

# Taekkyung Oh

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## BIO

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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

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

## Publications

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<b>Enabling Physical Localization of Uncooperative Cellular Devices (To appear)</b> <b>Taekkyung Oh</b> , Sangwook Bae, Junho Ahn, Yonghwa Lee, Tuan Dinh Hoang, Min Suk Kang, Nils Ole Tippenhauer, Yongdae Kim <i>Proceedings of the 30th Annual International Conference on Mobile Computing and Networking (ACM MobiCom 2024)</i>	<a href="#">PDF</a>
<b>LTESniffer: An Open-source LTE Downlink/Uplink Eavesdropper</b> Tuan Dinh Hoang, CheolJun Park, Mincheol Son, <b>Taekkyung Oh</b> , Sangwook Bae, Junho Ahn, Beomseok Oh, Yongdae Kim <i>Proceedings of the 16th ACM Conference on Security and Privacy in Wireless and Mobile Networks (ACM WiSec 2023)</i>	<a href="#">PDF</a> <a href="#">Code</a>
<b>Void: A Fast and Light Voice Liveness Detection System</b> Muhammad Ejaz Ahmed, Il-Youp Kwak, Jun Ho Huh, Iljoo Kim, <b>Taekkyung Oh</b> , Hyoungshick Kim <i>Proceedings of the 29th USENIX Security Symposium (Security 2020)</i>	<a href="#">PDF</a>
<b>Poster: I Can't Hear This Because I Am Human: A Novel Design of Audio CAPTCHA System</b> Jusop Choi, <b>Taekkyung Oh</b> , William Aiken, Simon S. Woo, Hyoungshick Kim <i>Proceedings of the 11th ACM Asia Conference on Computer and Communications Security (ACM ASI-ACCS 2018)</i>	<a href="#">PDF</a>

## Research Projects

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<b>Tracking and identifying devices and call traffic in voice phishing ecosystem</b> <ul style="list-style-type: none"><li>Funded 4.5 million USD by the Korean National Police Agency</li><li>Project manager</li></ul>	Apr. 2022 - Dec. 2024
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### **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**

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### **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**

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### **System crash due to incorrect error handling (memory corruption) in modem, MediaTek**

2024

- [CVE-2024-20076](#)
- [CVE-2024-20077](#)

### **Vulnerability in radio control and uplink scheduling mechanism in LTE, GSMA**

2023

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

## **Honors & Awards**

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### **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

### **Idea Contest of Assistive Technology Device for Disabled Students by the Korean Ministry of Education**

Dec. 2016

- Development of function-graph converter for blind
- First Prize (Minister's Award, Ministry of Education)

## **Experience**

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### **KAIST, Counseling Assistant**

Feb. 2024 – Present

- Conducted over 30 student counseling sessions

### **Republic of Korea Marine Corps, External Security Advisor**

Apr. 2023 – Present

- 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