

# Yoonkyo Jung

Ph.D. Student · Electrical and Computer Engineering

University of Maryland, College Park

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## Brief Bio

Yoonkyo Jung is a Ph.D. student in the Department of Electrical and Computer Engineering at the University of Maryland, College Park. His research interests include AI-driven computer security, user privacy, wireless communication, and networking.

## Education

### University of Maryland, College Park (UMD)

Ph.D. in Electrical and Computer Engineering

- Coursework: ENEE620, ENEE621, ENEE627, ENEE662

Maryland, United States

Aug. 2024 - present

### Seoul National University (SNU)

M.S. in Computer Science and Engineering

- Network Convergence & Security Laboratory
- Advisor: Prof. Ted “Taekyoung” Kwon
- Thesis: Consistency Analysis between Privacy Policy and Mobile Application

Seoul, South Korea

Mar. 2019 - Feb. 2021

### Republic of Korea Air Force Academy (ROKAFA)

B.S. in System Engineering

- Thesis: Efficiency Validation and Improvement of Bus Booking Mobile Application

Cheongju, South Korea

Mar. 2013 - Feb. 2017

## Professional Experience

### Department of Computer Science, ROKAFA

Assistant Professor

Department Chair

Full-time Lecturer

- Hired new faculty members and taught more than ten classes
- Established Department of AI and planned a curriculum

Cheongju, South Korea

Apr. 2022 - Jul. 2024

Jan. 2023 - Jan. 2024

Feb. 2021 - Mar. 2022

### Aerospace Force Weapon Systems Laboratory, ROKAFA

Researcher

Deputy Director

- Participated in three research projects related to weapon systems
- Held lab seminars by inviting experts both in and out of the school

Cheongju, South Korea

Feb. 2021 - Jul. 2024

Jan. 2023 - Jan. 2024

### Aerospace Research Institute, ROKAFA

Project Management Officer

- Managed national projects of R.O.K Air Force and organized academic conferences

Cheongju, South Korea

Dec. 2021 - Dec. 2022

### Department of Computer Science and Engineering, SNU

Research Assistant

- Participated in research projects related to network, privacy, and indoor localization

Seoul, South Korea

Feb. 2019 - Jan. 2021

### Air Defense Missile Command, ROKAF

Radar Maintenance Officer

- Maintained Ballistic Missile Early-warning Radar as a maintenance team leader
- Took charge of interpreting for resident technical agents from other countries

Osan, South Korea

Apr. 2018 - Jan. 2019

### Education and Training Command, ROKAF

Recruit Training Officer

- Educated over 7000 airmen as a commander of 1st Airman Training Company

Jinju, South Korea

Mar. 2017 - Mar. 2018

## Publications

### Transformer-Aided Multi-Modal Semantic Communication

Matin Mortaheb, Erciyes Karakaya, **Yoonkyo Jung**, Sennur Ulukus

Under review

2025

### A Study on the Prioritization of Requirements for the Next Basic Trainer

Byungho Jung, **Yoonkyo Jung**, Namkyu Lim

Korean Journal of Military Art and Science, Vol.80, No.3

2024

### Analysis of the Performance Improvement Evaluation Index of Air Force Advanced Trainers (T-50 Series) and Deriving Priorities

Byungho Jung, Seong In Hwang, **Yoonkyo Jung**, Namkyu Lim

Journal of the Korean Society of Supply Chain Management, Vol.23, No.2

2023

### Reliability Analysis of Privacy Policies Using Android Static Analysis

**Yoonkyo Jung**

KIPS Transactions on Computer and Communication Systems, Vol.12, No.1

2023

### Design of Surveillance Device Control System Using Audio Beamforming

Jaesung Sim, **Yoonkyo Jung**

Journal of Military Science Research, Vol.73, No.2

2022

### Development and Performance Evaluation of Chatbot System for Office Automation

**Yoonkyo Jung**

Asia-Pacific Journal of Convergent Research Interchange, Vol.8, No.10

2022

### Development of Multi-copter Propeller Distortion Measurement Device Using Three-side Image Analysis

Songhyeon Kim, Jaesung Sim, **Yoonkyo Jung**

KIISE Korea Computer Congress

2022

### Reliability Analysis of Privacy Policies Based on Android Static Analysis

**Yoonkyo Jung**

Annual Spring Conference of KIPS

2022

### A Study on the Development and Performance Improvement of Chatbot for Office Automation

Junsoo Park, Youngjun Kim, **Yoonkyo Jung**

KIICE Spring Conference

2022

### Android Remote Unlocking Service using Synthetic Password: A Hardware Security-preserving Approach

Sungmin Lee, **Yoonkyo Jung**, Jaehyun Lee, Byoungyoung Lee, Ted “Taekyoung” Kwon

IEEE Secure Development Conference (SecDev)

2021

## Teaching

### Republic of Korea Air Force Academy

Assistant Professor

- 2024 Spring: Network Programming, Embedded System, Artificial Intelligence (Course Evaluations: 5.0/5.0)
- 2023 Fall: Data Communication, Hacking and Defense, Convergence Capstone Design (Course Evaluations: 5.0/5.0)
- 2023 Spring: Network Programming, Embedded System, Convergence Capstone Design (Course Evaluations: 4.95/5.0)
- 2022 Fall: Hacking and Defense (Course Evaluations: 5.0/5.0)
- 2022 Spring: Embedded System (Course Evaluations: 5.0/5.0))

Cheongju, South Korea

Apr. 2022 - Jul. 2024

### Republic of Korea Air Force Academy

Full-time Lecturer

- 2021 Fall: Software Programming, Data Structure, Hacking and Defense (Course Evaluations: 4.87/5.0)
- 2021 Spring: Software Programming, Embedded System (Course Evaluations: 4.97/5.0)

Cheongju, South Korea

Feb. 2021 - Mar. 2022

### Seoul National University

Teaching Assistant

- 2020 Fall: Internet Security and Privacy

Seoul, South Korea

Sep. 2020 - Dec. 2020

## Research Projects

### Concept of Optimal Requirements for Air Force Future Basic Trainers

Korea Aerospace Industries (KAI)

ROKAFA

Oct. 2023 - Jun. 2024

### Performance Improvement of Air Force Advanced Trainers (T-50 Series)

Agency for Defense Development (ADD)

ROKAFA

Apr. 2023 - Jul. 2023

### Development and Implementation of Air Force Live-Virtual-Constructive (LVC) Architecture

Korea Aerospace Industries (KAI)

ROKAFA

Dec. 2021 - Dec. 2022

### Versatile Network System Architecture for Multi-dimensional Diversity

Institute for Information & Communication Technology Planning (IITP)

SNU

Jan. 2020 - Dec. 2020

### Smartcampus: Research on Localization Scheme based on Multiple Sensors

Samsung Electronics

SNU

May. 2019 - Apr. 2020

### Research on Security Scheme for Interconnection of Heterogeneous Networks

Electronics and Telecommunications Research Institute (ETRI)

SNU

Jun. 2019 - Nov. 2019

## Honors & Awards

- 2024 **Scholarship for Graduate Studies (PhD, 3 years)**, Ministry of National Defense, Republic of Korea
- 2023 **Commendation of Lieutenant General**, Distinguished Service in the Graduation Ceremony, ROKAFA
- 2022 **Best Paper Award**, Korea Computer Congress, KIISE
- 2021 **Excellence Award**, Creative and Innovation Idea Hackathon, ROKAF
- 2019 **Scholarship for Graduate Studies (MS)**, Ministry of National Defense, Republic of Korea
- 2016 **Best Undergraduate Paper Award**, Student Paper Contest, KOPOMS

## Professional Memberships

- 2023 **Member**, Chungbuk AI-SW Education Sharing Council
- 2023 **Member**, Korea Society of Computer Information (KSCI)
- 2023 **Member**, Korean Institute of Information Technology (KIIT)
- 2022 **Member**, Korea Institute of Information and Communication Engineering (KIICE)
- 2022 **Member**, Korea Convergence Technology Research Society (KTCRS)
- 2022 **Lifetime Member**, Korea Information Processing Society (KIPS)
- 2021 **Lifetime Member**, Korean Institute of Information Scientists and Engineers (KIISE)

## Extracurricular Activity

- 2025 **President**, Korean Graduate Student Association, UMD
- 2022 **Founder & Instructor**, ROKAFA Programming Club
- 2022 **Reviewer**, Asia-Pacific Journal of Convergent Research Interchange
- 2020 **Reviewer**, International Conference on ICT Convergence
- 2019 **Researcher**, Samsung Electronics SNU R&D Center
- 2019 **Program Chair**, eLearning Competition, Global IT Challenge
- 2019 **Technical Advisor**, Global IT Challenge, RI Korea
- 2016 **Battalion Cadet Commander**, Cadet Leadership, ROKAFA
- 2016 **Squadron Cadet Commander**, Cadet Leadership, ROKAFA

## Skills

- Languages** Python, C, C++, JavaScript, SQL, JAVA, Kotlin, GO
- Technologies** Docker, Git,  $\text{\LaTeX}$ , MySQL, NoSQL(MongoDB), HTML/CSS
- Platforms** Linux(Ubuntu), Windows, Nginx, AWS, Oracle Cloud, Azure
- Frameworks** TensorFlow/Keras, Pytorch