Insu Jang

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RESEARCH INTERESTS

Computer architecture, high performance computing, cloud computing, memory systems, and 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,   2014 – 2015
Korea Student Aid Foundation

Excellence Award, 2015 Convergence App Contest,   Dec 2015
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
Korea Ministry of Trade, Industry, and Energy

Grand Prize, 2013 Mobile E-learning App Idea Contest,   Sep 2013
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) 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
    Associate Professor, School of Computing, KAIST   e-mail: jhuh@kaist.ac.kr

    [CV last updated on Aug 24, 2017]