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
Topic: Xen virtualization

Research Intern — Jul 2015 – Aug 2015
Advanced Institutes of Convergence Technology (AICT)
Suwon, Republic of Korea
Topics: Hadoop and Apache Spark

Purdue/NIPA Capstone Project — Jul 2014 – Aug 2014
Purdue University, West Lafayette, IN, USA
Topic: cooperative fire security system with a humanoid robot

Developer Member — Jan 2013 – Apr 2014
Samsung Software Membership, Suwon, Republic of Korea
Topics: Smart Lecture: HTML5 based lecture share system, intranet total management system, MoleRush: Smart TV - Android interactive game

Honors and Awards

National Scholarship, KAIST — 2016 – present

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

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

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, Korea Ministry of Trade, Industry, and Energy — Nov 2013

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

Projects

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

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

SUNSHINE: Service for U to eNhance Self-management Helpfully and Intelligently from Now to forEver — Spring 2016
CS442 – Mobile Computing and Applications
Proposed an intelligent way to control mobile app execution and Internet contents based on contents related factor analysis. Implementation is on Android AOSP 5.0.

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 (BLE).

Energy Aware Real-time Scheduling Algorithm on ARM big.LITTLE HMP Architecture — Fall 2015
ECE5756 – Real Time Systems Special Topics
Proposed an algorithm to reduce power consumption while keeping real-time constraints.

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.

Data Transmission 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 the grand prize in 2013 Smart TV App and Peripherals Contest
Designed using smartphones as controllers, and a smart TV as a display board.

Skills

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

Software Frameworks
Mobile: Android
Virtualization: KVM, QEMU
Database: MySQL, MongoDB

FPGA: Vivado, Vivado HLS, Petalinux
GPU: NVIDIA CUDA
Security: Intel Software Guard Extensions (SGX)

Documentation Tools

LaTeX, matplotlib, OmniGraffle

References

Jaehyuk Huh
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[CV last updated on Aug 23, 2017]