

# Yoonkyo Jung

Assistant Professor · Prosepective Ph.D student

575, Danjae-ro, Cheongju-si, Chungcheongbuk-do, Republic of Korea

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## Brief Bio

Yoonkyo Jung is an Air Force captain from the Republic of Korea, currently working as a tenure-track assistant professor in the Department of Computer Science at Republic of Korea Air Force Academy (ROKAFA). He was chosen as a recipient of a tuition scholarship funded by the R.O.K Ministry of National Defense. His research interests focus on privacy-preserving networks, machine learning-driven networked systems, user privacy, computer security, and future wireless networks.

## Education

### Seoul National University (SNU)

M.S. in Computer Science and Engineering

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

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

Department Chair

Assistant Professor

Full-time Lecturer

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

Cheongju, South Korea

Jan. 2023 - present

Apr. 2022 - present

Feb. 2021 - Mar. 2022

### Aerospace Force Weapon Systems Laboratory, ROKAFA

Deputy Director

Researcher

- 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

Jan. 2023 - present

Feb. 2021 - present

### 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

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### <Journal>

- A Survey on Model Aggregation Approaches in Federated Learning** TBD  
Yoonkyo Jung, Jinyi Yoon  
IEEE Access (To be submitted)
- Analysis and Prioritization of the Performance Improvement Evaluation Index for Air Force Advanced Trainers (T-50 Series)** 2023  
Byungho Jung, Seong In Hwang, Yoonkyo Jung, Namkyu Lim  
Journal of the Korean Society of Supply Chain Management (Accepted)
- Reliability Analysis of Privacy Policies Using Android Static Analysis** 2023  
Yoonkyo Jung  
KIPS Transactions on Computer and Communication Systems, Vol.12, No.1
- Design of Surveillance Device Control System Using Audio Beamforming** 2022  
Jaesung Sim, Yoonkyo Jung  
Journal of Military Science Research, Vol.73, No.2
- Development and Performance Evaluation of Chatbot System for Office Automation** 2022  
Yoonkyo Jung  
Asia-pacific Journal of Convergent Research Interchange, Vol.8, No.10

### <Conference>

- Development of Multi-copter Propeller Distortion Measurement Device Using Three-side Image Analysis** 2022  
Songhyeon Kim, Jaesung Sim, Yoonkyo Jung  
KIISE Korea Computer Congress
- Reliability Analysis of Privacy Policies Based on Android Static Analysis** 2022  
Yoonkyo Jung  
Annual Spring Conference of KIPS
- A Study on the Development and Performance Improvement of Chatbot for Office Automation** 2022  
Junsoo Park, Youngjun Kim, Yoonkyo Jung  
KIICE Spring Conference
- Android Remote Unlocking Service using Synthetic Password: A Hardware Security-preserving Approach** 2021  
Sungmin Lee, Yoonkyo Jung, Jaehyun Lee, Byoungyoung Lee, Ted "Taekyoung" Kwon  
IEEE Secure Development Conference (SecDev)

## Teaching

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- Republic of Korea Air Force Academy** Cheongju, South Korea  
Assistant Professor Apr. 2022 - present
  - 2023 Fall: Data Communication, Hacking and Defense, Convergence Capstone Design
  - 2023 Spring: Network Programming, Embedded System, Convergence Capstone Design
  - 2022 Fall: Hacking and Defense
  - 2022 Spring: Embedded System
- Republic of Korea Air Force Academy** Cheongju, South Korea  
Full-time Lecturer Feb. 2021 - Mar. 2022
  - 2021 Fall: Software Programming, Data Structure, Hacking and Defense
  - 2021 Spring: Software Programming, Embedded System
- Seoul National University** Seoul, South Korea  
Teaching Assistant Sep. 2020 - Dec. 2020
  - 2020 Fall: Internet Security and Privacy

## Research Projects

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

Korea Aerospace Industries (KAI) / Grant: \$75K

ROKAFA

Oct. 2023 - Jun. 2024

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

Agency for Defense Development (ADD) / Grant: \$15K

ROKAFA

Apr. 2023 - Jul. 2023

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

Korea Aerospace Industries (KAI) / Grant: \$140K

ROKAFA

Dec. 2021 - Dec. 2022

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

Institute for Information & Communication Technology Planning (IITP) / Grant: \$75K

SNU

Jan. 2020 - Dec. 2020

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

Samsung Electronics / Grant: \$67K

SNU

May. 2019 - Apr. 2020

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

Electronics and Telecommunications Research Institute (ETRI) / Grant: \$22K

SNU

Jun. 2019 - Nov. 2019

## Honors & Awards

- 2024 **Full Scholarship for Graduate Studies (Ph.D)**, R.O.K Ministry of National Defense
- 2022 **Best Paper Award**, Korea Computer Congress, KIISE
- 2021 **Excellence Award**, Creative and Innovation Idea Hackathon, ROKAF
- 2019 **Full Scholarship for Graduate Studies (M.S)**, R.O.K Ministry of National Defense
- 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

- 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