

Yoonkyo Jung

Ph.D. Applicant

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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 (ROKAF). He is a recipient of a tuition scholarship funded by the Republic of Korea Ministry of National Defense. His research interests include privacy-preserving networks, machine learning-driven networked systems, user privacy, computer security, and future wireless networks.

Education

Seoul National University (SNU)

Seoul, South Korea

M.S. in Computer Science and Engineering

Mar. 2019 - Feb. 2021

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

Republic of Korea Air Force Academy (ROKAF)

Cheongju, South Korea

B.S. in System Engineering

Mar. 2013 - Feb. 2017

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

Professional Experience

Department of Computer Science, ROKAF

Cheongju, South Korea

Department Chair

Jan. 2023 - present

Assistant Professor

Apr. 2022 - present

Full-time Lecturer

Feb. 2021 - Mar. 2022

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

Aerospace Force Weapon Systems Laboratory, ROKAF

Cheongju, South Korea

Deputy Director

Jan. 2023 - present

Researcher

Feb. 2021 - present

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

Aerospace Research Institute, ROKAF

Cheongju, South Korea

Project Management Officer

Dec. 2021 - Dec. 2022

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

Department of Computer Science and Engineering, SNU

Seoul, South Korea

Research Assistant

Feb. 2019 - Jan. 2021

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

Air Defense Missile Command, ROKAF

Osan, South Korea

Radar Maintenance Officer

Apr. 2018 - Jan. 2019

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

Education and Training Command, ROKAF

Jinju, South Korea

Recruit Training Officer

Mar. 2017 - Mar. 2018

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

Publications

<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

Republic of Korea Air Force Academy

Assistant Professor

- 2023 Fall: Data Communication, Hacking and Defense, Convergence Capstone Design (In progress)
- 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 - present

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) / 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: Research on Localization Scheme based on Multiple Sensors

Samsung Electronics / Grant: \$67K

SNU

May. 2019 - Apr. 2020

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 (PhD)**, 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, KIIE
- 2021 **Excellence Award**, Creative and Innovation Idea Hackathon, ROKAF
- 2019 **Full 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 (KIIE)

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, \LaTeX , MySQL, NoSQL(MongoDB), HTML/CSS
- Platforms** Linux(Ubuntu), Windows, Nginx, AWS, Oracle Cloud, Azure
- Frameworks** TensorFlow/Keras, Pytorch