# 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

**Researcher** — Feb. 2026 – Present
*Korea Electronics Technology Institute (KETI), Gyeonggi-do, South Korea*
- Developing an eBPF-based profiling framework for heterogeneous AI accelerators (e.g., GPU, NPU) in LLM serving systems.

**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

COMP0312-004: 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*