

# Hoeun Lee

February 28, 2001

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[Google Scholar](#) · [Blog](#) · [in](#) · [Q](#)

## EDUCATION

### • Konkuk University, Seoul [🔗](#)

March 2020 – Present

*Bachelor's Degree expected in Computer Science and Engineering*

Seoul, Korea

- Overall GPA: 4.48 / 4.50 [🔗](#)
- Major GPA: 4.50 / 4.50
- Top Ranked Student (1/233) for 5-semester in Dept. of Computer Science and Engineering
- Republic of Korea Air Force; Sergeant Honorable Discharged (Jan 2022 - Oct 2023)
- Expected to Early Graduate in August 2025

### • Chungnam Samsung Academy High School [🔗](#)

March 2017 – February 2020

*Honor and High School Diploma of Information Technology and Engineering*

Asan, Chungchungnam-do

- Grand Prize (1st) awarded Paper in School Academic Research Conference for Engineering (2018)
- Student President of the IT Diploma Students (2018)

## RESEARCH INTERESTS

- **Natural Language Processing** – LLM, Generative AI for Low-level System Optimization, Query Optimization and Processing
- **Deep Reinforcement Learning** – Language Model Alignment using Deep RL from Feedback (RLHF), VLAM (Robotics)

## EXPERIENCES

### • Undergraduate Research Intern, AIDAS Laboratory [🔗](#)

July 2024 – Present

*Artificial Intelligence, Big Data and System Laboratory, Studying System AI*

Seoul National University, Seoul

- Department of Electrical and Computer Engineering [🔗](#)
- Research on LLM, Generative AI for Low-level System Optimization
- Studying on Language Model Tuning using Deep RL (RLHF, RLAIIF)
- Advised by Prof. Jaeyoung Do

### • Undergraduate Research Intern, DMS Laboratory [🔗](#)

March 2021 – May 2024

*Distributed Multi-Media System Laboratory, Deep Reinforcement Learning Research Team*

Konkuk University, Seoul

- Department of Computer Science and Engineering
- Multi-Agent Deep Reinforcement Learning on Robotics Domain
- Research on Optimization using Deep Learning and Hyper-Heuristic Algorithm
- Advised by Prof. Dugki Min

## PUBLISHED PAPERS

1. S Jeon, Hoeun Lee, VK Kaliappan, TA Nguyen, H Jo, H Cho, D Min (October 2022), “**Multiagent Reinforcement Learning Based on Fusion-Multiactor-Attention-Critic for Multiple-Unmanned-Aerial-Vehicle Navigation Control**”, MDPI Energies 15 (19), 7426 [🔗](#)
2. H Jo, Hoeun Lee, S Jeon, VK Kaliappan, TA Nguyen, D Min, JW Lee (September 2021), “**Multi-Agent Reinforcement Learning-based UAS Control for Logistics Environments**”, Asia-Pacific International Symposium on Aerospace Technology, 963-972
3. S Yang, M Lee, Hoeun Lee, Y Kim (September 2018), “**Aircraft Identification and Route Tracking using a Model Satellite**”, 2018 KSAS Fall Conference, 431-434

## SCHOLARSHIP

### • National Science & Technology Excellence Scholarship

2024 – 2025

*Korea Government Full Scholarship by Ministry of Science and ICT for 2 years*

Korea Student Aid Foundation

### • Merit-based Academic Excellence Scholarship

2020 - 2021

*2020-2nd semester, 2021-1st and -2nd semester*

Konkuk University

## AWARDS AND HONORS

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### • Dean's List

2020 – 2024

Academic Excellence Award – 4 semesters (2020-2nd, 2021-1st/2nd, and 2024-1st)

College of Engineering, Konkuk University

### • Seoul National University Dental Hospital Healthcare AI Competition

December 2023

Grand Prize (1st)

Seoul Natl' University Dental Hospital

- Development of an AI Model for Classifying Dental Cavities using Synthesized Oral Image Data

### • 2023 Military AI Competition (MAICON)

December 2023

Fourth Place (4th)

Ministry of National Defense,  
Ministry of Science and ICT

- Deepfake Video Detection for Intelligent Cyber Threat Response in Military
- Video and Image Classification Task

### • 2023 Air Force Creativity and Innovation Idea Contest (Air Force AI Hackathon)

November 2023

Fourth Place (4th) in AI Part

Republic of Korea Air Force

- Target Identification using Sea-based Radar Range-Doppler Map (Image Classification Task)
- Instance Segmentation of Impact Zones in Air-to-Ground Missile Shooting Scoring Image

### • LH City Digital Twin Ideation Competition

April 2023

Participation Prize (4th)

Korea Land & Housing Corporation (LH)

- Solar Power Profit and Loss Calculation Service for Individual Households using Sunlight Analysis and Machine Learning-based Solar Power Expectation Algorithm

### • 4th Kookmin Bank Software Development Contest (KBSC 2021)

December 2021

Grand Prize (1th)

Kookmin Bank

- ESG Educational Metaverse to Help Develop Environmental Awareness
- Team Leader and Full-Stack Developer (Unity/C#, Django/Python) 

### • 2nd Kookmin Bank Software Development Contest (KBSC 2019)

December 2019

Excellence Prize (2th) in High School Student Part

Kookmin Bank

- Software for Relieving Tension using Virtual Reality and Machine Learning
- Developer (Unity/C#, Wearable Hardware Devices to Measure Heart Rate and Voice Volume with C, Python) and Machine Learning Algorithms to Measure Tension based on User Behaviour and Bio Data

### • 2018 Can-Satellite Competition Korea (CANSAT)

September 2018

Excellence Prize (2th) in High School Student Part

Ministry of Science and ICT,  
SaTReC, KAIST, KARI

- Aircraft Identification and Route Tracking by Doppler Effect with a Model Satellite
- Develop Model Satellites, Ground Station Program, Object-Tracking by Image Processing

### • 3rd National High School Club Software Development Competition

October 2018

Grand Prize (1th) and Popularity Award

Ministry of Science and ICT,  
IITP, KAIST

- Software for Improving Presentation Power using Virtual Reality and Machine Learning
- Developer (Unity/C# and Machine Learning Algorithm with Python)

## TECHNICAL SKILLS

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• **Programming Language:** Python, C/C++, MATLAB, SQL and Swift

• **Language:** English (advanced) and Korean (native)

• **AI/ML Tools:** PyTorch, LangChain, OpenMMLab, ML-Agents (Unity) and Isaac Sim (NVIDIA)

• **Development:** Git, Docker, OpenCV, Unity, Django, MySQL, PostgreSQL and Sqliite

## KEY COURSES

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• **Artificial Intelligence:** CS285(Deep Reinforcement Learning), Linear Algebra, Signal Processing, Artificial Intelligence, Data Science, Computational Theory, Digital Image Processing, Discrete Mathematics, Probability and Statistics, Open Source SW Project 1 (Deep Learning), Open Source SW Project 2 (Deep Reinforcement Learning), Stochastic Process

• **Computer Science:** Operating System, System Programming, Computer Network, Algorithm, Data Structure, Object-Oriented Programming, Database, Software Engineering, C/C++/JAVA Programming, Numerical Analysis