Sanghun Jung

Email : shjung13@cs.washington.edu
Website: https://shjung13.github.io
Last update: 2/24/2025

Education

University of Washington (UW) 2022 - present
Ph.D. in Computer Science and Engineering
Advisor: Prof. Byron Boots

Korea Advanced Institute of Science and Technology (KAIST) 2020 - 2022
M.S. in Artificial Intelligence
Advisor: Prof. Jaegul Choo
GPA: 4.06 / 4.30

Korea University 2013 - 2019
B.S. in Computer Science and Engineering
GPA: 3.70 / 4.50; Major GPA: 4.11 / 4.50
Military service during 2015 - 2016

Research Interest

Robot perception, Mobile manipulation, Learning from demonstration, and Autonomous driving

Selected Projects

Amazon Lab126 Internship - Open-vocabulary Indoor 3D Scene Understanding
Applied Scientist Intern - Summer Jun. 2025 - Sep. 2025
Improve 3D scene understanding with open-vocabulary.
Keywords: Open-vocabulary, CLIP, Vision language model (VLM), Indoor environments

Amazon Lab126 Internship - Open-vocabulary Indoor Instance Segmentation
Applied Scientist Intern - Summer Jun. 2024 - Sep. 2024
Find 3D object instances in indoor environments using 2D and 3D associations and VLM.
Keywords: Open-vocabulary, CLIP, Vision language model (VLM), Indoor environments

DARPA Robotic Autonomy in Complex Environments with Resiliency (RACER)
UW Perception Team Lead Sep. 2022 - present
High-speed ground vehicle autonomy in complex off-road terrain. Took a lead since Jan. 2024
Keywords: Geometry estimation, uncertainty estimation, BEV segmentation

Visual Navigation for Mobile Robots in Indoor Environments
Project member Nov. 2023 - present
Learning to plan from visual information in indoor environments.
Keywords: Mobile manipulation, multi-modal learning, sim-to-real transfer

Image-based Traversability Prediction using Self-supervision
Project Lead Mar. 2023 - Jan. 2024
Visual traversability learning from self-supervision signals.
Keywords: Contrastive learning, vehicle trajectories, segment-anything

Publications

* denotes equal contributions

[10] Tyler Han, Preet Shah, Sidharth Rajagopal, Yanda Bao, **Sanghun Jung**, Sidharth Talia, Gabriel Guo, Bryan Xu, Bhaumik Mehta, Rosario Scalise, Emma Romig, and Byron Boots. Demonstrating WheeledLab: Modern Sim2Real for Low-cost, Open-source Wheeled Robotics. *Under Review* [paper]

[9] **Sanghun Jung**, Jingjing Zheng, Ke Zhang, Nan Qiao, Albert Y. C. Chen, Lu Xia, Chi Liu, Yuyin Sun, Xiao Zeng, Hsiang-Wei Huang, Byron Boots, Min Sun, and Cheng-Hao Kuo. Detail Matters for Indoor Open-vocabulary 3D Instance Segmentation. *Under Review*

[8] Xiangyun Meng, Xuning Yang, **Sanghun Jung**, Fabio Ramos, Srid Sadhan Jujjavarapu, Sanjoy Paul, and Dieter Fox. Aim My Robot: Precision Local Navigation to Any Object. *Robotics and Automation Letters* (**RA-L**), 2025. [paper]

[7] **Sanghun Jung**, JoonHo Lee, Xiangyun Meng, Byron Boots, and Alexander Lambert. V-STRONG: Visual Self-Supervised Traversability Learning for Off-road Navigation. *International Conference on Robotics and Automation* (**ICRA**), 2024. [paper]

[6] Amirreza Shaban*, Brian JoonHo Lee*, **Sanghun Jung***, Xiangyun Meng, and Byron Boots. LiDAR-UDA: Self-ensembling Through Time for Unsupervised LiDAR Domain Adaptation. *International Conference on Computer Vision* (**ICCV**), 2023. **Oral Presentation** (1.8% acceptance rate) [paper] [code]

[5] **Sanghun Jung**, Jungsoo Lee, Nanhee Kim, Amirreza Shaban, Byron Boots, and Jaegul Choo. CAFA: Class-Aware Feature Alignment for Test-Time Adaptation. *International Conference on Computer Vision* (**ICCV**), 2023. [paper]

[4] Kyungmin Jo*, Gyumin Shim*, **Sanghun Jung**, Soyoung Yang, and Jaegul Choo. CG-NeRF: Conditional Generative Neural Radiance Fields. *Winter Conference on Applications of Computer Vision* (**WACV**), 2023. [paper]

[3] **Sanghun Jung***, Jungsoo Lee*, Daehoon Gwak, Sungha Choi, and Jaegul Choo. Standardized Max Logits: A Simple yet Effective Approach for Identifying Unexpected Road Obstacles in Urban-Scene Segmentation. *International Conference on Computer Vision* (**ICCV**), 2021. **Oral Presentation** (3.0% acceptance rate) [paper] [code]

[2] Sungha Choi*, **Sanghun Jung***, Huiwon Yun, Joanne T. Kim, Seungryong Kim, and Jaegul Choo. RobustNet: Improving Domain Generalization in Urban-Scene Segmentation via Instance Selective Whitening. *Computer Vision and Pattern Recognition* (**CVPR**), 2021. **Oral Presentation** (4.1% acceptance rate) [paper] [code]

[1] Jinho Choi, **Sanghun Jung**, Deokgun Park, Jaegul Choo, and Niklas Elmqvist. Visualizing for the Non-Visual: Enabling the Visually Impaired to Use Visualization. *Computer Graphics Forum* (**EuroVIS**), 2019. [paper]

Work Experience

Amazon Lab126 — Sunnyvale, CA
Applied Scientist Intern — Jun. 2025 - Sep. 2025
Will conduct research on open-vocabulary indoor 3D scene understanding

Amazon Lab126 — Bellevue, WA
Applied Scientist Intern — Jun. 2024 - Sep. 2024
Conducted research on open-vocabulary indoor 3D instance segmentation

Bear Robotics Korea — Seoul, South Korea
Robotics Engineer — 2019 - 2020
Conducted projects such as safe velocity controller and odometry and localization testing

Bear Robotics — Redwood City, CA, US
Robotics Engineering Intern — 2018 - 2019
Developed robot algorithms such as depth camera extrinsic calibration

Scholarship

KAIST Support Scholarship, KAIST — 2020, 2021
Veritas Program Scholarship, Korea University — 2018
Academic Excellence Scholarship for Freshmen, Korea University — 2013

Awards

Best Poster Award - Standardized Max Logits, KAIST AI Workshop — 2022

Invited Talks

Pre-Training for Robot Learning Workshop @ CoRL 2023 (Spotlight Talk) — Nov., 2023
Visual Self-Supervised Traversability Learning for Off-road Navigation

Hyundai Motor Group AI Research Seminar — Jul., 2021
Domain Generalization in Urban-Scene Segmentation

Naver AI LAB — Jul., 2021
RobustNet: Improving Domain Generalization in Segmentation