Dayeon Kang

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RESEARCH INTERESTS

I am interested in the intersection of security, privacy, network systems, cloud systems, and machine learning. This is related to the following areas: 1) Mitigating security or privacy challenges and defects of network systems in cloud settings. 2) Identifying privacy issues of machine learning in cloud systems using network data.

Keywords: Security and Privacy on Computer Networks, Network and Cloud Systems, Serverless Cloud, Machine Learning

EDUCATIONS

University of Massachusetts Amherst (UMass Amherst), MA, USA   Sep. 2023 – Present
MS/PhD Student in Computer Science
- Cumulative GPA: 3.875/4.0, as of Spring 2025
- Advisors: Prof. Amir Houmansadr, Prof. Pubali Datta

Ewha Womans University (Ewha WU), Seoul, South Korea   Mar. 2019 – Aug. 2023
B.S. in Computer Science and Engineering
- Cumulative GPA: 4.16/4.3, *Summa Cum Laude*

PUBLICATIONS

Dayeon Kang, J. Sheffey, M. Wu, P. Datta, and A. Houmansadr, "Affordable Censorship Bypass Using Serverless Cloud Functions," to be submitted to *USENIX Security Symposium, 2026*.

J. Sheffey, A. Zohaib, **Dayeon Kang**, Z. Durumeric, A. Houmansadr, and Q. Wu, "I'll Shake Your Hand: What Happens After DNS Poisoning," Free and Open Communications on the Internet *(FOCI), 2025*. [paper]

Y. You, J. Yoon, **Dayeon Kang**, J. Kim, and H. Lee, "CollageMap: Tailoring Generative Fingerprint Map via Obstacle-Aware Adaptation for Site-Survey-Free Indoor Localization," IEEE Pervasive Computing and Communications *(IEEE PerCom), 2025*. [paper]

J. Yoon, Y. You, **Dayeon Kang**, J. Kim, and H. Lee, "CAMPUSRSSI: Real-World Wi-Fi RSSI Measurements for Indoor Localization," IEEE International Conference on Pervasive Computing and Communications Workshops and other Affiliated Events *(IEEE PerCom Workshops), 2025*. [paper]

J. Yoon, Y. You, **Dayeon Kang**, J. Kim, and H. Lee, "GAN-Loc: Empowering Indoor Localization for Unknown Areas via Generative Fingerprint Map," IEEE International Conference on Sensing, Communication, and Networking *(IEEE SECON), 2024*. [paper]

Poster
Dayeon Kang, J. Kim, D. Kim, H. Kim, and K. Chae, "Grape Grade Discrimination System using Step-by-step Deep Learning Model and Drone Path Planning Algorithm," *Korea Computer Congress, 2022*.

RESEARCH EXPERIENCE

The Secure, Private Internet Research Group (SPIN), UMass Amherst
PhD Student (Advisor: Prof. Amir Houmansadr, Co-advisor: Prof. Pubali Datta)   Sep. 2023 – Present

- Leading or led three first-author research projects on computer network security in cloud and IoT settings
  - Built serverless function-based (e.g., AWS Lambda) cost-efficient censorship circumvention proxy with Node.js
  - Measured and conducted meta-analysis on vulnerabilities, caused by embedded credentials, owner changed domains, obsolete libraries, contaminated data flow, etc, in abandoned IoT applications
  - Designing a new type of application structure construction attack via dangling resources in the serverless cloud environment

Intelligent Networked Systems Lab, Ewha WU

Undergraduate Researcher (Advisor: Prof. HyungJune Lee)   Jul. 2021 – Feb. 2023

- Designed initial system to generate obstacle-aware map by reflecting degree of obstacles for each designated in-building structures
- Created Android application with Android Studio to measure Wi-Fi signal strength (e.g., RSSI)
- Implemented indoor localization purpose GAN using TensorFlow and participated in implementing federated learning model, particularly regularizing heterogeneous models (e.g., VGG, ResNet) sequentially trained on tasks

TEACHING & MENTORSHIP EXPERIENCE

Teaching Assistant (TA), UMass Amherst
- Introduction to Computer and Network Security (COMPSCI 360)   Fall 2025
- System Defense and Test (COMPSCI 561)   Spring 2024, Spring 2025
- Introduction to Computer and Network Security (COMPSCI 560)   Fall 2024

Peer Instructor (Tutor) in Major Courses, Ewha WU
- Computer Programming & Lab (36339-05)   Spring 2022
- Computer Architecture (20493-01)   Fall 2021, Fall 2022

Mentor of Undergraduate Research Volunteers (URV), UMass Amherst   Summer 2024, Winter 2025
- Instructed research projects undertaken by undergraduates and guided poster presentation

Mentor of 2022 Samsung Junior SW Creation Contest, Samsung SDS   Jul. 2022 – Aug. 2022
- Served as mentor to middle school student's environment-themed software project

INVITED TALKS & SERVICES

Guest Lecture | Women in Cybersecurity (WiCyS) at Umass   Mar. 2025
- Journey to Security Researcher

Guest Lecture | UMass COMPSCI 560: Introduction to Computer and Network Security   Dec. 2024
- Break the anonymity of Tor network: What is traffic analysis?

External Reviewer of USENIX Security 2026

HONORS & AWARDS

Honors
Jung-Hun Scholarship, Jung-Hun Scholarship Foundation   Mar. 2021 – Aug. 2023
Honors Scholarship (for academic excellence), Ewha WU   Spring 2020, Fall 2021, Spring 2022
Alumni Scholarship, Ewha WU   Spring 2020
Dean's List, seven semesters, Ewha WU   2019 – 2022

Awards

Fourth Place in Capstone Design Project Poster Session, Ewha WU   Jun. 2022
Third Place in Engineering Capstone Design Contest, Ewha WU   Dec. 2021
Third Place in Smart Farm & AI Challenge, Korea Ministry of Agriculture, Food and Rural Affairs   Nov. 2021
Second Place in Software Entrepreneur Contest, Ewha WU   Nov. 2021

TECHNICAL SKILLS

Proficient   C, Python (with PyTorch, TensorFlow), JavaScript (JS), Docker, MATLAB, LaTeX
Intermediate   MySQL, JAVA, C#
Basic   Assembly Language (MIPS), Android Studio