

WOOHYUNG CHUN (Korean: 전 우 형)

wchun@ece.sunysb.edu, stonylinux@gmail.com

Hardware-Software Codesign ~ Embedded system (software and hardware)

Technically proficient in the areas of Hardware-Software Co-synthesis and energy efficient VLSI design for data-centric applications represented as dataflow graphs. Significant experiences as a research engineer developing embedded systems based on various operating systems and hardware architectures.

EDUCATION

STATE UNIVERSITY OF NEW YORK AT STONY BROOK, STONY BROOK, NY, USA

Ph.D. in Electrical and Computer Engineering, 08/2005 - 12/2009

- Dissertation: "VLSI Design Methodology Based On A Parameterized Buffer Controller"
- Advisor: [Professor Sangjin Hong](#)

HONGIK UNIVERSITY, Seoul, Korea

M. S. in Engineering, Major in Electronics Engineering, 03/1997 – 02/1999

HONGIK UNIVERSITY, Seoul, Korea

B. S. in Engineering, Major in Electronic and Electrical Engineering, 03/1993 – 02/1997

HONORS

- Listed in Who's Who in America 2011~2014.
- Listed in Who's Who in Asia 2012.
- Listed in Who's Who in the World 2013~2014.

PROFESSIONAL EXPERIENCE

SAMSUNG ELECTRONICS LTD., SYSTEM LSI DIVISION, Yongin-City, Korea 03/2010 – Present

Principal Engineer

- Developing the architecture for Samsung Application Processors (Exynos APs).

SAMSUNG ELECTRONICS LTD., SYSTEM LSI DIVISION, Yongin-City, Korea 02/2002 – 06/2004

Engineer

- Developed embedded mobile and network softwares for Samsung SOC (System On Chip)s.

CORECESS, INC. KOREA, Sunnam-City, Korea

01/2000 – 01/2002

Manufacturer of network equipment

Engineer

- Developed various device drivers and protocol softwares for several types of network embedded systems such as DSLAM, routers, and switches.

COMTEC SYSTEMS CO., LTD, Seoul, Korea

02/1999 – 01/2000

Manufacturer of network equipment

Engineer

- Developed the device driver for ADSL modem.

SELECTED PUBLICATIONS

- **Woohyung Chun**, Sungroh Yoon and Sangjin Hong, “Buffer Controller Based Multiple Processing Element Utilization for Dataflow Synthesis,” *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*, vol. 19, no.7, pp.1249-1262, July 2011.
- **Woohyung Chun**, Sungroh Yoon and Sangjin Hong, “Energy-Aware Interconnect Resource Reduction Through Buffer Access Manipulation for Data-Centric Applications,” *IEEE Transactions on Very Large Scale Integration (VLSI) Systems*, vol. 19, no.5, pp.818-831, May 2011.
- **Woohyung Chun**, Eric Noel, K. Wendy Tang, “The Tag Duplication Problem in an Integrated WSN for RFID-Based Item-Level Inventory Monitoring,” Proceedings of Fifth International Conference on Networked Sensing Systems (INSS 2008), Kanazawa, Japan, June 2008.
- Jaewook Yu, **Woohyung Chun**, Goldie Nejat, Eric Noel, K. Wendy Tang, “Self-Powered Wireless Sensor Balls for Homeland Security,” Proceedings of ASME International Mechanical Engineering Congress and Exposition (ASME IMECE 2007), Seattle, USA, November 2007.
- **Woohyung Chun**, Wendy Tang, “Multicasting in Wireless Sensor Networks,” Proceedings of the First International Conference on Next Generation Network (NGNCON 2006), Jeju, Korea, July 2006.
- **Woohyung Chun**, Sungbong Kang, Dong Eun Chang, “Implementation of the IGMP proxy protocol software for IP multicast based broadcasting services,” Proceedings of 2003 SOC Design Conference, The Institute of Electronics Engineers of Korea, November 2003.
- **Woohyung Chun**, Youngjun Cheong, Dong Eun Chang, “Building Linux-based Residential Gateway software on a MMU-less ARM-based Network Processor for SOHO Market,” Proceedings of 2002 SOC Design Conference, The Institute of Electronics Engineers of Korea, October 2002.
- **Woohyung Chun** and Nagun Song, “Architecture design of small Reed-Solomon decoder by Berlekamp-Massey algorithm,” Korean Information Processing Society, January 2000.

PATENTS

- Display System, Display Device, and Related Methods of Operation
US Patent 13/773036, Issued: Oct. 3, 2013
Inventors: **Woohyung Chun**, Il Park

PREFERRED COMPUTING TOOLS

- **Programming Languages:** C, C++, SystemC, Verilog HDL, VHDL, MATLAB, Assembly (ARM, PowerPC, Intel)
- **Embedded Operating Systems:** Linux, uClinux, TinyOS, ATMOS(Virata), VxWorks, pSOS
- **Publishing:** LaTeX, **Compiling:** GNU C/C++, Binutils, GNU make, **HDL Synthesis:** Mentor Graphics Autologic, Xilinx ISE, **HDL Simulation:** Mentor Modelsim
- **Host Operating Systems:** Linux, FreeBSD, Solaris, Mac OS X Snow Leopard
- **FPGA devices:** Xilinx FPGA Virtex and Spartan series