



SUNGWON HWANG

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Education

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| Korea Advanced Institute of Science and Technology <i>M.S in Robotics Program (Advisor: Prof. Hyun Myung)</i> | Korea Feb. 2020 – Present |
| Korea Advanced Institute of Science and Technology <i>B.S in Mechanical Engineering</i> | Korea Aug. 2014 – Feb. 2020 |

Research Interest

- Deep Learning & Computer Vision
- Pointcloud & 3D Vision
- Visual Place Recognition

Research Project

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| Visual Place Recognition <i>Institute of Information & Technology Planning & Evaluation (IITP)</i> <ul style="list-style-type: none">• GAN-based place recognition algorithm robust to environmental changes. | Researcher Apr. 2021 – |
| AI604 Project (2020 Fall) <i>Equivariance-bridged $SO(2)$ Invariant Representation Learning using Graph Convolutional Network</i> <ul style="list-style-type: none">• Ranked 1st in project score• Submitted to International Conference on Machine Learning (ICML) & Under review. | Sep. 2020 – Dec. 2020 |
| Visual Landmark Recognition <i>National Intelligence Service (NIS)</i> <ul style="list-style-type: none">• Attention module to learn landmarks using CNN. | Researcher Feb. 2020 – Present |

Publications

Conference

1. Hyungtae Lim*, **Sungwon Hwang***, Sungjae Shin, and Hyun Myung, “Normal Distributions Transform is Enough: Real-time 3D Scan Matching for Pose correction of Mobile Robot Under Large Odometry Uncertainties,” in Proc. of Int’l Conf. on Control, Automation and Systems (ICCAS), Oct. 13-16, 2020. (*: **Equal Contribution**)

Journal

1. **[To be published]** Hyungtae Lim, **Sungwon Hwang**, and Hyun Myung, “ERASOR: Egocentric Ratio of Psuedo Occupancy-based Dynamic Object Removal for Static 3D Point Cloud Map Building,” in IEEE Robotics and Automation Letters (**RA-L**, **ICRA 2021 Option**).

Awards and Honors

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| Student Best Paper Award <i>Int’l Conf. on Control, Automation and Systems (ICCAS)</i> | Oct. 2020 |
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Academic Activities

Journal Reviewer

- IEEE Robotics and Automation Letters (RA-L), ICRA 2021 option