

Sunwoo Jang

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EDUCATION	Kyungpook National University , Daegu, South Korea <i>Master of Science (MS) in Computer Science and Engineering</i> <i>Advisor:</i> Byungchul Tak <i>Thesis:</i> A technique of system call translation mapping extraction and security quantification in secure container runtimes	Sep. 2020 – Aug. 2022
	Kyungpook National University , Daegu, South Korea <i>Bachelor of Science (BS) in Electronics Engineering</i>	Mar. 2014 – Aug. 2020
PUBLICATIONS	Understanding File System Operations of a Secure Container Runtime Using System Call Tracing Technique. Sunwoo Jang, Young-Kyo Suh, Byungchul Tak. <i>IEICE Transactions on Information and Systems</i> , 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 <i>Proceedings of the 27th European Symposium on Research in Computer Security (ESORICS 22)</i> , Copenhagen, Denmark, Sep. 2022.	
EXPERIENCE	Embedded Software Engineer LG Innotek, Seoul, South Korea <ul style="list-style-type: none">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 Genians, Gyeonggi-do, South Korea <ul style="list-style-type: none">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 Amazon Web Services (AWS) Korea, Seoul, South Korea <ul style="list-style-type: none">Resolved numerous technical issues in production-scale Kubernetes and containerized systems. Graduate Research Assistant Undergraduate Research Assistant <i>Advisor: Byungchul Tak</i> Cloud & Distributed Systems Lab Kyungpook National University, Daegu, South Korea	Aug. 2024 – Aug. 2025 Sep. 2023 – Aug. 2024 Jun. 2022 – Aug. 2023 Sep. 2020 – Aug. 2022 May. 2020 – Aug. 2020 Aug. 2019 – Dec. 2019

- 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 <i>with the National Security Research Institute of South Korea (NSR)</i>	Apr. 2021 – Oct. 2021
	<ul style="list-style-type: none"> • 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	COMP312-004: Operating Systems, Kyungpook National University <i>Graduate Teaching Assistant for Prof. Byungchul Tak</i>	Spring 2022
PRESENTATIONS	Shallow dive into Linux kernel fuzzing with syzkaller <i>Korea Linux Kernel Developer Community (Industry Meetup), Seoul, South Korea</i>	Sep. 2025