

EDUCATION

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| 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 Bridging perception and control

SELECTED PROJECTS

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| Uncertainty-aware Accurate Terrain Elevation Modeling <i>Project lead</i> Predictive distribution modeling of terrain ground elevation with Neural Processes Keywords: Ground geometry, uncertainty, Neural Processes, Bayesian updates | Mar. 2025 - Present |
| DARPA Robotic Autonomy in Complex Environments with Resiliency (RACER) <i>UW Perception Team</i> High-speed ground vehicle autonomy in complex off-road terrain. Took a lead since Jan. 2024 Keywords: Geometry estimation, uncertainty estimation, BEV segmentation | Sep. 2022 - Present |
| Visual Navigation for Mobile Robots in Indoor Environments <i>Project member</i> 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 <i>Project Lead</i> Visual traversability learning from self-supervision signals. Keywords: Contrastive learning, vehicle trajectories, segment-anything | Mar. 2023 - Jan. 2024 |

PEER-REVIEWED PUBLICATIONS

* denotes equal contributions

- [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, Yanda Bao, Gabriel Guo, Anubhav Vishwakarma, Emily Kang, Bhaumik Mehta, Jason Liren Zhou, **Sanghun Jung**, Bryan Xu, Rosario Scalise, and Byron Boots. Model Predictive Adversarial Imitation Learning for Planning from Observation. *Under Review*. [paper]
- [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

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| Amazon Lab126 | Sunnyvale, CA |
| <i>Applied Scientist Intern</i> | Jun. 2025 - Sep. 2025 |
| Conducting research on VLA for improving robotic manipulation tasks | |
| Amazon Lab126 | Bellevue, WA |
| <i>Applied Scientist Intern</i> | Jun. 2024 - Sep. 2024 |
| Conducted research on open-vocabulary indoor 3D instance segmentation | |
| Bear Robotics | Redwood City, CA / Seoul, South Korea |
| <i>Robotics Engineer Intern / Robotics Engineer</i> | 2018 - 2020 |
| Conducted projects on velocity control, sensor calibration, localization | |

SCHOLARSHIP

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

AWARDS

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| Best Poster Award - Standardized Max Logits, KAIST AI Workshop | 2022 |
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PEER-REVIEW SERVICES

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| CVPR, ICRA ICCV | 2023 |
| CVPR, IJCV, WACV | 2024 |
| CVPR, IROS, ICCV, CoRL, IJCV | 2025 |
| AAAI, WACV | 2026 |

INVITED TALKS

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| 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 | |