

Dongkwan Kim

Cybersecurity Engineer · AI Security & Red Teaming · Vulnerability Research

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Driving full-chain AI security, with a mission to build the next generation of Red Teams.

Professional Experience

- **Postdoctoral Fellow**, Georgia Tech — Atlanta, GA Feb 2025 – Present
 - DARPA AIxCC Winner: Designed and implemented LLM-based autonomous fuzzing and exploit agents.
 - Currently evaluating AI's offensive potential in real-world cybersecurity scenarios.
- **Senior Engineer**, Samsung Security Center, Samsung SDS — Seoul, South Korea Aug 2022 – Dec 2024
 - Drove Red Team operations across AI systems, IoT devices, Android apps, and kernel-level mitigations.
 - * Secured 30+ consumer and enterprise products, protecting 1B+ users.
 - * Delivered executive-level reports and gave organization-wide presentations to 500+ security engineers.
 - Shared insights on AI system security at 6 industry and academic venues.
 - * Securing prompt injection chains against remote code execution, impersonation, and sensitive data leak.
- **Graduate & Postdoctoral Researcher**, KAIST — Daejeon, South Korea Mar 2014 – Jul 2022
 - Led 8-member research subgroup and conducted security research on emerging systems:
 - * Smartphones & Android: Baseband auth bypass, AOSP privilege escalation, VoLTE exploitation.
 - * IoT & Embedded Devices: Variant analysis on 1,100+ firmware, finding 20+ 0-days.
 - * Cellular Networks: LTE protocol attacks, policy bypass, free data tunneling.
 - * Drones & Wearables: Acoustic/EMI attacks, sensor spoofing, wireless analysis.
 - Delivered 27 publications (9 top-tier venues, 1,100+ citations), 7 patents, and 17 funded projects.
 - Discovered 100+ bugs in commercial systems, including Android and smartphone baseband 0-days.
- **Research Intern**, Pinion Industries — Seoul, South Korea Dec 2013 – Feb 2014
 - Analyzed automotive CAN messages and exploited in-vehicle components, achieving RCE and wiretapping.
- **Student CERT Lead**, KAIST — Daejeon, South Korea Sep 2010 – Aug 2012
 - Led student team in campus-wide security audit, including probing a critical email attack leading to arrest.

Education

- **Ph.D., School of Electrical Engineering**, KAIST — Daejeon, South Korea Mar 2016 – Feb 2022
 - Advisor: Yongdae Kim
- **M.S., School of Electrical Engineering**, KAIST — Daejeon, South Korea Mar 2014 – Feb 2016
 - Advisor: Yongdae Kim
- **B.S., Computer Science**, KAIST — Daejeon, South Korea Mar 2010 – Feb 2014

Additional Qualifications

- **CTF Player:** 5× DEF CON finalist, led 20-person team, organized Samsung CTF, \$115K+ total winnings.
- **Community Contributor:** Delivered 20+ invited talks across academia and industry on emerging threats.
- **AI Frameworks:** LangGraph, LangChain, LiteLLM, Phoenix (exploit agents); PyRIT (safety guardrails).
- **Programming Languages:** Python, C/C++, Java, JavaScript.