

# MINSUNG JANG

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## CAREER HIGHLIGHTS

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- Experience in embedded system design and development for nine years
- Storage and multimedia file system design, development, and productization on embedded Linux
- Main developer of XenARM Project community
- Programmer in Linux kernel , device drivers, and Xen hypervisor
- Six published papers and Five U.S. patents (two filed applications)
- Two awards for excellent research from Samsung Electronics

## RESEARCH INTERESTS

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- Seamless interaction of a set of ambient devices with public clouds
- Framework for supporting offload of workload on mobile devices to the cloud infrastructure
- Combining heterogeneous capabilities of ambient devices to augment their capability with the cloud computing

## EDUCATION

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**Ph.D. in computer science**, Georgia Institute of Technology Atlanta, GA

August 2008–present

**Master of Science**, Yonsei University, Seoul, Korea

March 1998–February 2000

**Bachelor of Science**, Yonsei University, Seoul, Korea

March 1994–February 1998

## WORKING EXPERIENCE

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**Research Intern**, Nokia Research Center, Palo Alto, CA (May 2011–August 2011)

Design and implementation of a framework for seamless workload migration among devices with two filed applications

**Research Intern**, IBM Almaden Research Center, San Jose, CA (May 2010–August 2010)

Optimization of subscription cost for the cloud storage via smart I/O Orchestration

**Research Staff**, Advanced Institute of Technology of Samsung Electronics, Korea (January 2008–July 2008)

Introduction of power management into the Xen virtual machine monitor:

- Developed new power management method on mobile virtualization environment
- Managed the source code of XenARM submitted to the community

**Senior Research Engineer**, Software Lab. of Samsung Electronics, Korea (August 2003– December 2007)

Development of software mobility solution based on virtualization

- Designed the architecture of the project and main developer of virtual I/O framework of the project
- Announced at the demonstration session of IEEE-CCNC08

Lead and development of reliable file system for embedded Linux

- Introduced a personal video recorder with Klotho at CES 2007 by Samsung Electronics

Development of reliable and portable multimedia filesystem

- Designed and implemented the I/O architecture of XPRESS file system (announced in Ottawa Linux Symposium 2006)

**Engineer**, SindoRicoh R&D Center, Seoul, Korea, (October 1999–July 2003)  
Development of embedded Linux for printing system  
- Implemented a higher resolution timer for real-time workload

## TEACHING EXPERIENCE

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**Graduate Teaching Assistant**, CS6210-Advanced Operating System, (Jan 2012–Present)

## SKILLS

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- Platforms: (Embedded or para-virtualized) Linux, Xen hypervisor, Windows Device Driver
- Programming Languages: C/C++, Assembly for ARM, MIPS
- Device Driver Development: (Embedded, Para-virtualized) Linux, Windows XP, VxWorks(RTOS)
- Kernel related Development: Multimedia file system, power-aware scheduler in Linux 2.6
- Product Development: Mobile phones, personal video recorders, digital TVs, and laser printers

## PUBLICATIONS

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**Minsung Jang**, Karsten Schwan, Clouds4Users: From Isolated Devices to Rich Device Platforms, Poster Session, *3rd Workshop on SoCs, Heterogeneous Architectures and Workloads (SHAW-3)*, Held in conjunction with HPCA-18, New Orleans, Louisiana, Feb 2012.

**Minsung Jang**, Karsten Schwan, STRATUS: Assembling Virtual Platforms from Device Clouds, *IEEE CLOUD 2011*, Washington DC, July 2011.

SungKwan Heo, **Minsung Jang**, Sangbum Suh, Software Mobility for Personalized Computing Environments on Removable Storage, *IEEE CCNC 2008*, Las Vegas, January 2008.

Jooyoung Hwang, Jaekyoung Bae, Alexander Kirnasov, **Minsung Jang**, Hayeong Kim, A Reliable and Portable Multimedia File system, *Linux Symposium*, Ottawa, Canada, July 2006.

**Minsung Jang**, Jongsoo Lee, Genetic algorithm based design of transonic airfoils using Euler equations, *AIAA/ASME/ASCE/AHS/ASC SDM Conference*, AIAA-2000-1584, Atlanta, GA, Apr. 2000.

Jongsoo Lee, **Minsung Jang**, Seungjin Kim, Doyoung Kim, Method of Soft-Computing for Global Optimization, *Computational Structural Engineering Institute of Korea Conference*, Apr. 2000.

**Minsung Jang**, A New File system Development Method for Linux, *Real-time Embedded World Magazine(written in Korean)*, Oct. 2006~ Jan. 2007

## U.S. PATENTS

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Five U.S. Patents(Granted): US20090271605, US20090216916, US20090241110, US20070226219, US20070188440, and two filed applications