

Younggi Park

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RESEARCH INTERESTS

Program synthesis, software engineering, verification, programming language, system security

EDUCATION

- | | |
|---|---------------------|
| Korea University | Sep 2019 – Aug 2022 |
| • Master of Engineering in Information Security | Seoul, Korea |
| • Advisor: Prof. Huy Kang Kim | |
| Korea University | Mar 2014 – Feb 2018 |
| • Bachelor of Engineering in Cyber Defense | Seoul, Korea |

PUBLICATIONS

- Younggi Park, Hwiwon Lee, Jinho Jung, Hyungjoon Koo, and Huy Kang Kim.
BENZENE: A Practical Root Cause Analysis System with an Under-Constrained State Mutation.
In Proceedings of the 2024 IEEE Symposium on Security and Privacy (S&P).
- Jione Choi, Hwiwon Lee, Younggi Park, Huy Kang Kim, Junghee Lee, Youngjae Kim, Gyuho Lee, Shin-Woo Shim, and Taekyu Kim.
PhantomFS-v2: Dare you to avoid this trap.
In IEEE Access 8 (2020).

AWARDS AND HONORS

- | | |
|--|---------------------|
| Distinguished Paper Award – 2024 IEEE Symposium on Security and Privacy | May 2024 |
| • Recognized as Top 1% of total 1,463 submissions | |
| Letter of Appreciation – SUSLAK, National Security Agency (NSA), U.S. | Dec 2023 |
| • Represents special thanks for sharing technical expertise in program analysis and security | |
| Top 1st Excellence – Officer's Basic Leadership Training, Republic of Korea Army | July 2018 |
| Certificate of Appreciation – Bluehole Studio | Dec 2017 |
| Mirero Scholarships – Korea University | Mar 2017 - Sep 2017 |
| Academic Excellence Award – Korea University | Sep 2016 |
| Mirero Scholarships – Korea University | Spring 2016 |

WORK EXPERIENCE

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| Republic of Korea Army | May 2018 – May 2025 |
| Captain | Korea |
| • Promoted to captain in Dec 2021 (scheduled discharge in May 2025) | |
| • Dispatched to research-focused institutions during service | |
| Defense Security Agency | Aug 2023 – May 2025 |
| Offensive Security Researcher | Korea |
| • The Defense Security Agency is an intelligence command for SIGINT (Signals Intelligence) | |
| • Conducted research on security for Linux-based systems such as Android | |

Agency for Defense Development (ADD) (🏠)

July 2018 – July 2023

System Security Researcher

Korea

- ADD is a government research institution focused on Korean military
- Researched methods to enhance security for allied computer systems and networks

RESEARCH AND WORK PROJECTS

AIxCC Competition, DARPA (🏠)

May 2024 - Aug 2025

Team Illinois (Semi-final), Team Atlanta (Final)

- Conducted research that automatically generates buggy testcases by combining code analysis and prompt engineering
- Planned to participate as Team Atlanta (led by Prof. Taesoo Kim) in Final competition

Automated Root Cause Analysis of Discovered Bugs (🔗)

Sep 2021 - May 2023

Independent Research, Korea University

- Designed an automated reasoning system to locate blamed code for software crashes (consists of 14K C/C++ LoC)
- Proposed a novel dataset generation technique by directly modifying program states during execution
- Implemented a data flow analysis engine using Dynamic Binary Instrumentation (DBI) tools for binary executables

Research on National-Scale Cyber Attack Defenses

Mar 2021 - Sep 2022

Agency for Defense Development (ADD)

- Research on defense strategies against hacking from from cyber crime groups targeting military and government systems.
- Developed anti-virus agent programs and management servers that block malicious code
- Implemented Windows kernel drivers to automatically detect malicious activities

Research on Software Fuzzing Result Evaluation

Feb 2019 - Sep 2020

Agency for Defense Development (ADD)

- Developed the automated system that asseses exploitability (severity) of found bugs
- Led the program analysis team, implementing dynamic taint analysis-based key components
- A patent acquired for designing a method that identifies blamed functions for bugs

Research on Cyber-Electronic Warfare

Aug 2018 - Feb 2019

Agency for Defense Development (ADD)

- Demonstrated cyber attacks on an actual weapon system for the first time in our military
- Found vulnerabilities that can arbitrarily control allied weapon's communication systems

Security Consultation on In-Development Online Game

Sep 2016 - Dec 2016

Bluehole Studio (current. KRAFTON)

- Audited robustness of a pre-released RPG game against malicious user actions
- Performed reverse engineering on encrypted programs without source codes
- Reported three security bugs that can severely affect the company's game services

TECHNICAL SKILLS

Skills: Data flow analysis, taint analysis, symbolic execution, reverse engineering, fuzzing, vulnerability analysis, prompt engineering

Languages: C/C++, Python, PHP, SQL, assembly languages (Intel x86/64, ARM), ~~TeX~~

Platforms: Linux kernel, embedded systems, RTOS.

LANGUAGE PROFICIENCY

English

- IBT TOEFL: 108 (R: 29, L: 28, S:23, W: 28)

Korean (Native)