and Design and Aspect Oriented Programming

1996 ~ 1998: WEB based 3D Modeling and Rendering system
- Sponsored by Ministry of Information and Communication, Republic of Korea
- Implemented a geometric 3D modeling and rendering system which runs on a web browser

EDUCATION

2002, Ph. D. in Computer Science, Korea University, Seoul, Korea
1997, M.S. in Computer Science, Korea University, Seoul, Korea
1995, B.S. in Computer Science, Korea University, Seoul, Korea

TECHNICAL SKILLS

- Low level OS kernel development: Linux, OKL4, Virtualization, ARMv5-v7, OMAP3-4, IBM Cell BE
- Software platform development: C++ Mobile Software Platform, Java Virtual Machine, Android
- Strong C/C++/STL, Java (prior experience, Ph.D thesis), Python, Javascript
- High performance library/framework design and implementation (C++, Java)
- Compiler design, porting, and optimization (gcc, OpenMP, Java)
- Analysis, performance optimization, and multithread/multicore software design and optimization
- Mobile device (smartphone), Embedded system

SELECTED PUBLICATIONS

- Jung Gyu Park, et al. "Compiler Optimization for the Cell Architecture". In *Proceedings of the Fifth Workshop on Optimization for DSP and Embedded Systems (ODES-5)*, in conjunction with *CGO-5*, March 2007.
- Jun Sung Park, Jung Gyu Park, Hyo Jung Song, "Implementation of OpenMP Work-Sharing on the Cell Broadband Engine Architecture", In *Proceedings of IWOMP 2007*, June 2007.
- Jung Gyu Park, et al. "A Real-Time Media Framework for Asymmetric MPSoC". In *Proceedings of the Ninth IEEE International Symposium on Object and Component Real-Time Distributed Computing*, IEEE Press, April 2006.

- Jung Gyu Park and Myong-Soon Park. "Using Indexed Data Structures for Program Specialization". In *Proceedings of the ACM SIGPLAN ASIAN symposium on Partial evaluation and semantics-based program manipulation (PEPM)*, ACM Press, September 2002.
- Jung Gyu Park, Arthur H. Lee, "Specializing the Java Object Serialization Using Partial Evaluation for a Faster RMI", ICPADS 2001, pp 451-458, IEEE Press, June 2001.

PATENTS

System and method for shortening class loading process in Java program
- Korea, P0493893
- USA, US 2004/0168163 A1

System and method for shortening compiling time of byte codes in Java program
- Korea, P0506522
- USA, US 2004/0168162 A1

Coverage apparatus and method for testing multi-thread environment
- USA, US 2011/0167413 A1

Apparatus and method for controlling parallel programming
- USA, US 2011/0072420 A1

Apparatus and method for providing visual interface for information of error generated in multithread testing
- USA, US 2011/0138236 A1

REFEREES

Nelson Tam: Open Kernel Labs (Sydney, Australia)
 Mobile: 0414-687-268 Email: nelson@tam.id.au
Hans Jang: ResMed (Sydney, Australia)
 Mobile: 0433-757-067 Email: pinetr2e@gmail.com