

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[†], Gyeongrok Oh[†], 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[†], Sungjune Kim[†], 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[†], Wonseok Roh[†], 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] FPNNet: Frequency-based Video Demoireing 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, Su Jin Jang, Sangpil Kim, Sungjune Kim, Jinkyu Kim, Dongwook Lee, Dae Hyun Ji

US20250356594A1, 2025 (Pending)

👤 Teaching Experience

Korea University

Seoul, South Korea

Teaching Assistant

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

LG CNS

Seoul, South Korea

Teaching Assistant

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

Inha University

Incheon, South Korea

Teaching Assistant

- Data Structures (2021)

🏆 Awards & Honors

BK21 Academic Excellence Scholarship

Korea University

Departmental Scholarship

Inha University

Department of Computer Science

2020–2022

👤 Academic Services

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

Program Committee: AAAI (2025–2026)