

Geonmin Kim

Chonnam National University • kgm155388@naver.com

EDUCATION

Chonnam National University Gwangju, Republic of Korea
M.S., in Dept. of Artificial Intelligence Convergence Sep. 2025 - Present
Advisor: Prof. Kyungbaek Kim
GPA 4.38 / 4.5

Chonnam National University Gwangju, Republic of Korea
B.S., in Dept. of Software Engineering Mar. 2020 – Aug. 2025
GPA 3.69 / 4.5

** Military Service at Republic of Korea Air Force* Mar. 2021 – Dec. 2022
Air Defense & Control Command

RESEARCH EXPERIENCE

Chonnam National University Gwangju, Republic of Korea
1. Graduate Research Assistant Sep. 2025 – Present

- Distributed Networks and Systems Laboratory

2. Undergraduate Research Assistant Dec. 2023 – Aug. 2025

- Distributed Networks and Systems Laboratory

TEACHING & OUTREACH EXPERIENCE

Chonnam National University Gwangju, Republic of Korea
1. Assistant Instructor May. 2026 – Present

SW/AI Mentorship Program, Science Education Institute for the Gifted

- Assisted in teaching SW/AI research and project-based learning for gifted students.

- Supported students in developing AI-related projects, and research presentations.

2. Teaching Assistant, Understanding of Blockchain Fall Winter 2025; Spring Summer 2026

- Assisted undergraduate coursework on blockchain fundamentals.

3. Teaching Assistant, Fundamentals of Artificial Intelligence Winter 2025 Intensive Session

- Assisted undergraduate coursework on basic concepts of artificial intelligence

Jeongup High School Jeongup, Republic of Korea
1. Assistant Instructor, Python Programming Jul. 2024

INVITED LECTURES

Gwangju Software Meister High School
Generative AI Instructor

Gwangju, Republic of Korea
Jul. 2025

RESEARCH PROJECTS

1. *Research on Direct Resolution of DID Documents* Jun. 2024 – Nov. 2024
- Korea Internet & Security Agency (KISA)
- Conducted foundational research on DID document direct resolution, including DID method structures, retrieval flows, interoperability, and security requirements.
2. *Advancement of Direct Resolution of DID Documents* Jul. 2025 – Dec. 2025
- Korea Internet & Security Agency (KISA)
- Conducted follow-up research to improve DID direct resolution mechanisms and supported standardization-oriented technical documentation.
3. *Development of a DID-Based School Access Management System* Jun. 2024 – Jun. 2025
- Industry-Academic Collaboration Project
- Participated in the design of a DID-based visitor log system for school access management and identity verification.
4. *AI-Based Source Code Vulnerability Detection Research* Jan. 2025 – Dec. 2025
- Industry-Academic Collaboration Project
- Conducted CodeBERT- and LoRA-based source-code vulnerability detection research within a national project on EV charging infrastructure security.
5. *AI-Based Diagnosis Solution for Decommissioned Li-Ion Batteries* Jun. 2025 – Dec. 2025
- Industry-Academic Collaboration Project
- Developed AI-based diagnostic approaches for decommissioned lithium-ion batteries using survival analysis and remaining useful life prediction.
6. *Research on Common Requirements for K-BTF* Jul. 2025 – Dec. 2025
- Korea Internet & Security Agency (KISA)
- Reviewed interoperability, security, and operational requirements for blockchain and decentralized identity-related trust framework research.
7. *Development of an AI Model for Foreign Material Detection in Dried Laver* Jul. 2025 – Oct. 2025
- Industry-Academic Collaboration Project

- Participated in the development of a computer vision-based inspection model for detecting foreign materials in dried laver.

8. Development of an AI-Based Indoor Navigation System using Vision and Inertial Sensors

Sep. 2025 – Dec. 2025

- Industry-Academic Collaboration Project

- Supported the development of an AI-based indoor guidance system using vision and inertial sensor information.

PUBLICATIONS

Total Publications: 34 papers

- including 1 KCI-indexed journal article, 5 international conference papers, and 28 domestic conference papers.
- First-author publications: 21 papers.

[PUBLICATIONS AS FIRST AUTHOR]

A. Journal Articles

[J1] Geonmin Kim et al.,

“Residual Life Prediction of Lithium-Ion Batteries Based on Survival Analysis and Analysis of Input Feature Effects,”

Smart Media Journal, 2026. [KCI-indexed Journal]

B. International Conference Papers

[IC1] Geonmin Kim et al.,

“Comparative Study of 5G-V2X and 6G-V2X for Intelligent Traffic Signal Control in Urban Environment,”

SMA 2025: The 14th International Conference on Smart Media & Applications, 2025.

[IC2] Geonmin Kim et al.,

“Edge-Based Policy Caching for Low Latency Security Enforcement in Hybrid Clouds,”

APNOMS 2025: Asia-Pacific Network Operations and Management Symposium, 2025.

[IC3] Geonmin Kim et al.,

“HCAPO: Transformer-Based Adaptive Policy Orchestration for Hybrid-Cloud Security,”

ICAIC 2026: International Conference on Artificial Intelligence in Information and Communication, 2026.

[IC4] Geonmin Kim et al.,

“Communication-Aware Adaptive Decentralized Traffic Signal Control via Broadcast Gate,”
ICUFN 2026: International Conference on Ubiquitous and Future Networks, 2026.

C. Domestic Conference Papers

[C1] Geonmin Kim et al.,
“Integrated System for Detecting DNS Spoofing Attacks in Public Network Environments,”
2024 Honam Cybersecurity Conference, Korea Institute of Information Security & Cryptology
Honam Branch, 2024.

[C2] Geonmin Kim et al.,
“A Salting and Steganography-Based Approach for Data Integrity Verification of CoAP in IoT
Environments,”
ACK 2024, Korea Information Processing Society, 2024.

[C3] Geonmin Kim et al.,
“A Study on Preventing OpenID Relying Party Phishing Using Blockchain,”
KICS Fall Conference, Korean Institute of Communications and Information Sciences, 2024.

[C4] Geonmin Kim et al.,
“MARL-Based Intelligent Traffic Signal Control Model for 6G-V2X,”
JCCI 2025, The 35th Joint Conference on Communications and Information.

[C5] Geonmin Kim et al.,
“Performance Comparison of Machine Learning Models for Real-Time MBTI Personality Type
Classification Based on Natural Language,”
Korean Institute of Smart Media Spring Conference, 2025.

[C6] Geonmin Kim et al.,
“Dynamic Security Policy Application and Threat Detection Based on Machine Learning in
Hybrid Cloud Environments,”
KNOM 2025: Korea Network Operations and Management Conference, 2025.

[C7] Geonmin Kim et al.,
“CodeBERT-Based Multi-Label Vulnerability Detection for Source Code,”
ASK 2025, Korea Information Processing Society, 2025.

[C8] Geonmin Kim et al.,
“CWE Code Vulnerability Detection Using a Lightweight LoRA-Based CodeBERT Model,”
ASK 2025, Korea Information Processing Society, 2025.

[C9] Geonmin Kim et al.,
“Design and Validation of a Machine Learning-Based Anomaly Detection Model for Open
Banking User Sequences,”
IEIE Summer Conference, The Institute of Electronics and Information Engineers 2025.

[C10] Geonmin Kim et al.,
“Stabilizing Log-Based Security Policy Generation in Hybrid Clouds Through Cross-Selection,”
ACK 2025, Korea Information Processing Society, 2025.

[C11] Geonmin Kim et al.,
“Performance Comparison of Machine Learning-Based Web Attack Detection in Cloud
Environments,”
Korean Institute of Smart Media Fall Conference, 2025.

[C12] Geonmin Kim et al.,
“Preventive Security Model Construction Based on Time-Series Log Analysis in Hybrid Cloud
Environments,”
KICS Fall Conference, Korean Institute of Communications and Information Sciences, 2025.

[C13] Geonmin Kim et al.,
“Communication-Overhead-Reduced Traffic Signal Control Based on Learning-Value-Based
Selective Communication,”
KNOM 2026: Korea Network Operations and Management Conference, 2026.

[C14] Geonmin Kim et al.,
“Explainable Policy Generation for Hybrid Intrusion Detection Using SHAP,”
ASK 2026, Korea Information Processing Society, 2026.

[C15] Geonmin Kim et al.,
“Score-Based Decision-Making Technique Considering Asymmetric Error Costs in Hybrid
Cloud Intrusion Detection,”
KICS Summer Conference, Korean Institute of Communications and Information Sciences,
2026.

[C16] Geonmin Kim, et al.,
“Selective Communication Protocol for GNN-Based MARL Traffic Control,”
JCCI 2026, The 36th Joint Conference on Communications and Information.

[CO-AUTHORED PUBLICATIONS]

A. International Conference Papers

[IC5] Soonja Yeom, Geonmin Kim, et al.,
“Enhancing Cloud Security with AI Techniques,”
SMA 2025: The 14th International Conference on Smart Media & Applications, 2025.

B. Domestic Conference Papers

[C17] Dohyeon Lim, Geonmin Kim, et al.,

“Trend Analysis of Web-Based DID Methods,”
2024 Honam Cybersecurity Conference, Korea Institute of Information Security & Cryptology
Honam Branch, 2024.

[C18] Hyeonji Jang, Geonmin Kim, et al.,
“Security Vulnerability Analysis of Decentralized Identifier Methods,”
2025 Honam Cybersecurity Conference, Korea Institute of Information Security & Cryptology
Honam Branch, 2025.

[C19] Taerim Kim, Yejin Kim, Geonmin Kim, et al.,
“Latency Performance Analysis of AI Inference Using Dynamic Batching in Serverless
Environments,”
ACK 2025, Korea Information Processing Society, 2025.

[C20] Yejin Kim, Taerim Kim, Geonmin Kim, et al.,
“AI-Based Customer Behavior Optimization Using Large-Scale Behavioral Data,”
Korean Institute of Smart Media Fall Conference, 2025.

[C21] Urusha Shakhakarmi, Geonmin Kim, et al.,
“A Comparative Study of YOLOv8 and YOLOv8-Seg Models in Detection and Segmentation
Tasks,”
Korean Institute of Smart Media Fall Conference, 2025.

[C22] Myeonghoon Lee, Urusha Shakhakarmi, Geonmin Kim, et al.,
“YOLO-Based Vision System for Suppressing Light Reflection in Foreign Material Detection
for Dried Laver,”
Korean Institute of Smart Media Fall Conference, 2025.

[C23] Taerim Kim, Yejin Kim, Geonmin Kim, et al.,
“Dynamic Batching and Server-Side Concurrency Control for Optimizing AI Inference Latency
in Serverless Environments,”
KICS Fall Conference, Korean Institute of Communications and Information Sciences, 2025.

[C24] Yejin Kim, Taerim Kim, Geonmin Kim, et al.,
“Customer Behavior Prediction Model for Personalized Marketing Based on Machine Learning,”
KICS Fall Conference, Korean Institute of Communications and Information Sciences, 2025.

[C25] Seyeon Jeong, Geonmin Kim, et al.,
“Analysis of Internal Limitations and Advanced Directions for RAG,”
KICS Fall Conference, Korean Institute of Communications and Information Sciences, 2025.

[C26] Minjun Choi, Geonmin Kim, et al.,
“Physics-Informed Dense Traffic Density Field Reconstruction for Telemetry Resource
Optimization,”
KNOM 2026: Korea Network Operations and Management Conference, 2026.

[C27] Minsoo Yoo, Geonmin Kim, et al.,
“Empirical Analysis of Waiting Time and Overhead in Container-Based Hash Search Using Poisson and Gamma Distributions,”
ASK 2026, Korea Information Processing Society, 2026.

[C28] Minjun Choi, Geonmin Kim, et al.,
“PIGNN-Event: Traffic Flow Prediction Using Physics-Based GNNs in Heterogeneous Sensor Environments,”
KICS Summer Conference, Korean Institute of Communications and Information Sciences, 2026.

HONORS & AWARDS

1. Best Paper Award, 2024 Honam Cybersecurity Conference, Korea Institute of Information Security & Cryptology Honam Branch, 2024.
Paper: “Integrated System for Detecting DNS Spoofing Attacks in Public Network Environments.”
2. Best Paper Award, President of Electronics and Telecommunications Research Institute (ETRI) Award, ACK 2024, Korea Information Processing Society, 2024.
Paper: “Salting and Steganography-Based Approach for Data Integrity Verification of CoAP in IoT Environments.”
3. Best Paper Award, President of Korea Internet & Security Agency (KISA) Award, ASK 2025, Korea Information Processing Society, 2025.
Paper: “CWE Code Vulnerability Detection Using a Lightweight LoRA-Based CodeBERT Model.”
4. Undang Academic Award, Korea Information Processing Society, 2024.
5. Best Paper Award, SMA 2025: The 14th International Conference on Smart Media & Applications, 2025.
Paper: “Enhancing Cloud Security with AI Techniques.”
6. Best Paper Award, KICS Fall Conference, Korean Institute of Communications and Information Sciences, 2025.
Paper: “Customer Behavior Prediction Model for Personalized Marketing Based on Machine Learning”
7. Best Paper Award, ASK 2026, Korea Information Processing Society, 2026.
Paper: “SHAP-Based Explainable Policy Generation for Hybrid Intrusion Detection.”
8. Best Paper Award,

ASK 2026, Korea Information Processing Society, 2026.

Paper: "Empirical Analysis of Waiting Time and Overhead in Container-Based Parallel Hash Search Using Poisson and Gamma Distributions."

GRANTS & FELLOWSHIPS

1. Excellence Award, BK21 FOUR Outstanding Graduate Student Fellowship, Chonnam National University, 2026.

LEADERSHIP EXPERIENCE

Chonnam National University

Gwangju, Republic of Korea

1. President of Student Council

Jan. 2024 – Dec. 2024

Dept. of Software Engineering

2. Chair of Emergency Planning Committee

Jan. 2025 – Aug. 2025

Dept. of Software Engineering

3. Member of SW Education Volunteer Club "Sharing"

Apr. 2023 – Nov. 2024

INTERNATIONAL EXPERIENCE

Energy Workshop

UNLV College of Engineering

Aug. 2024

LANGUAGE SKILLS

- Korean: Native
- English: TOEIC 920