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

- Graduate School of Information Security
- Advisor: Yongdae Kim

MS	**KAIST (Korean Advanced Institute of Science and Technology)**	Sep. 2019 – Aug. 2021

- Graduate School of Information Security
- Advisor: Yongdae Kim

BS	**SKKU (Sungkyunkwan University)**	Mar. 2012 – Aug. 2019

- 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) ⧉

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**, Hyoungshick 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, Hyoungshick Kim

Proceedings of the 11th ACM Asia Conference on Computer and Communications Security (ACM ASI-ACCS 2018)

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, GSMA 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
- Reward for students who got obvious scholar performance (Top 5%)

Global Idea Contest by Daewoo Electronics   Nov. 2017
- Development of noise canceling technique for home appliances
- Honorable Mention Award

Idea Contest of Assistive Technology Device for Disabled Students by the Korean   Dec. 2016
Ministry of Education
- Development of function-graph converter for blind
- First Prize (Minister's Award, Ministry of Education)

Jinggeomdari Scholarship, SKKU   Sep. 2016
- Scholarship for students who got obvious scholar performance (1,000 USD)

Experience

KAIST, Counseling Assistant   Feb. 2024 – Present
- Conducted over 30 student counseling sessions

Republic of Korea Marine Corps, External Security Advisor   Apr. 2023 – Dec. 2024
- Analyzing global trends in cyber warfare techniques and strategies

Paper review, External (secondary) reviewer
- 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
- (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
- Consulting on the development of Braille devices and assistive applications for
  visually impaired individuals

SKKU Security Lab, Undergraduate Researcher   Dec. 2016 - Dec. 2018
- Usable security and voice authentication (advised by Prof. Hyongshick Kim)

SKKU System Consultant Group, Web Developer   Mar. 2016 - Jul. 2017
- 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)