

# Alvin Jinsung Choi

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Nationality: United States of America / Republic of Korea (Dual Citizenship)

## EDUCATION

<b>Korea Advanced Institute of Science and Technology (KAIST)</b> <i>M.S. in School of Electrical Engineering</i> <ul style="list-style-type: none"><li>Research topic: 3D Computer Vision, 3D Scene Understanding, Embodied AI</li><li>Advisor: Prof. Hyun Myung</li><li>GPA: 4.15 / 4.3</li></ul>	Mar. 2024 – Present
<b>Korea Advanced Institute of Science and Technology (KAIST)</b> <i>B.S. in School of Electrical Engineering</i> <ul style="list-style-type: none"><li>GPA: 3.56 / 4.3</li></ul>	Mar. 2017 – Feb. 2024

## PUBLICATIONS

<b>NeuDonatello: Uncertainty-Aware SDF Learning for High-Fidelity Neural Surface Reconstruction</b> <i>Alvin Jinsung Choi, Wanhee Kim, Taeyun Kim, Dasol Hong, Wooju Lee, Hyun Myung</i> AAAI Conference on Artificial Intelligence (AAAI), 2026 (Under review)	
<b>CLUE: Adaptively Prioritized Contextual Cues by Leveraging a Unified Semantic Map for Effective Zero-Shot Object-Goal Navigation</b> <i>Taeyun Kim, Alvin Jinsung Choi, Dasol Hong, Hyun Myung</i> IEEE International Conference on Robotics and Automation (ICRA), 2026 (Under review)	
<b>GSDB: A Lightweight Database for Gaussian Splatting Map-based Visual Localization Leveraging Edge-aware and Quality-guided View Filtering</b> <i>Sungjae Shin, Wanhee Kim, Alvin Jinsung Choi, Hyun Myung</i> International Conference on Control, Automation and Systems (ICCAS), 2025	

## PROJECTS

<b>Robot Experience</b>   <i>3D Reconstruction, NeRF, Neural Surface Reconstruction</i> <ul style="list-style-type: none"><li>Developed a 3D neural surface reconstruction framework from posed RGB images by leveraging uncertainty</li><li>Reconstructed real-world environments and integrated them into a robot learning framework to enable hyper-realistic training</li></ul>	Mar. 2024 – Present
<b>Neural SLAM</b>   <i>3D Gaussian Splatting, Multi-robot, SLAM</i> <ul style="list-style-type: none"><li>Designed a multi-robot SLAM framework utilizing 3D Gaussian Splatting for map representation in dynamic environments</li></ul>	Mar. 2024 – Present

## RESEARCH EXPERIENCE

<b>Undergraduate Research Intern, URL KAIST (Prof. Hyun Myung)</b> <i>Korea Advanced Institute of Science and Technology (KAIST)</i> <ul style="list-style-type: none"><li>Studied basics of robotics, 3D computer vision, 3D reconstruction, ROS, SLAM, etc.</li><li>Tested baseline algorithms for neural SLAM and 3D neural reconstruction frameworks</li></ul>	Mar. 2023 – Feb. 2024
<b>Undergraduate Research Intern, NICA KAIST (Prof. Young-Gyu Yoon)</b> <i>Korea Advanced Institute of Science and Technology (KAIST)</i> <ul style="list-style-type: none"><li>Studied basics of computer vision and deep learning</li><li>Studied denoising methods for neuron-cell detection using deep learning</li></ul>	Jun. 2022 – Dec. 2022

## ACADEMIC SERVICES

<b>Reviewer</b>   <i>RA-L</i>	2025
<b>Student Volunteer</b>   <i>CoRL</i>	2025

TEACHING

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<b>Teaching Assistant</b> <i>EE Career Development II</i>	Sep. 2025 – Present
<b>Teaching Assistant</b> <i>Electronics Design Lab. Communication System Design Using MATLAB and SIMULINK</i>	Mar. 2025 – Jun. 2025
<b>Teaching Assistant</b> <i>Introduction to Electronics Design Lab.</i>	Sep. 2024 – Dec. 2024

HONORS, AWARDS, & SCHOLARSHIPS

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<b>CES 2023 KAIST Hall Student Coordinator</b>   <i>Honors</i> <ul style="list-style-type: none"><li>Coordinated and managed the KAIST exhibition hall at CES 2023, overseeing operations and visitor engagement</li></ul>	Sep. 2022 – Jan. 2023
<b>LG Global Challenger</b>   <i>Awards</i> <ul style="list-style-type: none"><li>Artificial Organ Customizing Project using Digital Twin</li><li>Conducted interviews and site visits at 5 leading international institutes in 4 countries, focusing on research in systems biology and computational methods for biomedical technology</li></ul>	Jun. 2019 – Sep. 2019

EXTRACURRICULAR ACTIVITY

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<b>Hanwha-KAIST Mentorship Program Mentor</b>   <i>Mentoring</i>	Mar. 2023 – Feb. 2024
<b>KISS Summer School Buddy, KAIST</b>   <i>International Activity</i>	Jun. 2019 – Aug. 2019
<b>LG Global School Mentor</b>   <i>Mentoring</i>	Mar. 2019 – Dec. 2019
<b>Samsung Dream Class Mentor</b>   <i>Mentoring</i>	Mar. 2019 – Dec. 2019
<b>KAIST Cambodia Volunteer Team</b>   <i>Volunteering</i>	Sep. 2018 – Feb. 2019
<b>KAIST Basketball Team, Doolly</b>   <i>University Club</i>	Mar. 2017 – Feb. 2020
<b>Official Student Ambassador of KAIST, Kainuri</b>   <i>University Organization</i>	Mar. 2017 – Feb. 2019

LEADERSHIP EXPERIENCE

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<b>Counseling Assistant</b> <i>School of Electrical Engineering, KAIST</i>	Sep. 2024 – Present
<b>Military Service, Republic of Korea Army</b> <i>Information and Communications</i>	Aug. 2020 – Feb. 2022

TECHNICAL SKILLS

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**Languages:** Python, C/C++, MATLAB  
**Frameworks:** PyTorch, Habitat-Sim, ROS, Gazebo  
**Tools & Platforms:** Git, Docker, VS Code, PyCharm  
**Libraries:** NumPy, Matplotlib, OpenCV

LANGUAGE SKILLS

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**Korean:** Native Speaker  
**English:** Fluent (TOEFL 112, OPIC Advanced Low)