

Hyun-Kurl Jang

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RESEARCH SUMMARY

I am a Ph.D. candidate in the Department of Mechanical Engineering at KAIST, advised by Prof. Kuk-Jin Yoon in the Visual Intelligence Laboratory.

My goal is **robust and adaptive spatial intelligence**: systems that understand 3D space reliably in the environments they are deployed into, and that keep that understanding as the environment changes.

RESEARCH INTEREST

- 3D and Multi-Modal Scene Understanding
- Robustness under Distribution Shift
- Test-Time, Continual, and Domain Adaptation
- Vision Foundation Models

EDUCATION

- **Korea Advanced Institute of Science and Technology (KAIST)** Daejeon, South Korea
Integrated M.S./Ph.D. in Mechanical Engineering (GPA: 4.01/4.3)
Sept. 2022 – Present
Advisor: Kuk-Jin Yoon, Visual Intelligence Laboratory
- **Korea Advanced Institute of Science and Technology (KAIST)** Daejeon, South Korea
B.S. in Mechanical Engineering (GPA: 3.57/4.3)
March 2016 – August 2022

PUBLICATIONS

(* denotes equal contribution.)

- [NeurIPS 2026] **Hyun-Kurl Jang**, Jihun Kim, Kuk-Jin Yoon. “Preference-Guided Adaptation for Open-Vocabulary Semantic Segmentation via Prompt Disagreement”
Adapts open-vocabulary segmentation by exploiting disagreement across text prompts as a training signal.
- [ECCV 2026] **Hyun-Kurl Jang***, Jihun Kim*, Hyeokjun Kweon*, Kuk-Jin Yoon. “Distill Once, Adapt Life-Long: Exploring Dataset Distillation for Continual Test-Time Adaptation”
Uses distilled data to stabilize continual test-time adaptation against error accumulation and catastrophic forgetting.
- [ECCV 2026] Yuhwan Jeong*, Hyeonseong Kim*, Daehyun We*, Seonkyu Song*, Jinnyeong Yang*, **Hyun-Kurl Jang**, Youngho Yoon, Seokwoo Jung, Kuk-Jin Yoon. “FrozenDrive: Zero-Shot Text-Guided Driving Scene Generation and Data Augmentation with Parameter-Free Frozen Diffusion Model”
Generates multi-view, temporally coherent driving scenes on a frozen diffusion backbone, preserving text guidance.
- [ECCV 2026 CDEL Workshop, Oral] Jihun Kim*, **Hyun-Kurl Jang***, Hyemin Yang*, Jinnyeong Yang*, Hyeokjun Kweon*, Kuk-Jin Yoon. “Bootstrapping a 4D LiDAR Annotation Tool from Video Foundation Models”
Transfers video foundation models to 4D to cut manual annotation cost for 4D segmentation.
- [CVPR 2026] Hyeonseong Kim*, **Hyun-Kurl Jang***, Kuk-Jin Yoon. “Test-Time Training for LiDAR Semantic Segmentation under Corruption via Geometric Inlier Discrimination”
Restores LiDAR segmentation accuracy under real-world sensor corruption at test time.
- [NeurIPS 2024] **Hyun-Kurl Jang***, Jihun Kim*, Hyeokjun Kweon*, Kuk-Jin Yoon. “TALoS: Enhancing Semantic Scene Completion via Test-time Adaptation on the Line of Sight”
Turns observations available at inference into self-supervision for semantic scene completion.
- [ECCV 2024] Youngho Yoon*, **Hyun-Kurl Jang***, Kuk-Jin Yoon. “GMT: Enhancing Generalizable Neural Rendering via Geometry-Driven Multi-Reference Texture Transfer”
- [CVPR 2023, Highlight] Taewoo Kim, Yujeong Chae, **Hyun-Kurl Jang**, Kuk-Jin Yoon. “Event-based Video Frame Interpolation with Cross-Modal Asymmetric Bidirectional Motion Fields” (**Top 2.5% of submissions**)

RESEARCH PROJECTS (INDUSTRY & GOVERNMENT)

- **Autonomous Driving in Unstructured Off-Road Environments** 2025 – Present
Hanwha Aerospace.
- **Data Augmentation and Sensor Fusion for Robust Autonomous Driving** 2025
42dot.
- **2025 HMG Autonomous Driving Challenge** 2024
HMG. Advisor.
- **AI Research for Intelligent X-ray Luggage Scanning System** 2022 – 2024
Korea Customs Service.

PROFESSIONAL SERVICE

- Reviewer: **CVPR, ICCV, ECCV, NeurIPS**
- Selected as a **NeurIPS 2025 Top Reviewer**

HONORS AND AWARDS

- Gold Prize, Best Paper Awards, 35th Workshop on Image Processing and Image Understanding (IPIU) 2023