Joonghyun **An**

ELECTRONICS ENGINEER · HARDWARE

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Bio Sketch

Mr. An received the M.S. degree in School of Electronics Engineering from Kyungpook National University, Daegu, Korea, in 2017. His research interests include ultra-low power VLSI chip design for IoT-driven applications and implementing machine learning. He has a lot of experience in the design of SoC(System on Chip) for embedded systems such as MCUs, and has published several journal/conference papers related robust processor architecture protecting abnormal clock failure. Currently, He is developing ARM-based NAND flash controllers with Custom-Designed VLSI circuits at SK Hynix Semiconductor and is researching the theory of DSP(Digital Signal Processing) for artificial intelligence development for self-improvement.

Education

Chungbuk National University *Cheongju, S.Korea*

B.S. IN ELECTRONICS ENGINEERING *Mar. 2000 – Feb. 2007*

Kyungpook National University *Daegu, S.Korea*

M.S. IN ELECTRONICS ENGINEERING *Mar. 2015 – Feb. 2017*

Skills

Programming   Embedded C, Verilog HDL, C-shell, Tcl, Perl
Tool   NCVerilog, VCS, Simvision, Verdi, Design Compiler, Prime Time, Formality, Vivado, Altera
Languages   Korean, English

Publications

JOURNAL PUBLICATIONS

Automatic on-chip backup clock changer for protecting abnormal MCU operations in unsafe clock frequency *IEICE Electronics Express*

JOONGHYUN AN, MOON GI SEOK, DAEJIN PARK *2016*

Automatic on-chip glitch-free backup clock changing method for mcu clock failure protection in unsafe i/o pin noisy environment *Journal of The Institute of Electronics and Information Engineers*

JOONGHYUN AN, JIAE YOUN, JEONGHUN CHO, DAEJIN PARK *2015*

CONFERENCE PUBLICATIONS

On-chip glitch-free backup clock changer with noise canceller and edge detector for safety MCU clock system *2015 IEEE 4th Global Conference on Consumer Electronics (GCCE)*

JOONGHYUN AN, JEONGHUN CHO, DAEJIN PARK *2015*

Safe Adaptive Headlight Controller with Symmetric Angle Sensor Compensator Using Steering-swivel Angle Lookup Table *Transactions of the Korean Society of Automotive Engineers*

JIAE YOUN, JOONGHYUN AN, MENG DI YIN, JEONGHUN CHO, DAEJIN PARK *2016*

Acoustic event detection-based individualized things-human interaction using Matlab-microcontroller interoperation

2016 IEEE 5th Global Conference on Consumer Electronics

Seong Seop Kim, **Joonghyun An**, Jeonghun Cho, Daejin Park

2016

Projects

Embedded Flash+EEPROM Combi General Micocontroller with Common Function

ABOV Semiconductor, S.Korea

SoC Design

Jan. 2007 – Aug. 2008

- Peripheral Design and Verification
- Synthesis, Static Timing Analysis
- FPGA Verification using altera cyclone series

Embedded Flash+EEPROM Combi Micocontroller with ROM Encryption

ABOV Semiconductor, S.Korea

SoC Design

Nov. 2008 – May. 2009

- System Interface Design and Verification
- Wafer/PKG test setup

HDMI-CEC Compliant Microcontroller Design

ABOV Semiconductor, S.Korea

SoC Design

Aug. 2009 – Jan. 2010

- IP Design for dual graphic interface chip for display processor

Dedicated Microcontroller for LED BLU control

ABOV Semiconductor, S.Korea

SoC Design

Mar. 2010 – Dec. 2012

- BLU(Back Light Unit) control IP Design and Verification
- Mass production follow up

Flash Control device with UFS 2.0 host protocol

SK Hynix, S.Korea

SoC Design

Mar. 2013 – May. 2014

- NAND Flash control IP Design and Verification

Flash Control device with eMMC 5.1 host protocol

SK Hynix, S.Korea

SoC Design

Aug. 2014 – May. 2016

- NAND Flash control IP Design and Verification

Flash Control device with UFS 3.0/2.1 Combi host protocol

SK Hynix, S.Korea

SoC Design

Sep. 2016 – Jun. 2018

- Cortex-M3 core Integration and Verification

Flash Control device with UFS 4.0 host protocol

SK Hynix, S.Korea

SoC Design

Jan. 2020 – Present

- NAND PHY IP design for high speed NAND Flash access

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