Insu Jang

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https://insujang.github.io

Research Interests

System Architecture, Cloud Computing, Distributed Systems, Heterogeneous Computing, Non-Volatile Memory Systems, Serverless Computing

Education

- **The University of Michigan**   Ann Arbor, MI, USA
  Ph.D. Student in Computer Science and Engineering   Sep 2021 – Present
  Advisor: Dr. Mosharaf Chowdhury

- **Korea Advanced Institute of Science and Technology (KAIST)**   Daejeon, Republic of Korea
  Master of Science in Computer Science (GPA: 3.98 / 4.30)   Mar 2016 – Feb 2018
  Advisor: Dr. Jaehyuk Huh

- **Sungkyunkwan University (SKKU)**   Seoul, Republic of Korea
  Bachelor of Science in Computer Engineering (GPA: 4.24 / 4.50)   Mar 2011 – Feb 2016

Publications

1. Jongyul Kim, **Insu Jang**, Waleed Reda, Jaeseong Im, Marco Canini, Dejan Kostić, Youngjin Kwon, Simon Peter, and Emmett Witchel. **"LineFS: Efficient SmartNIC Offload of a Distributed File System with Pipeline Parallelism."** *ACM Symposium on Operating Systems Principles (SOSP)*, October 2021. **Best Paper Award.**

2. **Insu Jang**, Adrian Tang, Taehoon Kim, Simha Sethumadhavan, and Jaehyuk Huh. **"Heterogeneous Isolated Execution for Commodity GPUs."** *International Conference on Architectural Support for Programming Languages and Operating Systems (ASPLOS)*, April 2019.

Research Experience

- **Research Assistant**
  Computer Architecture and Systems Lab, KAIST (Advisor: Dr. Youngjin Kwon)   Jan 2020 – Jul 2020

- **Graduate Research Assistant**
  Computer Architecture and Systems Lab, KAIST (Advisor: Dr. Jaehyuk Huh)   Mar 2016 – Feb 2018

- **Undergraduate Research Assistant**
  Networking Lab, Sungkyunkwan University (Advisor: Dr. Hyunseung Choo)   May 2014 – Jul 2015

- **Undergraduate Research Asssitant**
  M2M Lab, Purdue University (Advisor: Dr. Eric T. Matson)   Jul 2014 – Aug 2014

Patents

1. **Insu Jang**, Taehoon Kim, and Jaehyuk Huh. **"Heterogeneous Isolated Execution for Commodity GPUs."** *Republic of Korea Patent No. 10-2105760.* Filed June 19, 2018, Issued December 30, 2019.

2. **Insu Jang**, Songhee Ryu, Gyuhyeon Jeon, Hyun Lee, Myoungbeom Chung, and Hyunseung Choo. **"Data Communication Method using Inaudible Frequency Band."** *Republic of Korea Patent No. 10-1560798.* Filed February 23, 2015, Issued October 16, 2015.

Work Experience

- **System Software Engineer** · Feb 2018 – Jun 2021
  TmaxSoft Inc. · Seongnam, 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 Institute of Convergence Technology (AICT) · Suwon, Republic of Korea

- **Student Member** · Jan 2013 – Apr 2014
  Samsung Software Membership (Student Program of Samsung Electronics) · Suwon, Republic of Korea

Honors and Awards

- **Best Paper Award** · Oct 2021
  "LineFS: Efficient SmartNIC Offload of a Distributed File System with Pipeline Parallelism"
  The 28th ACM Symposium on Operating Systems Principles (SOSP)

- **University Ph.D. Fellowship** · Sep 2021
  The University of Michigan

- **Korea National Scholarship** · Mar 2016
  KAIST and Korea Ministry of Science and ICT

- **Korea National Scholarship for Science and Engineering** · Mar 2014
  Korea Student Aid Foundation and Korea Ministry of Education

- **2nd Prize, 2015 Convergence App Contest** · Dec 2015
  College of Software, Sungkyunkwan University

- **Dean's List** · Oct 2014, Apr 2015
  Department of Computer Engineering, Sungkyunkwan University

- **1st Prize, 2013 Smart TV App and Peripherals Contest** · Nov 2013
  Korea Association of Smart Home and Korea Ministry of Trade, Industry and Energy

- **1st Prize, 2013 Mobile E-learning App Idea Contest** · Sep 2013
  Korea Ministry of Education

Technical Skills

- **Languages**: C, C++14, Python, Go, Markdown, LaTeX

- **Frameworks**: CUDA, Intel SGX, Kubernetes, RDMA, Android, Ceph, Linux, QEMU, KVM

References

- **Jaehyuk Huh**: Professor, KAIST. jhhuh@kaist.ac.kr

- **Youngjin Kwon**: Assistant Professor, KAIST. yjkwon@kaist.ac.kr

- **Mosharaf Chowdhury**: Morris Wellman Assistant Professor, University of Michigan. mosharaf@umich.edu