

# Sungwoo Kim

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

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<https://swkim101.github.io>

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RESEARCH INTERESTS	System Security, Program Analysis, Cyber-Physical System.	
EDUCATION	<b>Purdue University</b> , Dept. of Computer Science <i>Ph. D. in Computer Science</i> Advisors: Dave (Jing) Tian and Dongyan Xu <b>Kwangwoon University</b> , 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
WORK EXPERIENCE	<b>Purdue University</b> , Dept. of Computer Science <i>Graduate Research Assistant</i> - Researching on in-vehicle network security - Researching on Bluetooth security <b>Inedit Corp.</b> <i>Software Engineer</i> - Maintained a mobile application “brandazine” using Django REST Framework, Vue.js, and Cordova <b>Purdue University</b> , Dept. of Computer Science <i>Research Intern</i> - Internship advisor: Dave (Jing) Tian - Researched on in-vehicle network security <b>F1Security</b> <i>Software Engineer</i> - Developed a low-overhead Honeypot system for embedded devices - Developed a signature-based anti-virus system for web applications <b>Republic of Korea Cyber Operations Command</b> <i>Sergeant; Software Engineer</i> - Developed military software <b>Korea Information Technology Research Institute</b> <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	<b>Hongik University High School</b> <i>Instructor</i> - Lectured modeling and programming for a quadruped robot dog	Seoul, Republic of Korea Mar.–Jul. 2021
CONFERENCE PUBLICATIONS	[C1] ShadowAuth: Backward-Compatible Automatic CAN Authentication for Legacy ECUs <b>Sungwoo Kim</b> , 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)</i>	

'22)

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

#### 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

#### 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