



# Minhyuk Cho

Hanam-si, Gyeonggi-do, Rep. of KOREA

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“While many may excel, few possess the discipline to persevere consistently.”

## Education

### Dankook University, Yongin-si

B.S. IN Mobile Systems Engineering

- Total GPA of 4.21/4.5, Major GPA of 4.2/4.5

Seong-Nam, Korea

Mar. 2020 - Present

## Experience

### Republic of Korea Army, 66<sup>th</sup> Division

Network Operations and Maintenance Specialist

- Military Network & Computer Operator.
- Honorably discharged from the Republic of Korea Army as a Sergeant after full term of service.

Gapyeong, Korea

Aug. 2021 - Feb. 2023

### Undergraduate Research Student, CSOS Lab.

Research Assistant Student

- Advisor Professor: Seong-Je Cho
- Participation in Research Projects
  1. Development of an Autonomous Driving-Based Intelligent Building Energy and Environment Integrated Management System (iBEEMS), **KETEP**
  2. Effective and Intelligent Framework for Mobile Platform-Based Vehicle Forensics, **NRF**
  3. Development of Integrated Analysis Technology for Internal and External Automotive Artifacts Using Event-Based Experimental System, **IITP**

Yongin-si, Korea

Mar. 2024 - Jun. 2025

### WhiteHat School, 3rd – Next-Generation Security Leader Training Program (BoB)

3<sup>rd</sup> Class Trainees

- Oranized by Korea Information Technology Research Institute (KITRI)
- Completed Core and Advanced Training in Information Security
  1. Core: Security Ethics & Policy, Web Hacking, Network Hacking, System Hacking, Digital Forensics (Basics), Cloud Security (Basics)
  2. Advanced: Incident Response, Threat Analysis, Digital Forensics
- Projects: Designed and implemented a log-based intrusion detection system (IDS) in AWS cloud environment

Gasan D.C., Korea

Mar. 2025 - Sep. 2025

## Publications

### International

- **Conference**
  1. **Minhyuk Cho**, SunJae Kim, Seong-Je Cho, “Effects of Timestamp Manipulation in a Car Audio Video Navigation System Connected to a Smartphone via Bluetooth: A Preliminary Study”, *The 10th International Conference on Next Generation Computing (ICNGC) 2024*. Clark, Philippines.

### Domestic

- **Journal**
  1. San Lee, **MinHyuk Cho**, JiHeun Jing, Seong-Je Cho, “Log Analysis Techniques for Identifying Timestamp Manipulation in Linux and Android Systems”, *THE JOURNAL OF KOREAN INSTITUTE OF NEXT GENERATION COMPUTING (KCI)*, 2024.
- **Conference**
  1. **MinHyuk Cho**, San Lee, JiHeun Hung, SunJae Kim, Seong-Je Cho, “Detecting Timestamp Manipulation in Bluetooth-Connected Smartphone and Automotive Infotainment System”, *Workshop on Dependable and Secure Computing (WDSC) 2024*. Jeju, Korea.
  2. **MinHyuk Cho**, MinSeo Jung, SuBin Kang, JungMin Yim, SeeHwan Yoo, “Security Vulnerability Analysis and Exploitation of the Copy-and-Patch JIT Compiler Mechanism in CPython”, *Korea Computer Congress (KCC)*, 2025. Jeju, Korea.

## Patents

### Patent Application

- Network Synchronization Environment Based Time Manipulation Detection Device and Method  
- Application No: 10-2024-0156364

- Apparatus and method for collecting and storing event data from mobile device
- Application No: 10-2025-0067605

## Projects

### Timestamp Manipulation Detection Process Development

CSOS Lab, Dankook Univ.

Projects Leader

Mar. 2024 - Nov. 2025

- Designed a detection pipeline to identify manipulated timestamps via log analysis
- Implemented detection mechanisms for Linux systems and Android smartphone & Car connected over Bluetooth
- Outcome: 1 domestic conference paper, 1 international conference paper, 1 domestic KCI-indexed journal paper, 1 patent application filed

### Android Forensic Log Collection and Timeline Reconstruction Tool

Dankook Univ.

Project Leader

Nov. 2024 - PRESENT

- Developed a forensic tool to address the limitations of adb logcat and bugreport in Android systems
- Collected logs from a forensic perspective and reconstructed timelines in report format
- Currently preparing an SCI-indexed research paper for submission to Forensic Science International or Computers & Security
- Outcome: 1 patent application filed

### FISHER: Fraudulent Incoming Speech Handling and Event Recoder

Dankook Univ.

Deep Learning & Security Part

Dec. 2024-May. 2025

- Participated in Deep Learning and Security Module Development.
- Developed a Deep Voice Detection Model to Identify Voice Phishing Attempts

### Designed and implemented a log-based intrusion detection system (IDS) in AWS cloud environment

WHS, KITRI.

Project Member

Mar. 2025 - PRESENT

- Designed and implemented intrusion detection systems across basic, intermediate, and advanced attack scenarios
- Developed initial prototypes using the AWS console, later transitioned to infrastructure-as-code with Terraform
- Documented all implemented scenarios in a structured security operations workbook

### Security Vulnerability Analysis of JIT Compiler

Dankook Univ.

Project Leader

Mar. 2025 - Jun. 2025

- Analyzed vulnerabilities in the Copy-and-Patch JIT Compiler used in CPython
- Targeted ARM-based architectures for exploit development
- Successfully executed shellcode via syscall and memory overwrite to gain shell access
- Outcome: 1 domestic conference paper published

## Scholars

### SCHOLARS

- 2025 Academic Excellence, Awarded by Dankook University, Yongin (SPRING).
- 2024 Academic Excellence, Awarded by Dankook University, Yongin (FALL).
- 2024 Mugunghwa Scholarship, Awarded by Gyeonggi Nambu Provincial Police (SPRING).
- 2020 SW Talent Scholarship, Awarded by Dankook University, Yongin (SPRING).

## Skills

- Languages Korean(native), English(intermediate)
- Programming Assembly Script, Python, JAVA, C/C++
- Tools FTK Imager, Autopsy, Wireshark, ElfTool, Ollydbg, GDB, etc.
- DevOps AWS, Docker