

Yoonkyo Jung

Assistant Professor · Ph.D. Applicant

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 (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)

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 (ROKAF)

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, ROKAF

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 - present

Jan. 2023 - Jan. 2024

Feb. 2021 - Mar. 2022

Aerospace Force Weapon Systems Laboratory, ROKAF

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, ROKAF

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

<Journal>

- A Survey on Model Aggregation Approaches in Federated Learning** TBD
Yoonkyo Jung, Jinyi Yoon
To be submitted
- Analysis of the Performance Improvement Evaluation Index of Air Force Advanced Trainers (T-50 Series) and Deriving Priorities** 2023
Byungho Jung, Seong In Hwang, Yoonkyo Jung, Namkyu Lim
Journal of the Korean Society of Supply Chain Management, Vol.23, No.2 [pdf]
- Reliability Analysis of Privacy Policies Using Android Static Analysis** 2023
Yoonkyo Jung
KIPS Transactions on Computer and Communication Systems, Vol.12, No.1 [pdf]
- Design of Surveillance Device Control System Using Audio Beamforming** 2022
Jaesung Sim, Yoonkyo Jung
Journal of Military Science Research, Vol.73, No.2 [pdf]
- Development and Performance Evaluation of Chatbot System for Office Automation** 2022
Yoonkyo Jung
Asia-Pacific Journal of Convergent Research Interchange, Vol.8, No.10 [pdf]

<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 [pdf] [poster]
- Reliability Analysis of Privacy Policies Based on Android Static Analysis** 2022
Yoonkyo Jung
Annual Spring Conference of KIPS [pdf] [slide]
- A Study on the Development and Performance Improvement of Chatbot for Office Automation** 2022
Junsoo Park, Youngjun Kim, Yoonkyo Jung
KIICE Spring Conference [pdf] [slide]
- 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) [pdf] [slide]

Teaching

- Republic of Korea Air Force Academy** Cheongju, South Korea
Assistant Professor Apr. 2022 - present
- 2024 Spring: Network Programming, Embedded System, Artificial Intelligence (In progress)
 - 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)
- 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 (Course Evaluations: 4.87/5.0)
 - 2021 Spring: Software Programming, Embedded System (Course Evaluations: 4.97/5.0)
- 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)

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