

Sungwoo Kim

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EDUCATION

Ph.D. in Computer Science, Purdue University,

2021 – Present

Advisors: Dave (Jing) Tian and Dongyan Xu

Objective: Adding reliability and assurance to operating systems through fuzz testing, program analysis, and symbolic execution.

B.S. in Engineering, Kwangwoon University

2014 – 2020

Advisor: Suwon Park

Major: Electronics and Communications Engineering

CONFERENCE
PUBLICATIONS

[C2] Fuzz The Power: Dual-role State Guided Black-box Fuzzing for USB Power Delivery

Kyungtae Kim, **Sungwoo Kim**, Kevin Buttler, Antonio Bianchi, Rick Kennell, Dave (Jing) Tian
*32nd USENIX Security Symposium (Security'23), Anaheim, CA, August 2023 (**USENIX '23**)*
 Anaheim, CA, August 2023 *Acceptance Rate: 29.2%*

[C1] ShadowAuth: Backward-Compatible Automatic CAN Authentication for Legacy ECUs

Sungwoo Kim, Gisu Yeo, Taegyu Kim, Junghwan "John" Rhee, Yuseok Jeon, Antonio Bianchi, Dongyan Xu, and Dave (Jing) Tian

Proceedings of the 2022 ACM Asia Conference on Computer and Communications Security
(ASIACCS '22)

Nagasaki, Japan, May 2022, *acceptance rate=18.4%*

CVEs

Linux Kernel Bluetooth Subsystem (9)

- CVE-2024-50255, CVE-2024-38620, CVE-2024-36968, CVE-2024-36013, CVE-2024-36012, CVE-2024-36011, CVE-2023-40283, CVE-2023-28866, CVE-2022-45934

Commercial Drone (1)

- CVE-2021-34125

EXPERIENCE

Graduate Research Assistant

2021 – Present

PurSec Lab, Computer Science Department

- Advised by Prof. Dave Tian and Prof. Dongyan Xu.

- Researching on automated vulnerability discovery for operating systems.

Research Intern

Aug. 2020 – Jul. 2021

PurSec Lab, Computer Science Department

- Mentored by Prof. Dave Tian and Prof. Dongyan Xu.

- Researched on improving the reliability for in-vehicle network.

Software Engineer

Jun. 2016 – Mar. 2018

Republic of Korea Cyber Command

- Developed military software during mandatory military service.

TALKS

ACM CCS

Oct. 2025

- DNN binary obfuscation

Korea Maritime & Ocean University

May 2024

- Security practices for Controller Area Network (CAN)

MISC.

- Artifact Evaluation Committee (AEC) at USENIX'24

- Developed & maintaining <https://cspapers.org>