Sanghun Jung

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Last update: 1/28/2026

Education

University of Washington (UW) 2022 - Present
Ph.D. in Computer Science and Engineering Expected Grad. Date: Mar. 2027
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

Vision-Language to Action (VLA), Robot Perception, Perception for Model Predictive Control (MPC)

Selected Projects

DARPA Robotic Autonomy in Complex Environments with Resiliency (RACER)
UW Perception Team Sep. 2022 - Present
High-speed ground vehicle autonomy in complex off-road terrain.
Keywords: Geometry Estimation, Uncertainty Estimation, BEV Segmentation

Vision-Language to Navigation for Outdoor Autonomy: Complex/Unstructured Environments
Project lead Oct. 2025 - Present
Language-guided planning and control with complex dynamics in unstructured environments
Keywords: Vision-language to Navigation, Model Predictive Control, Off-road, Spot

Uncertainty-aware Accurate Terrain Elevation Modeling
Project lead Mar. 2025 - Jun. 2025
Predictive distribution modeling of terrain ground elevation with Neural Processes
Keywords: Ground Geometry, Uncertainty, Neural Processes, Bayesian Updates

Visual Navigation for Mobile Robots in Indoor Environments
Project member Nov. 2023 - Jan. 2025
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, Learning from Demonstration, Visual Traversability

Peer-reviewed Publications

* denotes equal contributions

[13] Tyler Han, Yanda Bao, Bhaumik Mehta, Gabriel Guo, **Sanghun Jung**, Anubhav Vishwakarma, Emily Kang, Rosario Scalise, Jason Liren Zhou, Bryan Xu, and Byron Boots. Model Predictive Adversarial Imitation Learning for Planning from Observation. *International Conference on Learning Representations* (**ICLR**), 2026. [paper]

[12] **Sanghun Jung**, Daehoon Gwak, Byron Boots, and James Hays. Uncertainty-aware Accurate Elevation Modeling for Off-road Navigation via Neural Processes. *Conference on Robot Learning* (**CoRL**), 2025. [paper]

[11] 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. Wheeled Lab: Modern Sim2Real for Low-cost, Open-source Wheeled Robotics *Conference on Robot Learning* (**CoRL**), 2025. [paper] [code]

[10] **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. *International Conference on Computer Vision* (**ICCV**), 2025. [paper] [code]

[9] Hsiang-Wei Huang, Fu-Chen Chen, Wenhao Chai, Che-Chun Su, Lu Xia, **Sanghun Jung**, 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. [paper]

[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] [code]

[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]

Preprints

[3] Tyler Han, Siyang Shen, Rohan Baijal, Harine Ravichandiran, Bat Nemekhbold, Kevin Huang, **Sanghun Jung**, Byron Boots. Planning from Observation and Interaction. *Under Review,* 2026.

[2] Jungsoo Lee, Juyoung Lee, **Sanghun Jung**, and Jaegul Choo. Improving Evaluation of Debiasing in Image Classification. *arXiv preprint: 2206.03680*, 2023. [paper]

[1] Minsoo Lee, Chaeyeon Chung, Hojun Cho, Minjung Kim, **Sanghun Jung**, Minhyuk Sung, and Jaegul Choo. 3D-GIF: 3D-Controllable Object Generation via Implicit Factorized Representations with Unposed 2D Images. *arXiv preprint: 2203.06457*, 2022. [paper]

Work Experience

Amazon Lab126 — Sunnyvale, CA
Applied Scientist Intern — Jun. 2025 - Sep. 2025
Conducting research on VLA for improving robotic manipulation tasks

Amazon Lab126 — Bellevue, WA
Applied Scientist Intern — Jun. 2024 - Sep. 2024
Conducted research on open-vocabulary indoor 3D instance segmentation, published at ICCV'25

Bear Robotics Redwood City, CA / Seoul, South Korea
Robotics Engineer Intern / 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 University 2013

Awards

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

Peer-review Services

CVPR, ICRA ICCV 2023
CVPR, IJCV, WACV 2024
CVPR, IROS, ICCV, CoRL, IJCV 2025
CVPR, AAAI, WACV, IJCV, RA-L, ECCV 2026

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