

Minkyun Seo

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EDUCATION

Seoul National University (SNU)

Integrated Ph.D. Program in Computer Science and Engineering

Sep. 2025 – Present

Seoul, Republic of Korea

- Advised by Prof. Jaesik Park at the Visual & Geometric Intelligence Lab
- GPA: 4.07/4.3

Seoul National University (SNU)

B.S. in Architectural Engineering, Computer Science and Engineering

Mar. 2019 – Aug. 2025

Seoul, Republic of Korea

- **Summa Cum Laude**, GPA: 3.93/4.3 (cumulative), 4.01/4.3 (CSE major)
- **Best BS Thesis Award**: Towards Zero-Shot Point Cloud Registration across Diverse Environments
- Jul. 2021 – Jan. 2023: Absence for mandatory military service

Sejong Science High School

Specialized High School for Gifted Students in Science and Mathematics

Mar. 2016 – Feb. 2019

Seoul, Republic of Korea

RESEARCH INTEREST

- **Geometric Feature Learning, 3D Reconstruction, 3D Vision for Robotics Applications**

PUBLICATION

1. Hyungtae Lim^{*}, **Minkyun Seo^{*}**, Luca Carlone, Jaesik Park[†], “Towards Zero-Shot Point Cloud Registration Across Diverse Scales, Scenes, and Sensor Setups”, *arXiv preprint*, 2026
2. **Minkyun Seo^{*}**, Hyungtae Lim^{*}, Kanghee Lee, Luca Carlone, Jaesik Park[†], “BUFFER-X: Towards Zero-Shot Point Cloud Registration in Diverse Scenes”, *Int. Conf. on Computer Vision (ICCV)*, 2025 (**Highlight**)

RESEARCH EXPERIENCE

Visual & Geometric Intelligence Lab (PI: Jaesik Park) | SNU

Research Intern

Dec. 2023 – Aug. 2025

Seoul, Republic of Korea

- Worked on generalizable point cloud registration for diverse real-world conditions

AIoT Lab (PI: Hyung-Sin Kim) | SNU

Research Intern

Jun. 2023 – Sep. 2023

Seoul, Republic of Korea

- Contributed to early-stage research on Covariate Shifts in Environment and Sensor Domain

PROJECTS

[P1] FastMRI Challenge, SNU

Jun. 2024 – Sep. 2024

- Implemented various memory optimization strategies to improve computational efficiency during training

[P2] Drone-Based 3D Reconstruction of SNU Lecture Hall

Apr. 2024 – Jun. 2024

- Reconstructed a 3D mesh model of the Lecture Hall at SNU from images captured using a drone
- Analyzed conditions leading to poor 3D reconstruction outcomes, emphasizing the need for methods that address the limitations of real-world data collection

[P3] Department Office Chatbot

May. 2024

- Developed a chatbot to assist with administrative office tasks using RAG and InstructGPT
- Integrated a diffusion model to provide contextualized responses with enhanced user experience

- [P4] **Avatar Texture Enhancement via 3D Patch-wise Loss** Sep. 2023 – Dec. 2023
- Improved avatar texture reconstruction by mitigating oversaturation of dominant colors caused by L1 loss
 - Introduced new evaluation metrics to address the absence of quantitative evaluation for texture reconstruction
- [P5] **PlayEye: Toy for Preventing Child Myopia** May. 2023 – Sep. 2023
- Developed child-friendly physical toy and software UI for efficient eye exercise and cognitive development
 - Implemented software to detect eye movement and manage audio, visual, and haptic I/Os
- [P6] **You Only Cook Once** Dec. 2022 – Mar. 2023
- Developed a cooking assistant AI which predicts the doneness of ingredients

SCHOLARSHIPS AND AWARDS

- Graduate Research Fellowship | DB Group** Sep. 2025 – Present
- National Excellence Scholarship | Korea Student Aid Foundation** Mar. 2021 – Jun. 2024
- Full tuition awarded to the top-performing students in science and engineering across the nation
- Merit-based Scholarship | SNU** Sep. 2019 – Feb. 2021, Jul. 2024 – Dec. 2024
- Grand Prize, Creative Engineering Design Fair | SNU Engineering [P5]** Sep. 2023
- Received a travel grant to Mobile World Congress(MWC) 2024 in Barcelona, Spain
- Grand Prize, National ICT Smart Device Contest | Ministry of Science and ICT [P5]** Aug. 2023
- Grand Prize, Ambient AI Competition | SNU Graduate School of Data Science [P6]** Mar. 2023
- Second Prize, FriendliAI LLM hackathon | FriendliAI [P3]** May. 2024
- Certificate of Appreciation | Republic of Korea Army** Jan. 2023
- Grand Prize, Military AI Specialist Program | Republic of Korea Army** Dec. 2022

EXTRACURRICULAR ACTIVITIES

- CES 2025 SNU Pavilion Student Supporter** Nov. 2024 – Jan. 2025
- Represented Tommoro Robotics, providing in-depth technical explanations of the company's core technologies
- AttentionX, AI Research Group** Jun. 2024 – Dec. 2024
- Leader, SNU Engineering Honor Society (STEM)** Mar. 2023 – Mar. 2025
- Served as the **representative of the 14th generation** of STEM, leading the top-performing engineering student society where 25 students are selected annually from 3,000+ engineering students.
 - Operated STEMentor: Major snapshot program to provide introductions and insights on engineering courses
 - Introduced and deployed the STEM Intranet platform
 - Delivered multiple academic seminars focused on advanced topics in Computer Vision
- Vision Mentoring & Vision Exhibition** Mar. 2023 – Present
- Conducting biannual mentoring sessions for 500+ underclassmen and high school students
 - Delivered lectures providing an overview of core computer science courses and their applications
- Presidential Security Service | Military Service** Jul. 2021 – Jan. 2023
- Provided security service for the President, immediate family and the Blue House, the presidential residence
- SNU Sunshine Volunteer | Habitat for Humanity International** Mar. 2020 – Jun. 2021
- Led 7 projects assisting low-income households by crafting wooden furniture and repairing homes