

CHOI SU HYUN

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RESEARCH INTERESTS

3D Scene Understanding (Depth Estimation, Reconstruction) | **Detection & Segmentation**

EDUCATION

Hanyang University (ERICA) Ansan, South Korea
B.S. in Robot Engineering (GPA: - / 4.5) Mar 2021 – Present

EXPERIENCE

Undergraduate Research Intern Jan. 2026 – Feb. 2026
Korea Electrotechnology Research Institute (KERI) Ansan, South Korea

- Constructed and preprocessed medical image datasets for deep learning-based biometric analysis
- Generated segmentation masks and performed image-mask alignment for supervised learning pipelines
- Implemented data cleaning and preprocessing workflows for medical imaging datasets
- Reviewed and experimented with GAN-based image analysis models

PROJECTS

Physical Security Mobile Robot System | *PyTorch, YOLO, OpenCV, ROS2* Mar 2025 – Present

- Designed and implemented a real-world physical security robot system for unauthorized access detection in Kakao Data Center (Ansan)
- Developed a multi-camera multi-object tracking (MCMOT) pipeline for cross-zone surveillance
- Implemented cross-camera person re-identification for continuous tracking across disjoint camera views
- Performed camera calibration and BEV (Bird's-Eye-View) projection for global spatial localization
- Integrated ROS2-based mobile robot dispatch and control system for autonomous interception and patrol

Kaggle Machine Learning Competition | *Python, PyTorch, NumPy* Dec 2025 – Present

- Achieved Top 12% on the Kaggle Public Leaderboard among over 3,000 teams
- Built PyTorch-based deep learning models with custom preprocessing and augmentation pipelines
- Designed cross-validation strategies and optimized models based on leaderboard feedback

AI Autonomous Driving Contest | *Python, ROS2, OpenCV, YOLO* Sep. 2025 – Nov. 2025

- Implemented camera-based lane detection for autonomous path following
- Developed YOLO-based recognition of traffic lights, pedestrians, and obstacles
- Integrated ROS-based Ackermann steering control for autonomous driving

TECHNICAL SKILLS

Languages: Python, C/C++
Frameworks: ROS2, PyTorch
Developer Tools: Git, VS Code, Ubuntu Linux, Docker
Libraries: NumPy, OpenCV

CERTIFICATION

KT AI AICE (Associate) | *Certified AI Competency Evaluation* Mar 2026

TOEIC 875 | *Test of English for International Communication* Mar 2026

LEADERSHIP & SERVICE

Executive Officer (General Affairs Lead)	<i>HY-MEC Robotics Engineering Society</i>	Mar 2025 – Dec 2025
<ul style="list-style-type: none">Planned, executed, and managed an autonomous driving hackathonOrganized technical seminars and robotics study sessions within the society		
Squad Leader & Drill Instructor	<i>Korea Army Training Center, Nonsan</i>	Apr 2023 – Oct 2024
<ul style="list-style-type: none">Led and trained recruits, managing daily drills and discipline		