

Sunwoo Jang

swjang702@gmail.com • <https://swjang702.github.io/> • Seoul, South Korea

EDUCATION

Kyungpook National University, Daegu, South Korea Sep. 2020 – Aug. 2022
Master of Science (MS) in Computer Science and Engineering
Advisor: Byungchul Tak
Thesis: A technique of system call translation mapping extraction and security quantification in secure container runtimes

Kyungpook National University, Daegu, South Korea Mar. 2014 – Aug. 2020
Bachelor of Science (BS) in Electronics Engineering

PUBLICATIONS

Understanding File System Operations of a Secure Container Runtime Using System Call Tracing Technique.
Sunwoo Jang, Young-Kyoon Suh, Byungchul Tak. *IEICE Transactions on Information and Systems*, Vol.E107, No2, Feb. 2024.

SecQuant: Quantifying Container System Call Exposure.
Sunwoo Jang, Somin Song, Byungchul Tak, Sahil Suneja, Michael V. Le, Chuan Yue, Dan Williams. *In Proceedings of the 27th European Symposium on Research in Computer Security (ESORICS 22)*, Copenhagen, Denmark, Sep. 2022.

EXPERIENCE

Embedded Software Engineer Aug. 2024 – Aug. 2025
LG Innotek, Seoul, South Korea

- Built and refined tailored BSP layers and Linux images using the Yocto project for automotive embedded systems.
- Conducted root-cause analysis and debugging of mission-critical system issues (kernel panics, crashes) to ensure stability and reliability.

Software Developer Sep. 2023 – Aug. 2024
Genians, Gyeonggi-do, South Korea

- Developed a backward-compatible kernel tracing engine for a Linux EDR system, achieving eBPF-like monitoring capabilities on older kernels using ftrace and kprobe.
- Reduced build effort by resolving BPF portability challenges with the BPF CO-RE method and unifying the build process in a containerized environment.

Cloud Support Associate Jun. 2022 – Aug. 2023
Amazon Web Services (AWS) Korea, Seoul, South Korea

- Resolved numerous technical issues in production-scale Kubernetes and containerized systems.

Graduate Research Assistant Sep. 2020 – Aug. 2022
Undergraduate Research Assistant May. 2020 – Aug. 2020
Advisor: Byungchul Tak
Cloud & Distributed Systems Lab
Kyungpook National University, Daegu, South Korea

Undergraduate Research Assistant Aug. 2019 – Dec. 2019
Advisor: Il Kon Kim
Intelligent Health Informatics/Smart Health Lab
Kyungpook National University, Daegu, South Korea

- Implemented a prototype application for a blockchain-based medical information sharing system utilizing the distributed ledger framework Hyperledger Fabric.

Sergeant

Jan. 2015 – Oct. 2016

Republic of Korea Marine Corps, Ganghwa-do, South Korea

- Obligatory military service; Awarded for exemplary conduct and service.

PROJECTS

BPF LSM based container platform security

Apr. 2021 – Oct. 2021

with the National Security Research Institute of South Korea (NSR)

- Investigated eBPF/LSM technologies in the Linux kernel to enhance runtime security in container platforms with other 4 graduate students.
- Developed BPF programs attaching to LSM hooks to enforce policy-based file access control on top of the open-source KubeArmor security framework.

HONORS

Academic Excellence Scholarship, *Kyungpook National University*

2018 – 2019

TEACHING

COMPO312-004: Operating Systems, *Kyungpook National University*

Spring 2022

Graduate Teaching Assistant for Prof. Byungchul Tak

PRESENTATIONS

Shallow dive into Linux kernel fuzzing with syzkaller

Sep. 2025

Korea Linux Kernel Developer Community (Industry Meetup), Seoul, South Korea