

HYUNWOOK CHOI

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RESEARCH INTERESTS

I'm an M.S./Ph.D. student in Artificial Intelligence at KAIST AI, advised by Professor Seungryong Kim at KAIST CVLAB. My research lies in computer vision, with a focus on World Models, Auto-Regressive Video Generation, and 4D Representations, aiming toward efficient and real-time world simulation.

- World Models
- Video and 4D Generation
- Auto-Regressive Video Generation

My current work **Seoul World Model** focuses on video generation models that ground world states in real environments and enable controllable and real-time video generation. I have been involved in building the full pipeline for real-world grounded world models, including synthetic data generation, baseline model development, and large-scale multi-node training. I am currently focusing on efficient video generation methods.

WORK EXPERIENCE

NAVER AI Lab

Research Scientist Intern

Jul 2026 – Nov 2026

- Researching efficient video generation methods for scalable and real-time world simulation.

EDUCATION

Korea Advanced Institute of Science and Technology (KAIST)

Advisor: Seungryong Kim

M.S/Ph.D Integrated Student in Artificial Intelligence

Mar 2026-

Korea University

B.S in Cyber Defence (GPA: 4.33/4.5, **ranked 1st**)

Mar 2022-Feb 2026

- Full-funded Scholarship
- Vice President of Cyber Defence

RESEARCH EXPERIENCE

Undergraduate Research Intern

Advisor: Seungryong Kim

Kim Jaechul Graduate School of AI at KAIST

July 2024–Feb 2026

- Research in World Models, Video Generation, and Segmentation

PUBLICATIONS

Seoul World Model: Grounding World Simulation Models in a Real-World Metropolis

Junyoung Seo*, **Hyunwook Choi***, Minkyung Kwon, Jinhyeok Choi, Siyoon Jin, Gayoung Lee, Junho Kim, JounghBin Lee, Geonmo Gu, Dongyoon Han, Sangdoo Yun, Seungryong Kim, Jin-Hwa Kim

ECCV 2026; F2S@ICMLW 2026 Oral [Project Page]

MATRIX: Mask Track Alignment for Interaction-Aware Video Generation

Siyoon Jin, Seongchan Kim, Dahyun Chung, Jaeho Lee, **Hyunwook Choi**, Jisu Nam, Jiyoung Kim, Seungryong Kim

ICLR 2026 [Project Page]

Referring Video Object Segmentation via Language-aligned Track Selection

Seongchan Kim*, Woojeong Jin*, Sangbeom Lim*, Heeji Yoon*, **Hyunwook Choi**, Seungryong Kim

AdaptFM@ICMLW 2026 [Project Page]

README: Robust Error-Aware Digital Signature via Deep Watermarking Model

Hyunwook Choi, Sangyun Won, Daeyeon Hwang, Junhyeok Choi

Arxiv preprint [Project Page]

S4M: Boosting Semi-Supervised Instance Segmentation with Segment Anything Model

Heeji Yoon*, Heeseong Shin*, Eunbeen Hong, **Hyunwook Choi**, Hansang Cho, Daun Jeong, Seungryong Kim

ICCV 2025 [Project Page]

ACADEMIC SERVICES

ICML 2026 Expo Talks and Panels

Speaker

July 2026

- Presented at the ICML 2026 Expo Talks and Panels. [Talk Page]

HONORS AND AWARDS

- National Science & Technology Scholarship (Ranked 1st in Department)
- Dean's List, Korea University (Spring 2024, GPA: 4.5/4.5)
- Semester High Honors, Korea University (Spring 2022, Fall 2022, Spring 2023, Fall 2023, Spring 2024, Fall 2024)
- 2nd Prize, Best Project, Korea University Deep Learning Association (Spring 2025)

TECHNICAL SKILLS

- Programming: Python, C++
- Deep Learning: Pytorch
- Synthetic Engine: Carla

INTERNATIONAL EXPERIENCE

London, United Kingdom

Oct 2010–Dec 2014