Minhyuk **Cho**

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

Education

Dankook University, Yongin-si   *Yongin, Korea*
B.S. IN Mobile Systems Engineering   *Mar. 2020 - Present*
- Total GPA of 4.21/4.5, Major GPA of 4.2/4.5

Experience

Republic of Korea Army, 66th Division   *Gapyeong, Korea*
Network Operations and Maintenance Specialist   *Aug. 2021 - Feb. 2023*
- Military Network & Computer Operator.
- Honorably discharged from the Republic of Korea Army as a Sergeant after full term of service.

Undergraduate Research Student, CSOS Lab.   *Yongin-si, Korea*
Research Assistant Student   *Mar. 2024 - Jun. 2025*
- 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**

WhiteHat School, 3rd – Next-Generation Security Leader Training Program (BoB)   *Gasan D.C., Korea*
3rd Class Trainees   *Mar. 2025 - Sep. 2025*
- 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

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   *Mar. 2024 - Jun. 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   *Dec. 2025 - May. 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