Sung-Yeon Park

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Research Interests

- 3D Scene Understanding, Large Language Models, Scene Reconstruction, Generative World Models, Spatial Reasoning
- Digital Twin Simulation, Autonomous Driving

Education

- **Purdue University** West Lafayette, IN, USA
  Ph.D. at Digital Twin Lab; *Aug 2024 -*
- **Seoul National University** Seoul, South Korea
  B.S. and M.S. in Civil and Environmental Engineering; *March 2017 - Feb 2023*

Work Experiences

- **Glucofit** *Machine Learning Engineer* (Mar 2023 - Jun 2024)
- **Deer Mobility** *Data Scientist* (July 2020 - Sep 2020)
- **Samsung Creative Lab** *In-house Venture Accelerator Intern* (Jan 2020 - Feb 2020)

Conference Papers (Selected)

- **Park, S.-Y.**, Lee, A., Lu, J., Cui, C., Jiang, L., Gupta, R., Han, K., Moradipari, A., Wang, Z.* (preprint). *SIMSplat: Predictive Driving Scene Editing with Language-aligned 4D Gaussian Splatting.*
- Cui, C., Zhou, Y., Peng, J., **Park, S.-Y.**, Yang, Z., Sankaranarayanan, P., Zhang, J., Zhang, R., & Wang, Z.* (preprint). *ViLaD: A Large Vision Language Diffusion Framework for End-to-End Autonomous Driving.*
- **Park, S.-Y.**, Cui, C., Ma, Y., Moradipari, A., Gupta, R., Han, K., & Wang, Z.* (2025, Oct 19-23). *NuPlanQA: A Large-Scale Dataset and Benchmark for Multi-View Driving Scene Understanding in Multi-Modal Large Language Models.* International Conference on Computer Vision, (**ICCV**), Hawaii, United States.
- C. Cui, Yang, Z., Zhou, Y., Peng, J., **Park, S.-Y.**, Zhang, C., Ma, Y., Cao, X., Ye, W., Feng, Y., Panchal, J., Li, L., Chen, Y., & Wang, Z.*(2025, Oct 19-25). *On-Board Vision-Language Models (VLMs) for Personalized Motion Control of Autonomous Vehicles.* International Conference on Intelligent Robots and Systems (**IROS**) Hangzhou, China.
- **Park, S.-Y.**, Lee, M.-J., Choi, H.-H., Kang, J.-H., Park, Y.-A., Cho, J.-H., Lee, A.,& Kim, D.-K.* (2024, Jan 4-8). *VLAAD: Vision and Language Assistant for Autonomous Driving.* IEEE/CVF Winter Conference on Applications of Computer Vision (**WACV**), Hawaii, United States.
- **Park, S.-Y.**, Lee, M.-J., Choi, H.-H., Kang, J.-H., Park, Y.-A., Cho, J.-H., Lee, A.,& Wang, Z.* (2025, Jan 5-9). *Bird's-Eye-View Reasoning on Driving Scene with Large Language Model.* Transportation Research Board 104^{th} Annual Meeting, (**TRB**), Washington D.C., United States.

Journal Publications

- **Park, S.-Y.**, Joo, Y.-J., & Kim, D.-K.* (2023). Order Dispatching in Ride-pooling with Walking Points Search. *Transportation Research Record*, 0(0). https://doi.org/10.1177/03611981231175890
- **Park, S.-Y.**, Ham, S.-W., & Kim, D.-K.*. (2023). User Segmentation based on Travel Regularity in E-scooter Sharing Service. *Transportation Research Record*, 2677(7), 290–306. https://doi.org/10.1177/03611981231152256

Professional Activities

- Workshop Organizer
  - WACV 2026 Workshop on Large Language and Vision Models for Autonomous Driving
  - ICCV 2025 Workshop on Distillation of Foundation Models for Autonomous Driving
  - ITSC 2024 Workshop on Large Language and Vision Models for Autonomous Driving
- Journal Reviewer
  - IEEE Internet Computing
  - IEEE Transactions on Intelligent Vehicles
  - IEEE Transactions on Intelligent Transportation Systems
  - Transportation Research Record

Honors and Awards

- **Best Paper Award (The 2023 Transportation Research Board Annual Meeting) - Feb, 2023**
- Best Paper Award (The 40th International Conference of the Korean Society of Transportation) - Sep, 2022
- Outstanding Graduate Student Instructor (College of Engineering, Seoul National University) - April, 2022
- Outstanding Graduate Award (Korean Society of Transportation) - February, 2021

Scholarships

- Lotte Foundation Scholarship - 2017-F, 2018-S, 2018-F, 2019-S, 2019-F, 2020-S, 2020-F
- Samsung Dream Scholarship - 2018-F, 2019-S
- DL Construction based Scholarship from Seoul National University - 2019-F, 2020-S
- Seoul National University Gwanak Foundation Scholarship - 2020-F

Teaching Assistant

- 457.301(001) Transportation Planning - 2021-S, 2022-S
- 457.208(001) Transportation Engineering - 2021-F, 2022-F
- 457.526A(001) Public Transportation Engineering - 2022-S
- 457.405(001) Introduction to Traffic Operation - 2022-S

Skills Summary

- Python
- Pytorch, Transformers
- LaTeX, Figma