About Me

Hi! I am a Combined MS-PhD student in Intelligent Robots at SKKU advised by Prof. Hyeonwoo yu where I am a member of SKKU Artificial Intelligence and Robotics (Lair). As a researcher, I hope my research contribute to society positively and I believe that artificial intelligence is a step towards achieving that goal. My current research interest focuses on using deep learning techniques to enhance robots' spatial perception. By improving their ability to perceive their environment accurately, we can enable robots to make better decisions, perform more complex tasks, and ultimately help people in various ways.

Research Interests

- **Deep Learning:** 3D Vision, Vision Language Model, Bayesian learning, Generative model
- **Robotics:** Simultaneous Localization and Mapping (SLAM), Robot Perception, Adaptive Robot

Education

- 2024.03 - Present : M.S. & Ph.D. in School of **Intelligent Robots** at Sungkyunkwan University (SKKU)
- 2023.03 - 2024.02 : M.S. & Ph.D. in School of **Artificial Intelligence** at Ulsan National Institute of Science and Technology (UNIST)
- 2016.03 - 2023.02 : B.S. major in School of **Computer Science** and minor in **Mechanical Engineering** at Ulsan National Institute of Science and Technology (UNIST)

Publications

- **Bayesian NeRF: Quantifying Uncertainty with Volume Density in Neural Radiance Fields**
  Sibaek Lee, Kyeongsu Kang, Hyeonwoo Yu
  (arxiv), 2024
  [Paper] [Code] [Video]

- **Just Flip: Flipped Observation Generation and Optimization for Neural Radiance Fields to Cover Unobserved View**
  Minjae Lee, Kyeongsu Kang, Hyeonwoo Yu
  IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2024 (**Oral pitch & interactive presentation**)
  [Paper] [Code] [Video]

- **Necessity Feature Correspondence Estimation for Large-scale Global Place Recognition and Relocalization**
  Kyeongsu Kang, **Minjae Lee**, Hyeonwoo Yu
  (arxiv), 2023
  [Paper] [Code]

- **Literature review on Transformers in object detection**
  Elkhan Ismayilzada, **Minjae Lee** and Seungryul Baek
  Korean Artificial Intelligence Association (CKAIA), 2022

- **Free-form masked facial image inpainting via exploiting 2D and 3D information**
  Jihyeon Kim, Junuk Cha, Yeongjun Choo, **Minjae Lee**, Jitae Yoo, Yeonghun Oh, Hoseong Cho, Eunseo Kim, Chungseok Choi, Honggyu Lim, Donguk Min1, Eugene Shin, Seokun Kang and Seungryul Baek
  Korean Artificial Intelligence Association (CKAIA), 2022

Work Experience

- 2024.08 - Present : 3D Vision & Deep Learning Research Intern at Naver Labs
  Supervisor : Giseop Kim, Sunwook Choi

- 2024.03 - Present : Research Intern at Artificial Intelligence and Robotics Lab (SKKU)
  Supervisor : Hyeonwoo Yu

- 2022.08 - 2024.02 : Research Intern at Artificial Intelligence and Robotics Lab (UNIST)
  Supervisor : Hyeonwoo Yu

- 2021.06 - 2022.07 : Research Intern at Applied Cryptography Lab (UNIST)
  Supervisor: Miran Kim

Conference Review

- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2024
- IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2023

Presentation

- Korean Artificial Intelligence Association (CKAIA) Poster Session "Literature review on Transformers in object detection" (2022.11.18)
- UNIST Artificial Intelligence Challengers Program (AICP) Poster Session "Just Flip" (2023.11.14)
- LG DX Intensive Course, "Privacy-Preserving Machine Learning" (2022.08.03)
- LG DX Intensive Course, "Computer Vision" (2022.07.14)
- LG DX Intensive Course, "Privacy-Preserving Machine Learning" (2021.10.22)

Teaching

- Kyungnam AI Novatus Academy TA (2023.04 ~ 2023.07)
- EEE353 Convex Optimization TA (2023.03 ~ 2023.06)
- AI705 Nonparametric Bayesian TA (2022.09 ~ 2022.12)

Languages

- Korean: Native ★★★★★
- English: Professional ★★★★☆