Honggyu An

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Research Interests

3D Vision: 3D/4D reconstruction scene understanding, novel-view synthesis, depth estimation, visual correspondence.

Education

Korea Advanced Institute of Science Technology (KAIST) Sep. 2024 – Present

Integrated M.S./Ph.D. in Computer Science Engineering · Seoul, Korea

Advisor: Prof. Seungryong Kim

Korea University Mar. 2024 – Aug. 2024

M.S. in Computer Science Engineering · Seoul, Korea

Advisor: Prof. Seungryong Kim

Korea University Mar. 2020 – Feb. 2024

B.S. in Computer Science Engineering · Seoul, Korea

GPA: 4.33 / 4.50

Experience

Sony Group Corporation Sep. 2026 – Dec. 2026

Research Intern · Tokyo, Japan

Mentors: Takuya Narihira, Kazumi Fukuda, Yuki Mitsufuji

Computer Vision Lab, Korea University Jan. 2022 – Feb. 2024

Undergraduate Research Intern · Seoul, Korea

Advisor: Prof. Seungryong Kim

Research Collaboration

Sony AI Sep. 2024 – Present

Collaborators: Takuya Narihira, Kazumi Fukuda, Yuki Mitsufuji · Tokyo, Japan

- Improved feed-forward 3D reconstruction for dynamic scenes with 4D pointmaps (D^2USt3R, NeurIPS 2025).
- Developed compact Gaussian scene representations for reconstructing understanding 3D/4D scenes (C3G, CVPR 2026).

Publications

* Equal contribution · † Equal advising

Conference and Workshop Papers

Siyoon Jin*, Dahyun Chung*, **Honggyu An**, Sangbeom Lim, Wonjin Nam, Jaewoo Jung, Wonjun Moon, Seungryong Kim†
Repurposing Video Diffusion Transformers for Cross-View Spatiotemporal Object Correspondence
NeurIPS 2026

Jaewoo Jung, Hyunseo Yu, **Honggyu An**, Jisang Han, Mungyeom Kim, Minkyeong Jeon, Heeseong Shin, Wonjun Moon, Federico Tombari, Daniel Barath, Marc Pollefeys†, Seungryong Kim†, Sunghwan Hong†
Imagine3D-LLM: Teaching MLLMs to Imagine 3D Scenes Before Answering
NeurIPS 2026

Jisu Nam, Jahyuk Koo, Soowon Son, Jaewoo Jung, **Honggyu An**, Junhwa Hur†, Seungryong Kim†
TrackCraft3R: Video Diffusion Model for 3D Tracking
NeurIPS 2026

Honggyu An*, Jaewoo Jung*, Mungyeom Kim, Sunghwan Hong, Chaehyun Kim, Kazumi Fukuda, Minkyeong Jeon, Jisang Han, Takuya Narihira, Hyuna Ko, Junsu Kim, Yuki Mitsufuji†, Seungryong Kim†
C3G: Learning Compact 3D Representations with 2K Gaussians
CVPR 2026

Jisang Han, Sunghwan Hong, Jaewoo Jung, Wooseok Jang, **Honggyu An**, Qianqian Wang, Seungryong Kim, Chen Feng
Emergent Outlier View Rejection in Visual Geometry Grounded Transformers
CVPR 2026

Jaewoo Jung*, Jisang Han*, **Honggyu An***, Jiwon Kang*, Seonghoon Park*, Seungryong Kim
RAIN-GS: Relaxing Accurate Initialization Constraint for 3D Gaussian Splatting
WACV 2026

Jisang Han*, Seonghu Jeon*, Jaewoo Jung, Rene Zurbrugg, **Honggyu An**, Tiffany Portela, Marco Hutter, Marc Pollefeys, Seungryong Kim, Sunghwan Hong†
Geometric Action Model for Robot Policy Learning
ECCVW 2026

Jisang Han*, **Honggyu An***, Jaewoo Jung*, Takuya Narihira, Junyoung Seo, Kazumi Fukuda, Chaehyun Kim, Sunghwan Hong, Yuki Mitsufuji, Seungryong Kim
D²USt3R: Enhancing 3D Reconstruction with 4D Pointmaps for Dynamic Scenes
NeurIPS 2025

Honggyu An*, Jinhyeon Kim*, Seonghoon Park, Jaewoo Jung, Jisang Han, Sunghwan Hong, Seungryong Kim
Cross-View Completion Models are Zero-shot Correspondence Estimators
CVPR 2025 · Highlight

Seokju Cho, Jiahui Huang, Jisu Nam, **Honggyu An**, Seungryong Kim†, Joon-Young Lee†
Local All-Pair Correspondence for Point Tracking
ECCV 2024

Jongbeom Baek*, Gyeongnyeon Kim*, Seonghoon Park*, **Honggyu An**, Matteo Poggi, Seungryong Kim
MaskingDepth: Masked Consistency Regularization for Semi-supervised Monocular Depth Estimation
IROS 2024

Jiuhn Song*, Seonghoon Park*, **Honggyu An***, Seokju Cho, Min-Seop Kwak, Sungjin Cho, Seungryong Kim
DäRF: Boosting Radiance Fields from Sparse Input Views with Monocular Depth Adaptation
NeurIPS 2023

Preprints

Eunbeen Hong, Hyeonseo Yu, **Honggyu An**, Jooho Son, Hyunah Ko, Soowon Son, Chaehyun Kim, Jahyeok Koo, Jisso Kim, Junhwa Hur†, Seungryong Kim†
FL4N: Feed-forward Latent Model for 4D Novel View Synthesis
arXiv 2026

Mungyeom Kim*, Minkyeong Jeon*, **Honggyu An***, Jaewoo Jung, Hyuna Ko, Jisang Han, Hyunseo Yu, Donghwan Shin, Sunghwan Hong, Takuya Narihira, Kazumi Fukuda, Yuki Mitsufuji†, Seungryong Kim†
Learning Global Motion with Compact Gaussians for Feed-Forward 4D Reconstruction
arXiv 2026

Dahyun Chung, Siyoon Jin, Hyunwook Choi, **Honggyu An**, Wonjin Nam, Junyoung Seo, Hyunsung Kim, Seungwook Kim†, Seungryong Kim†
Multi-Agent Egocentric World Model with Fine-Grained Embodied Interaction
arXiv 2026

Heeji Yoon*, Jaewoo Jung*, Junwan Kim*, Hyungyu Choi, Heeseong Shin, Sangbeom Lim, **Honggyu An**, Chaehyun Kim, Jisang Han, Donghyun Kim, Chanho Eom, Sunghwan Hong, Seungryong Kim
VIRAL: Visual Representation Alignment for Multimodal Large Language Models
arXiv 2025

Soowon Son, Jisu Nam, Chaehyun Kim, **Honggyu An**, Hyuna Ko, Dahyun Chung, Siyoon Jin, Jung Yi, Jaewon Min, Jiyoung Kim, Junhwa Hur, Seungryong Kim
Repurposing Video Diffusion Transformers for Robust Point Tracking
arXiv 2025

Research Projects

Multi-Frame Depth Estimation for Improved Spatial Perception Jun. 2023 – May 2024

Hyundai Motor Company

Multi-frame depth estimation

Context- Activity-Analysis-Based Solution for Safe Childcare Jan. 2023 – Dec. 2023

Yonsei University

Object tracking, Re-identification, Human pose estimation

Advancing Semantic Segmentation Performance Mar. 2022 – Nov. 2022

Hyundai Motor Company

Depth estimation, Semantic segmentation, Domain adaptation, Multi-task learning, Semi-supervised learning

Invited Talks

Compact 3D/4D Scene Representation May 2026

KAIST AI Technology Presentation, AI EXPO KOREA 2026

C3G: Learning Compact 3D Representations with 2K Gaussians Dec. 2025

Global AI Frontier Workshop, KAIST AI

Cross-View Completion Models are Zero-shot Correspondence Estimators Jun. 2025

AI Tutorial Series, KAIST AI

Academic Service

Conference Reviewer: CVPR 2026, ECCV 2026, NeurIPS 2026, ICRA 2024–2025, IROS 2024–2026, WACV 2027, ICLR 2027, AAAI 2027
Journal Reviewer: IEEE Robotics Automation Letters (RA-L) 2025, IEEE Signal Processing Letters (SPL) 2025