

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 Kwangwoon University , Dept. of Electronics and Communications Eng. <i>B.S. in Electronics and Communications Engineering</i> Advisor: Suwon Park	West Lafayette, IN, USA 2021–Now Seoul, Republic of Korea 2014–2020
CONFERENCE PUBLICATIONS	[C1] ShadowAuth: Backward-Compatible Automatic CAN Authentication for Legacy ECUs Sungwoo Kim , Gisu Yeo, Taegy 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>	
WORK EXPERIENCE	Purdue University , Dept. of Computer Science <i>Graduate Research Assistant</i> - Researching on in-vehicle network security - Researching on Bluetooth security Inedit Corp. <i>Software Engineer</i> - Maintained a mobile application “brandazine” using Django REST Framework, Vue.js, and Cordova Purdue University , Dept. of Computer Science <i>Research Intern</i> - Internship advisor: Dave (Jing) Tian - Researched on in-vehicle network security F1Security <i>Software Engineer</i> - Developed a low-overhead Honeypot system for embedded devices - Developed a signature-based anti-virus system for web applications Republic of Korea Cyber Operations Command <i>Sergeant; Software Engineer</i> - Developed military software Korea Information Technology Research Institute <i>Trainee in “Best of the Best (BOB)” Program</i> - Trained security techniques: binary analysis, SQL injection, buffer overflow, etc. - Reported vulnerabilities discovered from a commercial car rental system	West Lafayette, IN, USA 2021–Now Seoul, Republic of Korea Apr.–Jul. 2021 West Lafayette, IN, USA Aug. 2020– Jul. 2021 Seoul, Republic of Korea May 2018–Jan. 2020 Republic of Korea Jun. 2016–Mar. 2018 Seoul, Republic of Korea Jun. 2014–Jan. 2015
TEACHING EXPERIENCE	Hongik University High School <i>Instructor</i>	Seoul, Republic of Korea 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

CVE-2023-28866

CVE-2022-45934

CVE-2021-34125

SKILLS

Programming Languages: C; Golang; Erlang

Web Application Framework: Spring (Kotlin and Java); .NET core (C#); Django (Python); Koa (JS)

User Interface Library / Framework: React; Vue; SCSS

Software Tools: IDA Pro; Ghidra; OllyDBG