

Taeyeon Kim

Undergraduate System Security Researcher

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Education

POSTECH

B.S. in Computer Science

Feb 2022 – Aug 2026(Expected)

Major GPA: 3.77/4.3

Skills

Programming Languages: C/C++, Assembly(x86-64), Python, Kotlin, OCaml, Coq

Languages: Korean (Native), English (Fluent), Japanese (Intermediate)

Technical Interests

Vulnerability Analysis: Static analysis, Symbolic execution, Fuzzing

Computational Theory: Formal verification, Compiler

Cybersecurity: Reverse Engineering, Binary Exploitation

Experiences

CompSec Lab, POSTECH

Undergraduate Research Intern

Sep 2024 – Present

Project: CFG Analysis Based Open-source Library Vulnerability Management

Feb 2025 – Present

Developing a vulnerability management method for version controlled open-source libraries. Implemented a signature-based approach using control flow graphs for open-source libraries to track vulnerable code and its propagation

Project: KIISC-funded Open-source Linux Security Tool Research

Mar 2025 – Dec 2025

Participated in a research project funded by Korea Institute of Information Security and Cryptology (KIISC) on **Security Threats and Countermeasures on Linux open-source security tools**; evaluated vulnerabilities in distributed Linux security tools using dataflow-aware fuzzing

Department of Computer Science and Engineering, POSTECH

Student Mentor

Aug 2024 – Dec 2025

Operating System Mentor

Aug 2024 – Dec 2025

Mentored students in CSED312 (Operating System); guided students by providing examples with Linux and visualized kernel source trees to improve understanding of OS components and their interactions

AUTOCRYPT

Intern

Jun 2024 – Aug 2024

Internship

Jun 2024 – Aug 2024

Analyzed the OP-TEE(Trusted Execution Environment) OS kernel; designed fuzzing framework architecture using AFL++ and harnesses for fuzzing tests. Analyzed crash cases and designed PoC(proof-of-concept) of exploits

Information and Communication Services, POSTECH

Security Audit

Aug 2023 – Aug 2024

Web service Security Audit

Aug 2023 – Aug 2024

Performed vulnerability analysis and penetration test for internal systems and public websites of university

PLUS (POSTECH Laboratory for Unix Security)

President

Oct 2023 – Sep 2024

Member

Jun 2022 – Present

Hacker

Jun 2022 – Sep 2024

Competed in CTF as a Reverse Engineering player. Authored reverse-engineering challenges, lectures and seminar for students

Outsourced CTF Challenge Authoring

Aug 2023

Authored reverse-engineering challenges for 2025 Whitehat School CTF

Honors & Awards

Research Project Presentation

2nd

Dec 2025

Presented research on **CFG Analysis Based Open-source Library Vulnerability Management** at the Department of Computer Science and Engineering, POSTECH. Awarded 2nd place among undergraduate research projects

PPC

3rd

May 2023

Competed in problem-solving competition PPC(POSTECH Programming Contest) in 2023. Achieved 3rd place among 28 teams

CTF Achievements

DEF CON CTF 33 10th Cold Fusion

Aug 2025

SSU CTF 2025 2nd PLUS

Feb 2025

Hack the DRONE 2024 Tech Award CompSec

Dec 2024

HITCON CTF 2024 6th Cold Fusion

Nov 2024

DEF CON CTF 32 9th Cold Fusion

Aug 2024

DreamHack Invitational 2024 Finalist Aplace

May 2024

HITCON CTF 2023 4th Program Fur Mocchi

Nov 2023

Curriculum-related Projects

Printer Hacking Project

CSED415: Computer Security

Apr 2025 – May 2025

Investigated full-chain exploitability of a network-shared printer in campus-wide network environment. Validated attack vectors via PoC exploits of known vulnerabilities over the network and local interfaces

TML Compiler on Virtual Machine

CSED321: Programming Language

May 2024

Developed TML(Typed Meta Language) compiler that generates assembly for a custom virtual machine. Engineered basic type inference systems and optimization techniques

TCP/IP Network Stack Implementation

CSED353: Computer Network

Mar 2024 – May 2024

Implemented TCP/IP Network Stack in C++: TCP state machine, network interface and routing. Achieved 5Mbps throughput to a real network

RISC-V CPU Implementation

CSED311: Computer Architecture

Mar 2024 – May 2024

Designed RISC-V multicycle CPU in Verilog, including pipelining, branch prediction, and cache memory

Pintos

CSED312: Operating System

Sep 2023 – Dec 2023

Analyzed Linux kernel source code, implemented core kernel functionalities in C including process priority scheduling, system calls, virtual memory management

qwoqLab

CSED211: Introduction to Computer Software Systems

Sep 2023

Solved CS:APP 'Bomb Lab' exercises using symbolic execution, developed automated solver for the exercise