## SANGHUN JUNG

EDUCATION	
University of Washington (UW) Ph.D. in Computer Science and Engineering Advisor: Prof. Byron Boots	2022 - present
Korea Advanced Institute of Science and Technology (KAIST) M.S. in Artificial Intelligence Advisor: Prof. Jaegul Choo GPA: 4.06 / 4.30	2020 - 2022
Korea University B.S. in Computer Science and Engineering GPA: 3.70 / 4.50; Major GPA: 4.11 / 4.50 Military service during 2015 - 2016	2013 - 2019
Research Interest	
Robot perception, Learning from demonstration, and Autonomous driving	
Selected Projects	
Uncertainty-aware Accurate Terrain Elevation Modeling Project lead Predictive distribution modeling of terrain ground elevation with Neural Processes Keywords: Ground geometry, uncertainty, Neural Processes, Bayesian updates	Mar. 2025 - Present
<ul> <li>Amazon Lab126 Internship - Open-vocabulary Indoor Instance Segmentation Applied Scientist Intern - Summer</li> <li>Find 3D object instances in indoor environments using 2D and 3D associations and VLM.</li> <li>Keywords: Open-vocabulary, CLIP, Vision language model (VLM), Indoor environment</li> </ul>	Jun. 2024 - Sep. 2024 ats
<ul> <li>DARPA Robotic Autonomy in Complex Environments with Resiliency (RAC UW Perception Team Lead</li> <li>High-speed ground vehicle autonomy in complex off-road terrain. Took a lead since Jan. 2024</li> <li>Keywords: Geometry estimation, uncertainty estimation, BEV segmentation</li> </ul>	C <b>ER)</b> Sep. 2022 - Jun. 2023
Visual Navigation for Mobile Robots in Indoor Environments Project member Learning to plan from visual information in indoor environments. Keywords: Mobile manipulation, multi-modal learning, sim-to-real transfer	Nov. 2023 - Jan. 2025
Image-based Traversability Prediction using Self-supervision Project Lead Visual traversability learning from self-supervision signals. Keywords: Contrastive learning, vehicle trajectories, segment-anything	Mar. 2023 - Jan. 2024
PUBLICATIONS	
* denotes equal contributions	

[13] **Sanghun Jung**, Daehoon Gwak, Byron Boots, and James Hays. Uncertainty-aware Accurate Elevation Modeling for Off-road Navigation via Neural Processes. *Under Review*.

[12] Tyler Han, Yanda Bao, Gabriel Guo, Anubhav Vishwakarma, Emily Kang, Bhaumik Mehta, Jason Liren Zhou, <u>Sanghun Jung</u>, Bryan Xu, Rosario Scalise, and Byron Boots. Model Predictive Adversarial Imitation Learning for Planning from Observation. Under Review.

- [11] Hsiang-Wei Huang, Fu-Chen Chen, Wenhao Chai, Che-Chun Su, Lu Xia, <u>Sanghun Jung</u>, Cheng-Yen Yang, Jenq-Neng Hwang, Min Sun, and Cheng-Hao Kuo. Zero-shot 3D Question Answering via Voxel-based Dynamic Token Compression. *Computer Vision and Pattern Recognition* (CVPR), 2025.
- [10] Tyler Han, Preet Shah, Sidharth Rajagopal, Yanda Bao, <u>Sanghun Jung</u>, 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\*, <u>Sanghun Jung</u>\*, 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]
- Jinho Choi, <u>Sanghun Jung</u>, 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	Redwood City, CA / Seoul, South Korea
Robotics Engineer	2018 - 2020
Conducted projects on velocity control, sensor calibration, localization	
Scholarship	
KAIST Support Scholarship, KAIST	2020, 2021
Veritas Program Scholarship, Korea University	2018
Academic Excellence Scholarship for Freshmen, Korea Univer-	rsity 2013

AWARDS
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## Best Poster Award - Standardized Max Logits, KAIST AI Workshop2022INVITED TALKSPre-Training for Robot Learning Workshop @ CoRL 2023 (Spotlight Talk)Nov., 2023Visual Self-Supervised Traversability Learning for Off-road NavigationJul., 2021Hyundai Motor Group AI Research Seminar<br/>Domain Generalization in Urban-Scene SegmentationJul., 2021Naver AI LAB<br/>RobustNet: Improving Domain Generalization in SegmentationJul., 2021