Hayeon Oh

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Field of Interest

○ Physical AI
○ LLM Agent for Autonomous Driving
○ Vision-Language-Action Alignment

Education

Hanyang University *Mar. 2023 – Feb. 2025*
M.S in Automotive Engineering (Advisor : Kunsoo Huh) *Seoul, South Korea*

Hanyang University *Mar. 2019 – Feb. 2023*
B.S in Electrical Engineering, Cum Laude *Ansan, South Korea*

Experience

Research Associate (Post-Master's Researcher) *Daejeon, South Korea*
ETRI (Electronics and Telecommunications Research Institute) *Feb. 2025 – Current*

○ Research on incorporating counterfactual reasoning into an LLM agent.
○ Research on leveraging reinforcement fine-tuning with path planning.

Research Intern *Daejeon, South Korea*
ETRI (Electronics and Telecommunications Research Institute) *Jan. 2023 – Feb. 2023*

○ Developed action detection model identifying rear light for trajectory prediction.
○ Developed semantic segmentation model for regional understanding.

Research Intern *Daejeon, South Korea*
ETRI (Electronics and Telecommunications Research Institute) *Jul. 2022 – Aug. 2022*

○ Developed a converter for simulation data compatible with SOTA models.

Publications

○ "From What-If to How-To: Preference Learning for Counterfactual Reasoning in Autonomous Driving"
Hayeon Oh, **(Preprint)**, 2025.

○ "LaViPlan: Language-Guided Visual Path Planning with RLVR"
Hayeon Oh, *International Conference on Computer Vision **(ICCV)** 2025 Workshop on the Challenge of Out-of-Label Hazards in Autonomous Driving*, 2025.

○ "Fine-Grained Weather Awareness with Vision-Language Models for Seamless Autonomous Driving in Real Time"
Jinwoo Kim, **Hayeon Oh**, Youngmin Oh, Kyounghwan An, Donghwan Lee, *International Conference on Computer Vision **(ICCV)** 2025 Workshop on the Challenge of Out-of-Label Hazards in Autonomous Driving*, 2025.

○ "SeSame: Simple, Easy 3D Object Detection with Point-Wise Semantics"
Hayeon Oh, Chanuk Yang, Kunsoo Huh, *Asian Conference on Computer Vision **(ACCV)***, 2024.

○ "Longitudinal Localization of Autonomous Vehicles Using Camera-Lidar Based Landmarks"
Hayeon Oh, Chanuk Yang, Seongjun Park, Kunsoo Huh, *Proceedings of the Korean Society of Automotive Engineers*, 2023.

○ "Comparative Analysis of Deep Learning Model for Depth Completion"
Hayeon Oh, Kanghee Park, Donghyun Kim, Haewoon Nam, *Proceedings of Symposium of the Korean Institute of Communications and Information Sciences*, 2022.

Honor & Awards

Special Prize in the Autonomous Electric Vehicle Competition (link) ↗   *Oct. 2022*
TS, KATECH, KASA

Hanyang Brain Scholarship   *2019S, 2019F, 2020S, 2022F*
Hanyang University