

JUNSU KIM

Curriculum Vitae

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Research Interests

My research focuses on egocentric and embodied AI systems that understand physical interactions, tool use, and action-driven state changes. I am particularly interested in 3D/4D scene understanding and video/world models for learning action-centric representations.

Education

Korea Advanced Institute of Science and Technology (KAIST)

B.S. in Electrical Engineering

GPA: 4.1/4.3 (Major GPA: 4.19/4.3)

Daejeon, South Korea

Mar 2021 – *Expected Aug 2027*

Nanyang Technological University (NTU)

Exchange Student

School of Electrical and Electronic Engineering

Singapore

Jan 2026 – May 2026

Publications

[1] **EgoTools: Tool-Centric Reasoning in Real-World Egocentric Videos.**

Shulin Tian*, **Junsu Kim***, Shuai Liu, Hao Li, Yujiao Shen, Sihan Li, Zhe Yang, Yeongon Kim, Runmao Yao, Yuhao Dong, Fangzhou Hong, Antonino Furnari, Jingkang Yang, Hongyuan Zhu, Ziwei Liu.

EMNLP 2026, under review.

Contribution: Co-led EgoTools dataset and benchmark development, including data collection, annotation workflow design, 1K-QA benchmark construction, baseline evaluation, and manuscript writing.

[2] **C3G: Learning Compact 3D Representations with 2K Gaussians.**

[\[Project Page\]](#) [\[Paper\]](#).

Honggyu An*, Jaewoo Jung*, ..., Hyunah Ko, **Junsu Kim**, ..., Seungryong Kim.

CVPR 2026.

Contribution: Implemented analysis tools and conducted experiments for feed-forward 3D reconstruction pipelines, focusing on novel-view synthesis quality and compact 3D representation behavior.

*Equal contribution.

Research Experience

S-Lab (MMLab), NTU

Jan 2026 – Present

Research Intern (Advisor: [Prof. Ziwei Liu](#), NTU)

- Co-led **EgoTools**, a real-world egocentric dataset and benchmark for tool-centric reasoning, built from **100+ hours** of long-horizon tool-use videos.
- Designed annotation and QA workflows for tool-use, procedural, and physical-state reasoning.
- Coordinated data collection and quality control across diverse real-world tool-use environments.
- Co-led a **1K-QA** benchmark and contributed to baseline evaluation, failure-case analysis, and manuscript writing.

Computer Vision Lab (CVLab), KAIST AI

Jun 2025 – Present

Research Intern (Advisor: [Prof. Seungryong Kim](#), KAIST AI)

- *Jun 2026 – Present*: Formulating a contact-prompting project for physical interaction video world models, focusing on contact-conditioned future dynamics prediction.
- *Jun 2025 – Dec 2025*: Conducted feed-forward 3D reconstruction and novel-view synthesis research using Gaussian Splatting, VGGT, and NoPoSplat, focusing on geometry quality, failure cases, and compact 3D representation behavior.

Video and Image Computing Lab (VICLab), KAIST

Dec 2024 – Jun 2025

Research Intern (Advisor: [Prof. Mun Churl Kim](#), KAIST EE)

- Studied and reviewed object detection architectures, ranging from two-stage detectors to YOLO-style models and Vision Transformers.
- Implemented baseline detection pipelines for few-shot and anomaly detection tasks, including model training, evaluation, and result analysis.

Teaching Experience

MAS.10001 Calculus I Tutor, KAIST Freshman Tutoring Program

Mar 2022 – Jun 2022

Supported freshman students through problem-solving sessions and conceptual review.

Honors & Scholarships

KAIST Presidential Fellowship (15th)

Feb 2025 – Present

National Science & Engineering Scholarship for Academic Excellence

Aug 2025 – Present

Woon Hae Scholarship (12th)

Feb 2025 – Dec 2025

KAIST Dean's List, College of Engineering

Fall 2021, Spring 2024

awarded to the top 3% of students

KAIST Shared Lives Award (Top-ranked Recipient)

Feb 2026

For exceptional and sustained blood donation service

Leadership & Service

President, EERun (KAIST EE Running Club)

Sep 2024 – Dec 2025

Organized weekly training sessions and semester events for KAIST EE students.

Google Student Ambassador

Sep 2025 – Dec 2025

Promoted Gemini Pro to KAIST students through short-form video content.

Additional Activities

2022 – Present

KAIST AI Studying Club, Young Engineers Honor Society (YEHS), SilverLining, Freshman Proctor.

Skills

Programming

C/C++, Python, PyTorch, Git, LaTeX

Research Tools

video preprocessing, dataset curation, annotation pipelines, benchmark construction, evaluation scripts

Languages

Korean (native), English (fluent)