

# 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 South Korea, working as an 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**

Yoonkyo Jung, Jinyi Yoon

IEEE Access (To be submitted)

TBD

#### **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

### <Conference>

#### **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

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### **Republic of Korea Air Force Academy**

Assistant Professor

- 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

Cheongju, South Korea

Apr. 2022 - present

### **Republic of Korea Air Force Academy**

Full-time Lecturer

- 2021 Fall: Software Programming, Data Structure, Hacking and Defense
- 2021 Spring: Software Programming, Embedded System

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) / 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