

Hyeokmin Kwon

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EDUCATION

Handong Global University

B.S. in Computer Science, Advanced Major in AI Computer Science

Mar. 2021 – Present
Pohang, Republic of Korea

- **GPA:** 3.86 / 4.50; **Major GPA:** 3.96 / 4.50; **Percentile:** 93.6 / 100
- **Relevant Coursework:** Data Structures, Algorithms, Operating Systems, Database Systems, Machine Learning, Software Engineering, Compiler Theory

University of Cape Town

Finance with Accounting

Jan. 2020 – Dec. 2020
Cape Town, South Africa

PUBLICATIONS

A Survey on Leveraging Code Graphs for LLM-based Automated Program Repair

KCSE 2026

- Shinyeob Kang, Jikwang Lee, **Hyeokmin Kwon**, Jaechang Nam
- KCSE 2026 Proceedings, p. 170 — Full Paper, **Best Paper Award**

EnvAgent: Automated Conda Environment Building System for AI/ML Projects

KCSE 2026

- **Hyeokmin Kwon**, Jikwang Lee, Shinyeob Kang, Yongbean Chung, Jaechang Nam
- KCSE 2026 Proceedings, p. 198 — Short Paper

RESEARCH EXPERIENCE

Ultimate Interface Lab

Undergraduate Researcher, advised by Prof. Seongkuk Heo

Aug. 2026 – Present
UNIST

- Conducting HCI research on accessibility and human-AI interaction, exploring new interaction paradigms for frictionless collaboration between humans, computers, and AI agents.
- Working on agentic user interfaces and physical user interfaces, investigating how AI systems can proactively assist people with diverse accessibility needs in real-world tasks.

Intelligent Software Engineering Lab

Undergraduate Researcher, advised by Prof. Jae Chang Nam

Dec. 2024 – Jun. 2026
Handong Global University

- Conducted research on automated software engineering, LLM-based program repair, code graph analysis, and AI/ML environment automation.
- Co-authored two papers accepted to KCSE 2026, including one full paper that received the Best Paper Award.

Malware Detection Modeling Research

Research Assistant, Collaboration with UMV

Mar. 2026 – Jun. 2026
Handong Global University

- Worked on static-analysis-based malware detection research for Linux ELF, Windows PE, and document-based malware.
- Surveyed malware detection benchmarks and analyzed feature extraction pipelines for ML-based detection.

PROJECTS

EnvAgent: Automated Conda Environment Building Agent for AI/ML Projects	2025 – 2026
• Built an LLM-based agent workflow that analyzes project structure, dependency files, source-code imports, and installation logs to generate and repair Conda <code>environment.yml</code> files. • Designed AST-based import analysis and execution-feedback-based repair loops for missing packages, version conflicts, and installation failures.	
Survey on Code Graphs for LLM-based Automated Program Repair	2025 – 2026
• Reviewed 12 studies on AST, CFG, PDG, CPG, knowledge graphs, repository graphs, and graph-based representations for LLM-based program repair. • Contributed to a taxonomy covering graph-query retrieval, agent-driven graph exploration, dependency-based synchronization, and embedding-based input.	
UMV Malware Detection Project: Static Analysis and Benchmark Survey	Mar. 2026 – Jun. 2026
• Surveyed static-analysis-based malware detection methods, benchmark datasets, and file-type-specific features for Linux ELF, Windows PE, PDF, Word, and Excel files. • Investigated EMBER 2024 ELF subset experiments and LightGBM-based static feature modeling using byte histograms, entropy, strings, and metadata features.	
High-Availability CCTV Event System over MQTT	IoT Practice, Midterm Project
• Designed a high-availability MQTT event delivery system using Active/Backup Core failover, LWT-based failure detection, QoS 1 delivery, and local FIFO store-and-forward. • Implemented RTT-based relay path selection and UUID-based duplicate filtering to reduce event loss under unstable network conditions.	
LoRa-based Maritime Drowning Detection System	IoT Practice, Final Project
• Developed a LoRa-based drowning detection system using TTGO LoRa32, ultrasonic sensing, MPU-6050 accelerometer signals, Raspberry Pi gateway, and FastAPI/WebSocket dashboard. • Designed a broker-less lightweight pub/sub protocol over LoRa 923 MHz with TTL-based multi-hop relay, ACK-based QoS 1 delivery, duplicate suppression, and CRC-8 validation.	

HONORS & AWARDS

Google AI Agent Program & Competition, Encouragement Award — Context Guard	Jul. 2026
Capstone Festival, Excellence Award — Mitigating AI Hallucination	Jun. 2026
KCSE 2026, Best Paper Award — Code Graphs for LLM-based APR Survey	Feb. 2026
Academic Scholarship — Top 15%	Dec. 2025
Upstage AI Agent Hackathon, Grand Prize — EnvAgent using n8n	Nov. 2025
Software Festival, Convergence Track Grand Prize — Vintan Service	Nov. 2025
Software Festival, Convergence Track Excellence Award — Juum Service	Nov. 2025

ACTIVITIES

Seoul National University AI Big Data Fintech Program — Trainee, 13th Cohort	Jun. 2026 – Jul. 2026
Google AI Agent Program & Competition — Participant	Mar. 2026 – Jun. 2026
Java Programming — Teaching Assistant, Handong Global University	Mar. 2025 – Jun. 2025
Handong Software Foundation Open Source Community — Open Source Community Member	Dec. 2024 – Dec. 2025
LikeLion 13th Cohort — Backend Developer	Oct. 2024 – Aug. 2025
42 Gyeongsan — Cadet	Jul. 2024 – Dec. 2024

CERTIFICATIONS & LANGUAGES

- **Certifications:** Computer Specialist in Spreadsheet & Database Level 1, Linux Master Level 2
- **Languages:** Korean Native, English Professional Working Proficiency, OPIc IH, New TEPS 412

SKILLS

Programming: Python, Java, C/C++, SQL, Bash
Frameworks & Tools: Git, Docker, Linux, Conda, MySQL, Spring Boot, FastAPI, Flask, YAML, PyYAML
Security & Systems: Static Analysis, Malware Detection, MQTT, LoRa, Raspberry Pi, ESP32, Sensor-based Systems
AI/ML: OpenAI API, LLM Prompting, Error Log Analysis, LightGBM, scikit-learn, Feature Engineering