

Jeongmin Lee

<https://github.com/KUCSEPotato>

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EDUCATION

- Korea University** Seoul, South Korea
B.S. in Computer Science (Major) — B.S. in Mathematics (Double Major) Mar. 2023 – Present
- GPA: 3.98 / 4.5 (Last Semester: 4.42 / 4.5)

RESEARCH INTERESTS

- Artificial Intelligence Security
- Systems Security
- Program Analysis and Software Verification

RESEARCH EXPERIENCE

- Undergraduate Research Assistant** Seoul, South Korea
CCS Lab, Korea University Jul. 2024 – Aug. 2024
 - Studied core topics in computer security and software supply chain security through paper reading and implementation-based research
 - Analyzed and compared major SBOM generation tools (HatBOM, cdxgen, Syft), focusing on design choices, output formats, and interoperability
 - Investigated the architecture and operational workflow of GUAC and analyzed requirements for SBOM ingestion and integration
 - Extended HatBOM to support Python and Java source code as input by modifying the SBOM build pipeline
 - Redesigned SBOM generation algorithms to ensure compatibility between HatBOM-generated SBOMs and GUAC
 - Evaluated SBOM validation tools (sbom-utility, sbomqs) and conducted testing using HatBOM outputs
 - Validated tool behavior through structured testing on Python and Java software projects
 - Improved SBOM translation by refactoring CycloneDX–SPDX conversion logic and handling missing specification fields

PROJECT EXPERIENCE

- Hyperspectral Imaging-based Prediction Models**
AI Research Project (Industry-Academia Collaborative Project – DeepPlant) Jun. 2025 – Dec. 2025
 - Designed and implemented end-to-end HSI prediction pipeline using FastAPI backend integrated with MLflow for experiment tracking and model serving
 - Developed data preprocessing and augmentation modules for hyperspectral datasets to improve model robustness and generalization
 - Implemented and evaluated multiple HSI model architectures including ResNet, 2D CNN, ViT, and hybrid CNN–Transformer models
 - Designed and implemented SSATDN, combining spectral–spatial attention (SeAM/SaAM), patch-based tokenization, and a Dense Transformer encoder, with ablation settings to analyze attention and fusion strategies
 - Integrated experiment configuration management and automated training workflows via MLflow, including automatic logging of metrics and artifacts
 - Conducted controlled experiments with various hyperparameter settings and monitored performance using MLflow dashboards
- Locker Reservation Backend System**
Information College Locker Service, Korea University Aug. 2025 – Nov. 2025
 - Designed and implemented a production-level backend server for locker reservation and management using Go and Fiber
 - Built RESTful APIs handling user authentication, locker allocation, reservation lifecycle, and administrative operations

- Integrated PostgreSQL for persistent storage and designed database schemas to ensure data consistency and integrity
- Focused on concurrency-safe request handling and system reliability under concurrent access scenarios

• Python Programming Textbook Development

Independent Educational Project

Dec. 2025 – Present

- Developing a structured Python textbook covering core programming concepts, data structures, and algorithms with implementation-focused explanations
- Designed modular LaTeX-based documentation system with custom concept and example environments for clarity and scalability
- Emphasized conceptual understanding through step-by-step derivations, annotated code examples, and practical problem-solving patterns

LEADERSHIP & SERVICE

• Information College Student Council

Seoul, South Korea

Vice President

Nov. 2024 – Nov. 2025

- Served as Vice President of the Information College Student Council, overseeing academic affairs and inter-department coordination
- Led executive committees and coordinated planning and execution of college-wide academic and student events

• Information College Student Council

Seoul, South Korea

Executive Committee Chair

Aug. 2024 – Nov. 2024

- Chaired executive committee meetings and coordinated cross-team operations within the student council

• Information College Student Council

Seoul, South Korea

Director of Academic Affairs

Dec. 2023 – Jul. 2024

- Managed academic support initiatives and served as a liaison between students, faculty, and administrative offices

• Information College Hackathon (InThon)

Seoul, South Korea

Head of Operations

Sep. 2025 – Nov. 2025

- Led planning and execution of a large-scale academic hackathon
- Coordinated multiple teams and managed schedules, logistics, and technical infrastructure

SKILLS

- **Programming Languages:** Python, C, Go
- **Machine Learning:** PyTorch, CNN, Transformer (foundational understanding)
- **Systems:** Linux, Git, Docker