

Gi-Hyeon Kim

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I am currently studying in KyungHee University as an undergraduate student. My major interest is Robust & Efficient Perception system for Intelligent Robots. Since 2019, I have tried various fields of SW development such as deep-learning based applications and DL service deployment systems and led many projects successfully. For now, I'm planning to conduct my research about intelligent planning system with various 3D scene representations.

PROFESSIONAL EXPERIENCE

Undergraduate Internship

Suwon, Gyeonggi-do

Undergraduate Research Internship in [Visual Science Lab](#)

March 2024–Ongoing

- Key Skills: **3D Scene Graph Generation**, Semantic Mapping, Object-Goal Navigation.
- Research for 3D Semantic Scene Graph Generation (**NeurIPS 25 Poster co-first author**)
- Research for Top-Down Semantic Mapping Task (ICCE-Asia Poster 1st author)
- Research for efficient object-goal navigation systems (KCC Poster 1st author)

Pentasecurity systems

Yeouido, Seoul

Junior SW developer, Industrial Technical Personnel (Military Service)

July 2021–August 2023

- Key Skills: **Anomaly Detections in Vehicle to Infrastructure(V2I)**, Big Data, Embedded System
- Development of Deep learning-based Anomaly Detection system in Basic-Safety Message on Cars for Road-side Units
- Development of Deep learning-based Anomaly Detection system of Vehicle Safety Messages in Display board
- Development of Deep learning-based Anomaly Detection system for Car-control system
- Development of embedded security system between rail-road control system and headquarter on Real-Time OS

DDH INC.

Jongro, Seoul

SW Developer Internship

February 2021–July 2021

- Key Skills: **Deep learning service deployment**, Docker, User Authentication system
- Designed hybrid backend infrastructure with On-premise & AWS Cloud for service
- Designed integrated user authentication system for overall services
- Developed deployment and research pipeline for deep learning based dental diagnosis service

WhyDots

Seong-Buk, Seoul

SW Developer Internship

July 2020–September 2020

- Key Skills: **Face Tracking**, Efficient Engine for robot motion control and perception system
- Developed vision system and contents for Pio(Robot for preventing Alzheimer's disease) such as MobileNet SSD based Face Detection, Colour Pad Detection, etc...
- Designed and Developed Robot engine mainly for perception system

EDUCATION

KyungHee UNIVERSITY

Bachelor of Software Convergence (Concentration: Robot-Vision Track),

Full-Scholarship (GPA: **4.09/4.3**)

Suwon, Gyeonggi-do

Mar 2019~Ongoing

AWARDS

- KyungHee University Autumn Programming Award (ACM-ICPC Nationwide Internet Competition), 2nd Prize

TECHNICAL SKILLS

- Programming languages: Python, C/C++, Javascript/Typescript, Go, etc...
- Frameworks: Deep Learning (Pytorch, Tensorflow, etc...), Various Frameworks for Backend Development (Nodejs, Nestjs, SvelteKit, etc...)
- Others: Docker, AWS, NoSQL, SQL, other various skills to develop & deploy web services
- Languages: English, Japanese, Korean (native)

Others

- Github: <https://github.com/kimh060612>
- LinkedIn: www.linkedin.com/in/gihyeon-kim-a684a1209

PUBLICATIONS

- KunHo Heo, GiHyeon Kim, SuYeon Kim, MyeongAh Cho. "Object-Centric Representation Learning for Enhanced 3D Semantic Scene Graph Prediction." 2025 Conference on Neural Information Processing Systems (NeurIPS), 2025.
- Kim, GiHyeon, et al. "Fine-Structured Learning for Semantic Map Representation." *2024 IEEE International Conference on Consumer Electronics-Asia (ICCE-Asia)*. IEEE, 2024
- GiHyun Kim, WonGyu Lee, MyeongAh Cho (2024-06-26). Long-Term Embedding Vector Memory for Robust Object-Goal Navigation. 한국정보과학회 학술발표논문집, 제주.