

Sungwoo Kim

A Ph. D. Student in Computer Science, Purdue University

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RESEARCH INTERESTS	System Security, Program Analysis, Cyber-Physical System.	
EDUCATION	Purdue University , Dept. of Computer Science <i>Ph. D. in Computer Science</i> Advisors: Dave (Jing) Tian and Dongyan Xu	West Lafayette, IN, USA 2021–Now
	Kwangwoon University , Dept. of Electronics and Communications Eng. <i>B.S. in Electronics and Communications Engineering</i> Advisor: Suwon Park	Seoul, Republic of Korea 2014–2020
CONFERENCE PUBLICATIONS	<p>[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 <i>32nd USENIX Security Symposium (Security'23), Anaheim, CA, August 2023 (USENIX '23)</i> Anaheim, CA, August 2023 <i>Acceptance Rate: 29.2%</i></p> <p>[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 <i>Proceedings of the 2022 ACM Asia Conference on Computer and Communications Security (ASIACCS '22)</i> Nagasaki, Japan, May 2022, <i>acceptance rate=18.4%</i></p>	
PROFESSIONAL SERVICE	<p>Artifact Evaluation Committee (AEC)</p> <ul style="list-style-type: none">• USENIX Security Symposium (USENIX) 2024	
WORK EXPERIENCE	Purdue University , Dept. of Computer Science <i>Graduate Research Assistant</i> - Researching iOS kernel security - Researching Bluetooth security - Researching in-vehicle network security	West Lafayette, IN, USA 2021–Now
	Inedit Corp. <i>Software Engineer</i> - Maintained a mobile application “brandazine” using Django REST Framework, Vue, and Cordova	Seoul, Republic of Korea Apr.–Jul. 2021
	Purdue University , Dept. of Computer Science <i>Research Intern</i> - Internship advisor: Dave (Jing) Tian - Researched in-vehicle network security	West Lafayette, IN, USA Aug. 2020– Jul. 2021
	F1Security <i>Software Engineer</i> - Developed a low-overhead Honeypot system for embedded devices - Developed a signature-based anti-virus system for web applications	Seoul, Republic of Korea May 2018–Jan. 2020
	Republic of Korea Cyber Operations Command <i>Sergeant; Software Engineer</i>	Republic of Korea Jun. 2016–Mar. 2018

- Developed military software

Korea Information Technology Research Institute

Seoul, Republic of Korea

Trainee in “Best of the Best (BOB)” Program

Jun. 2014–Jan. 2015

- Trained security techniques: binary analysis, SQL injection, buffer overflow, etc.
- Reported vulnerabilities discovered from a commercial car rental system

TEACHING
EXPERIENCE

Hongik University High School

Seoul, Republic of Korea

Guest Lecturer

Jul. 07. 2023

- Lectured about a software security

Hongik University High School

Seoul, Republic of Korea

Instructor

Mar.–Jul. 2021

- Lectured modeling and programming for a quadruped robot dog

PATENTS

[PT2] Honeynet System for Internet Of Things using Packet Virtualization
Korean Patent No. 102062718

[PT1] Origin Tracking Method and System using DNS Server for Infected Systems
Korean Patent No. 101961451

CVE

Linux Kernel

- CVE-2023-40283, CVE-2023-28866, CVE-2022-45934

Commercial Drone

- CVE-2021-34125

SKILLS

Programming Languages: C; Golang; Haskell; Erlang

Web Application Framework: NextJS (Typescript); NestJS (Typescript); Spring (Kotlin and Java);
.NET core (C#)

User Interface Library / Framework: React; Vue; SCSS

Software Tools: IDA Pro; Ghidra; OllyDBG