

In-Hwan Jin

M.S. Student

Department of Electrical and Electronic Engineering, Pusan National University

Computer Vision and Signal Processing Laboratory

M.S. Advisor: Prof. Kyeongbo Kong

ihjin@pusan.ac.kr — Homepage — LinkedIn — GitHub

RESEARCH SUMMARY

My research aims to advance toward **spatial intelligence**, enabling AI systems to represent, understand, and ultimately interact with the physical world. To build this foundation, I study **3D/4D scene reconstruction and generation**, with a particular focus on **Gaussian Splatting**. My recent work explores high-fidelity dynamic scene reconstruction from multi-view videos and interactive 4D world generation from limited visual observations.

Research Interests: Dynamic Scene Generation • Dynamic Scene Reconstruction • Gaussian Splatting

INTERNATIONAL PUBLICATIONS

(* indicates equal contribution, † indicates corresponding author)

Journal Papers

- [J1] **On the Design of Mixture-of-Experts for Dynamic Gaussian Splatting**
In-Hwan Jin*, Hyeongju Mun*, Joonsoo Kim, Kugjin Yun, Kyeongbo Kong†
IEEE Transactions on Pattern Analysis and Machine Intelligence (IEEE TPAMI), 2026.
[Paper] [Project Page] [Code]
- [J2] **Motion-to-Attention: Enhancing Attention Maps to Improve Performance of Text-Guided Video Editing**
Seong-Hun Jeong*, In-Hwan Jin*, Haesoo Choo*, Hyunjun Na*, Kyeongbo Kong†
ACM Transactions on Multimedia Computing, Communications, and Applications (ACM TOMM), 2026.
[Project Page] [Code]

Conference Papers

- [C1] **LivingWorld: Interactive 4D World Generation with Environmental Dynamics**
Hyeongju Mun*, In-Hwan Jin*, Sohyeong Kim, Kyeongbo Kong†
ECCV, 2026. (Acceptance Rate: 27.5%; MUSTCV Workshop Presentation)
[Paper] [Project Page]
- [C2] **MoE-GS: Mixture of Experts for Dynamic Gaussian Splatting**
In-Hwan Jin*, Hyeongju Mun*, Joonsoo Kim, Kugjin Yun, Kyeongbo Kong†
ICLR, 2026. (Acceptance Rate: 28%)
[Paper] [Project Page] [Code]
- [C3] **FluIDWorld: Fluid-like Interactive Dynamics for 4D Worlds**
Hyeongju Mun*, In-Hwan Jin*, Sohyeong Kim, Kyeongbo Kong†
Workshop on World Models: Understanding, Modelling and Scaling (ICLR), 2026.
- [C4] **Optimizing 4D Gaussians for Dynamic Scene Video from Single Landscape Images**
In-Hwan Jin*, Haesoo Choo*, Seong-Hun Jeong, Heemoon Park, Junghwan Kim, Oh-joon Kwon, Kyeongbo Kong†
ICLR, 2025. (Acceptance Rate: 32.08%)
[Paper] [Project Page] [Code]
- [C5] **Dynamic Scene Reconstruction from Single Landscape Image Using 4D Gaussian in the Wild**
In-Hwan Jin*, Haesoo Choo*, Seong-Hun Jeong, Heemoon Park, Junghwan Kim, Oh-joon Kwon, Kyeongbo Kong†
Workshop on 3D Modeling, Reconstruction, and Generation in the Wild (Wild3D, ECCV), 2024.
- [C6] **Enhancing Text-to-Video Editing with Motion Map Injection**
Seong-Hun Jeong*, In-Hwan Jin*, Haesoo Choo*, Hyunjun Na*, Kyeongbo Kong†
Workshop on AI for Creative Video Editing and Understanding (ICCV), 2023. (Oral Presentation)

RESEARCH PROJECTS

- **Implementation of 4D Gaussian Representation Learning and View Augmentation Software**
Funding Agency: Electronics and Telecommunications Research Institute (ETRI)
Role: Researcher Mar. 2026 – Present

- **Implementation of High-Quality 4D Spatial Reconstruction Software Based on Multi-View Videos for Light Field Video Data Generation**
Funding Agency: Electronics and Telecommunications Research Institute (ETRI)
Role: Researcher Mar. 2025 – Nov. 2025
- **Implementation of 4D Spatial Representation Generation and Light Field Video Rendering Software**
Funding Agency: Electronics and Telecommunications Research Institute (ETRI)
Role: Researcher Aug. 2024 – Nov. 2024
- **Development of an Immersive Marine Content Production System Using Generative AI**
Funding Agency: Foundation for Broadcast Culture (Busan MBC)
Role: Researcher Jul. 2023 – Nov. 2024

ACADEMIC SERVICE

- Reviewer, *International Conference on Learning Representations (ICLR)*, 2027
- Reviewer, *Neural Information Processing Systems (NeurIPS)*, 2026

PATENTS

1. **Method and Apparatus for Generating Four-Dimensional Model Information**
Inventors: Kyeongbo Kong, **In-Hwan Jin**, Haesoo Choo, Seong-Hun Jeong
Filed: Sep. 13, 2024
Application No.: 10-2024-0125265
Assignee: Pusan National University Industry-University Cooperation Foundation
Status: Technology Transferred (approx. USD 7,000)
2. **Method for Novel View Rendering Based on Multiple Gaussian Models**
Inventors: Kyeongbo Kong, **In-Hwan Jin**, Hyeongju Mun, Joonsoo Kim, Kugjin Yun, Jinhwan Lee, Hyeongon Choo
Assignee: Electronics and Telecommunications Research Institute (ETRI)
3. **Method and Apparatus for Generating a 4D Scene from a Single Image**
Inventors: Kyeongbo Kong, **In-Hwan Jin**, Hyeongju Mun, Sohyeong Kim
Filed: Jan. 8, 2026
Application No.: 10-2026-0003755
Assignee: Pusan National University Industry-University Cooperation Foundation