

# Gyeongrok Oh

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## Research Interests

- **Multi-modal Representation Learning:** unified modeling of language, vision, and audio in large-scale foundation models.
- **Embodied AI Systems:** 3D perception and domain adaptation for real-world embodied agents.

## Education

### Korea University

Ph.D. in Artificial Intelligence  
GPA: 4.28 / 4.5  
Advisor: [Prof. Sangpil Kim](#)

*Seoul, South Korea*  
Sep. 2022 – Present

### Inha University

B.S. in Computer Science  
GPA: 4.0 / 4.5  
Advisor: [Prof. Jinman Jung](#)

*Incheon, South Korea*  
Mar. 2016 – Aug. 2022

## Research Experience

### Samsung Advanced Institute of Technology (SAIT)

Visiting Researcher, Computer Vision Lab  
Advisors: [Ph.D. Sujin Jang](#)  
Projects: Autonomous Driving, Vision-Language Navigation

*Jan. 2024 – Feb. 2025*

### Korea University

Research Intern, Computer Vision Lab  
Advisor: [Prof. Sangpil Kim](#)  
Projects: Generative Model, Multi-modal Fusion

*Dec. 2021 – Aug. 2022*

## Publications († Equal contribution)

### Conference Papers

[C8] **ICP-4D: Bridging Iterative Closest Point and LiDAR Panoptic Segmentation**  
Gyeongrok Oh, Youngdong Jang, Jonghyun Choi, Suk-Ju Kang, Guang Lin, Sangpil Kim  
*Submission, 2026* [[paper](#)]

[C7] **Active Test-time Vision-Language Navigations**

Heeju Ko, Sungjune Kim, **Gyeongrok Oh**, Jeongyoon Yoon, Honglak Lee, Sujin Jang, Seungryong Kim, Sangpil Kim  
*NeurIPS, 2025* [[paper](#)]

[C6] **Test-time Adaptation for Online Vision-Language Navigation with Feedback-based Reinforcement Learning**

Sungjune Kim<sup>†</sup>, **Gyeongrok Oh**<sup>†</sup>, Heeju Ko, Daehyun Ji, Dongwook Lee, Byung-Jun Lee, Sujin Jang\*, Sangpil Kim\*  
*ICML, 2025* [[paper](#)]

[C5] **3D Occupancy Prediction with Low-Resolution Queries via Prototype-aware View Transformation**

Gyeongrok Oh<sup>†</sup>, Sungjune Kim<sup>†</sup>, Heeju Ko, Hyung-gun Chi, Jinkyu Kim, Dongwook Lee, Daehyun Ji, Sungjoon Choi, Sujin Jang\*, Sangpil Kim\*  
*CVPR, 2025* [[paper](#)]

[C4] **MEVG: Multi-event Video Generation with Text-to-Video Models**

Gyeongrok Oh, Jaehwan Jeong, Sieun Kim, Wonmin Byeon, Jinkyu Kim, Sungwoong Kim, Sangpil Kim  
*ECCV, 2024* [[paper](#)]

[C3] **CMDA: Cross-Modal and Domain Adversarial Adaptation for LiDAR-based 3D Object Detection**

Gyusam Chang<sup>†</sup>, Wonseok Roh<sup>†</sup>, Sujin Jang, Dongwook Lee, Daehyun Ji, **Gyeongrok Oh**, Jinsun Park, Jinkyu Kim\*, Sangpil Kim\*  
*AAAI, 2024* [[paper](#)]

## [C2] Functional Hand Type Prior for 3D Hand Pose Estimation and Action Recognition from Egocentric View Monocular Videos

Wonseok Roh, Seung hyun Lee, Won Jeong Ryoo, **Gyeongrok Oh**, Jakyung Lee, Soo Yeon Hwang, Hyung-gun Chi, Sangpil Kim

*BMVC (Oral), 2023* [paper]

## [C1] Sound-Guided Semantic Video Generation

Seung hyun Lee, **Gyeongrok Oh**, Wonmin Byeon, Chanyoung Kim, Won Jeong Ryoo, Sang Ho Yoon, Jihyun Bae, Jinkyu Kim\*, Sangpil Kim\*

*ECCV, 2022* [paper]

## Journal Papers

### [J4] LVMARK: Robust Watermark for Latent Video Diffusion Models

MinHyuk Jang, Youngdong Jang, JaeHyeok Lee, Feng Yang, **Gyeongrok Oh**, Jongheon Jeong, Sangpil Kim

*Submission, 2025* [paper]

### [J3] FPA Net: Frequency-based Video Demoiréing using Frame-level Post Alignment

**Gyeongrok Oh**, Sungjune Kim, Heon Gu, Sang Ho Yoon, Jinkyu Kim, Sangpil Kim

*Neural Networks, 2025. JCR 10%* [paper]

### [J2] Robust Sound-Guided Image Manipulation

Seunghyun Lee†, Hyung-gun Chi†, **Gyeongrok Oh**, Wonmin Byeon, Sang Ho Yoon, Hyunje Park, Wonjun Cho, Jinkyu Kim\*, Sangpil Kim\*

*Neural Networks, 2024. JCR 10%* [paper]

### [J1] Audio-Guided Implicit Neural Representation for Local Image Stylization

Seung Hyun Lee†, Sieun Kim†, Wonmin Byeon, **Gyeongrok Oh**, Sumin In, Hyeongcheol Park, Sang Ho Yoon, Sung-hee Hong, Jinkyu Kim\*, Sangpil Kim\*

*Computational Visual Media, 2024. JCR 10%* [paper]

## 💡 Patents

### [P1] Method and Apparatus with 3D Occupancy Prediction Learning

US Patent

**Gyeongrok Oh**, Sujin Jang, Sangpil Kim, Sungjune Kim, Jinkyu Kim, Dongwook Lee, Dae Hyun Ji  
US20250356594A1, 2025 (Pending)

## 🏫 Teaching Experience

### Korea University

Teaching Assistant

*Seoul, South Korea*

- Statistics (2023), Computer Vision (2025), Intelligent Mobility (2025)

### LG CNS

Teaching Assistant

*Seoul, South Korea*

- Anomaly Detection Course for Executives and Employees (2022, 2023)

### Inha University

Teaching Assistant

*Incheon, South Korea*

- Data Structures (2021)

## 🏆 Awards & Honors

### BK21 Academic Excellence Scholarship

Korea University

### Departmental Scholarship

Department of Computer Science

Inha University

2020–2022

## 👤 Academic Services

Reviewer: CVPR (2024–2026), ICCV (2025), WACV (2023, 2025–2026)

Program Committee: AAAI (2025–2026)