

# 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 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 and On-Device AI (sLLM)
- **Deep Reinforcement Learning** – Language Model Alignment using Deep RL Feedback (RLHF and RLAIIF)

## EXPERIENCES

### • AIDAS Laboratory Undergraduated Research Intern [🔗](#)

July 2024 – Present

*Artificial Intelligence, Big Data and System Laboratory; Studying Medical and 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

### • Distributed Multimedia System Laboratory Student Researcher [🔗](#)

March 2021 – May 2024

*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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- **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)
- **Dean's List** *2020 – 2021*  
*Academic Excellence Award – 2020-2nd, 2021-1st/2nd, and 2024-1st semester* Dept. of CSE, Konkuk University

## TECHNICAL SKILLS

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- **Programming Language:** C/C++, Python, MATLAB and Swift
- **Language:** English and Korean
- **AI/ML Tools:** PyTorch, LangChain, OpenMMLab, ML-Agents(Unity) and Isaac Sim(NVIDIA)
- **Development:** Git, Docker, OpenCV, Unity, Django and SQL

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

