

Taekkyung Oh

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BIO

Taekkyung Oh is a Ph.D student in System Security Lab at KAIST, advised by Professor Yongdae Kim. He received a Master degree from Graduate School of Information Security at KAIST. His research interests are Cellular Network Security, Wireless System Security, Cyber-Physical System (CPS) Security, and Usable Security.

Education

Ph.D	KAIST (Korean Advanced Institute of Science and Technology)	Sep. 2021 – Present
	<ul style="list-style-type: none"> Graduate School of Information Security Advisor: Yongdae Kim 	
MS	KAIST (Korean Advanced Institute of Science and Technology)	Sep. 2019 – Aug. 2021
	<ul style="list-style-type: none"> Graduate School of Information Security Advisor: Yongdae Kim 	
BS	SKKU (Sungkyunkwan University)	Mar. 2012 – Aug. 2019
	<ul style="list-style-type: none"> Electronic and Electrical Engineering Computer Engineering (double major) 	

Publications

LLFuzz: An Over-the-Air Dynamic Testing Framework for Cellular Baseband Lower Layers (To appear)

Tuan Dinh Hoang, **Taekkyung Oh**, CheolJun Park, Insu Yun Yongdae Kim
Proceedings of the 34th USENIX Security Symposium (Security 2025)

PDF 
 Code 
 Media (KR) 
 Media (EN) 

Passive Three-Dimensional User Equipment Tracking Using Long-Term Evolution Uplink Signals

Yoocho Jang, Juhong Park, **Taekkyung Oh**, Yongdae Kim, Soeng Ook Park
IEEE Transactions on Instrumentation and Measurement (IEEE TIM 2025)

PDF 

Enabling Physical Localization of Uncooperative Cellular Devices

Taekkyung Oh, Sangwook Bae, Junho Ahn, Yonghwa Lee, Tuan Dinh Hoang, Min Suk Kang, Nils Ole Tippenhauer, Yongdae Kim
Proceedings of the 30th Annual International Conference on Mobile Computing and Networking (ACM MobiCom 2024)

PDF 
 Site 

LTESniffer: An Open-source LTE Downlink/Uplink Eavesdropper

Tuan Dinh Hoang, CheolJun Park, Mincheol Son, **Taekkyung Oh**, Sangwook Bae, Junho Ahn, Beomseok Oh, Yongdae Kim
Proceedings of the 16th ACM Conference on Security and Privacy in Wireless and Mobile Networks (ACM WiSec 2023)

PDF 
 Code 

Void: A Fast and Light Voice Liveness Detection System

Muhammad Ejaz Ahmed, Il-Youp Kwak, Jun Ho Huh, Iljoo Kim, **Taekkyung Oh**, Hyounghick Kim
Proceedings of the 29th USENIX Security Symposium (Security 2020)

PDF 

Poster: I Can't Hear This Because I Am Human: A Novel Design of Audio CAPTCHA System

Jusop Choi, **Taekkyung Oh**, William Aiken, Simon S. Woo, Hyounghick Kim

PDF 

Research Projects

Tracking and identifying devices and call traffic in voice phishing ecosystem

Apr. 2022 - Dec. 2024

- Funded 4.5 million USD by the Korean National Police Agency
- Project manager

Developing a technology for detecting an open-source based fake base station

Feb. 2024 - Dec. 2024

- Funded 100K USD by the Korean National Intelligence Service (NIS)
- Project manager

Invited Talks

Testing, Analyzing, Improving Security of Cellular Networks with srsRAN

Oct. 2023

Arlington, Virginia, USA

- srsRAN Project Workshop, Software Radio Systems (SRS)
- [Video \(with Yongdae Kim\)](#)

Voice Phisher Intelligence: Location tracking and infrastructure vulnerability analysis

Nov. 2022

Seoul, South Korea

- Security Intelligence Summit (SIS), S2W Inc. (cybersecurity company)

Security Reports

Incorrect handling of the malformed uplink scheduling message, resulting in an information leak of the UE in Samsung modem chipsets

2024

- [CVE-2024-48883](#) – [Samsung Security Bulletin](#)
- Earned a total of 2,000 USD in bug bounty rewards from Google and Samsung

Incorrect error handling of the malformed downlink packet, resulting in system crash (memory corruption) in Qualcomm modem chipsets

- [CVE-2024-23385](#) – [Qualcomm Security Bulletin](#)

Incorrect error handling of the malformed downlink packet, resulting in system crash (memory corruption) in MediaTek modem chipsets

- [CVE-2024-20077](#) – [MediaTek Security Bulletin](#)
- [CVE-2024-20076](#) – [MediaTek Security Bulletin](#)

Vulnerability in radio control and uplink scheduling mechanism in LTE, GSM

2023

- [CVD-2023-0070](#)
- [CVD-2023-0077](#)

Honors & Awards

Outstanding Student Researcher Award, TTA

Apr. 2025

- Chair's Award, Telecommunications Technology Association

Student Travel Grant for ACM MobiCom 2024

Nov. 2024

- Funded 800 USD by ACM SIGMOBILE

Korean Government Scholarship

Sep. 2019 - Present

- Full-Ride Scholarship

Undergraduate Research Conference in College of Software, SKKU

Nov. 2018

- Bronze Prize

Dean's List, SKKU	Sep. 2017 & Sep. 2018
<ul style="list-style-type: none"> • Reward for students who got obvious scholar performance (Top 5%) 	
Global Idea Contest by Daewoo Electronics	Nov. 2017
<ul style="list-style-type: none"> • Development of noise canceling technique for home appliances • Honorable Mention Award 	
Idea Contest of Assistive Technology Device for Disabled Students by the Korean Ministry of Education	Dec. 2016
<ul style="list-style-type: none"> • Development of function-graph converter for blind • First Prize (Minister's Award, Ministry of Education) 	
Jinggeomdari Scholarship, SKKU	Sep. 2016
<ul style="list-style-type: none"> • Scholarship for students who got obvious scholar performance (1,000 USD) 	

Experience

KAIST , Counseling Assistant	Feb. 2024 – Present
<ul style="list-style-type: none"> • Conducted over 30 student counseling sessions 	
Republic of Korea Marine Corps , External Security Advisor	Apr. 2023 – Dec. 2024
<ul style="list-style-type: none"> • Analyzing global trends in cyber warfare techniques and strategies 	
Paper review , External (secondary) reviewer	
<ul style="list-style-type: none"> • IEEE Symposium on Security and Privacy (SP 2024) • USENIX Security Symposium (Security 2023) • Network and Distributed System Security Symposium (NDSS 2020 - 2021) 	
KAIST , Teaching Assistant	Sep. 2020 – Aug. 2022
<ul style="list-style-type: none"> • (EE488) Introduction to Cryptography Engineering 2022 Spring • (EE515) Theory of Hacking (Security 101) 2021 Fall • (CS448) Introduction to Information Security 2021 Spring • (IS521) Information Security Laboratory 2020 Fall 	
Republic of Korea Ministry of Education , External Software Advisor	Dec. 2019
<ul style="list-style-type: none"> • Consulting on the development of Braille devices and assistive applications for visually impaired individuals 	
SKKU Security Lab , Undergraduate Researcher	Dec. 2016 - Dec. 2018
<ul style="list-style-type: none"> • Usable security and voice authentication (advised by Prof. Hyongshick Kim) 	
SKKU System Consultant Group , Web Developer	Mar. 2016 - Jul. 2017
<ul style="list-style-type: none"> • Full-stack developer for web applications (JavaScript, SQL, HTML, CSS) 	
Republic of Korea Army , Combat Engineer	Oct. 2013 - Jun. 2015

Languages & Skills

- Korean (Native)
- English (Upper intermediate)
- Python and CUDA
- C, C++
- LaTeX

- Web development (JavaScript, SQL, HTML, CSS)