Insu Jang

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Research Interests

Computer architecture, high performance computing, cloud computing, memory systems, hardware security

Education

Korea Advanced Institute of Science and Technology (KAIST)
Daejeon, Republic of Korea
M.S., Computer Science, *Expected:* Feb 2018 (GPA: 3.99 / 4.3)
Advisor: Jaehyuk Huh, Ph.D.

Sungkyunkwan University, Suwon, Republic of Korea
B.S., Computer Science, Feb 2016 (GPA: 4.24 / 4.5)

Research Experience

Research Assistant — Mar 2016 to present
School of Computing, KAIST
Topic: Hardware assisted security

Undergraduate Research Assistant — May 2014 to Jul 2015
College of Software, Sungkyunkwan University
Topic: Wireless data communication through inaudible sound

Teaching Experience

Teaching Assistant — Fall 2016
CS230 – System Programming
Instructor: Jaehyuk Huh, Ph.D.
School of Computing, KAIST

Extra Academic Activities

Vice Representative — May 2016 – Aug 2016
School of Computing, KAIST, Daejeon, Republic of Korea

Research Intern — Jan 2016 – Feb 2016
Electronics and Telecommunications Research Institute (ETRI)
Daejeon, Republic of Korea

Research Intern — Jul 2015 – Aug 2015
Advanced Institutes of Convergence Technology (AICT)
Suwon, Republic of Korea

Purdue/NIPA Capstone Project — Jul 2014 – Aug 2014
Purdue University, West Lafayette, IN, USA

Developer Member — Jan 2013 – Apr 2014
Samsung Software Membership, Suwon, Republic of Korea

Honors and Awards

National Scholarship — 2016 – present
Supported by KAIST

Korea National Scholarship for Science and Engineering — 2014 – 2015
Supported by Korea Student Aid Foundation

Excellence Award, 2015 Convergence App Contest — Dec 2015
Awarded by Sungkyunkwan University

Dean's List Award, Sungkyunkwan University — Apr 2015

Dean's List Award, Sungkyunkwan University Oct 2014

Grand Prize, 2013 Smart TV App and Peripherals Contest Nov 2013
Awarded by Korea Ministry of Trade, Industry, and Energy

Grand Prize, 2013 Mobile E-learning App Idea Contest Sep 2013
Awarded by Korea Ministry of Education

Projects

RTSR: Real Time Video Super Resolution Spring 2017
CS570 – Machine Learning
Applied deep learning based Single Image Super Resolution (SISR) technique into videos.
[Report] [PPT]

HEAD: HardwarE Accelerated Deduplication Fall 2016
CS710 – Topics in Computing Acceleration with FPGA
Implemented Xilinx FPGA based implementation for file data deduplication.
[PPT] [Code]

SUNSHINE: Service for U to eNhance Self-management Helpfully and Intelligently from Now to forEver Spring 2016
CS442 – Mobile Applications
Proposed an intelligent way to control mobile app execution and Internet contents based on contents related factor analysis.
[Report]

CSMA/CN: Collision Notification for 802.11 WLAN with BLE Spring 2016
CS546 – Wireless Mobile Internet
Proposed a way to notify a collision from a router to clients with Bluetooth Low Energy.
[Proposal] [Code]

Energy Aware Real-time Scheduling Algorithm on ARM big.LITTLE HMP Architecture Fall 2015
ECE5756 – Real Time Systems and Applications
Proposed an algorithm to reduce power consumption while keeping real-time constraints.
[Report]

My Summary Note: Automatic Note Summary Application Fall 2015
ICE3037 – Design Capstone Project
Awarded an excellence prize in 2015 Convergence App Contest
Proposed an automatic way of user's summaries in PDFs with Android tablet.
[Report (Korean)] [PPT (Korean)]

Data Transfer with Inaudible Sound Jul 2014 – May 2015
A research project as an undergraduate research assistant
Proposed a short-distance data transmission mechanism between microphones and speakers embedded in off-the-shelf smartphones.

MoleRush: Smart TV - Android Interactive Game Sep 2013
A project in Samsung Software Membership
Awarded a grand prize in 2013 Smart TV App and Peripherals Contest
Designed a game using smartphones as controllers, and a smart TV as a display board.
[Playmovie (Korean)]

Skills

Languages

C, C++, Java, Python, Vivado HLS

Software Frameworks

Virtualization: KVM, QEMU
Database: MySQL, MongoDB
FPGA: Vivado, Vivado HLS, Petalinux
GPU: CUDA
Security: SGX

Documentation Tools

LaTeX, matplotlib, OmniGraffle

References

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[CV last updated on Aug 23, 2017]