Seonghu Jeon

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Research Interests

My research centers on how vision models represent motion, space, and structure in ways that are interpretable and aligned with human perception. I am particularly interested in generative and predictive models—such as video diffusion, 3D vision, and world models—and how their internal representations support temporally and geometrically consistent understanding of dynamic scenes.

- Human-aligned representation learning
- Generative modeling with video diffusion and 3D scene synthesis
- Evaluating model through perceptual and semantic metrics

Education

Korea University *Seoul, Korea*
B.S. in Computer Science and Engineering *Mar 2022 – Feb 2026 (expected)*

- GPA: 4.50 / 4.50
- Completed 107 credits as of 6th semester

Experience

Undergraduate Internship *Seoul, Korea*
CVLAB, KAIST *Aug 2024 – Present*

- Conducting researches and studies on motion customization and 3D Scene Generation

Undergraduate Internship *Seoul, Korea*
CVLAB, Korea University *Dec 2023 – Jul 2024*

- Conducted researches and studies on motion customization and 3D Gaussian splatting
- Transferred to KAIST with supervisor

Publication

ReMoTE: A Benchmark for Object Motion Transfer *ITC-CSCC, 2025*

Seonghu Jeon, Jinhyuk Choi, Junghyun Hwang, Seungryong Kim

Honors & Awards

2nd Prize, AISP 2025 (Undergraduate AI Paper Competition) *June 2025*
The Institute of Electronics and Information Engineers (IEIE)

- Best Paper Award for the paper titled *Revisiting Flow-Conditioned Motion Transfer via Pseudo-Flow and Consecutive Frame Attention.*

Merit-based Scholarship, Sangah Scholarship Foundation *Spring 2024*

- Scholarship awarded to outstanding students who are expected to lead the gaming and IT industries.

National Science & Technology Scholarship, Korea Student Aid Foundation *Spring 2024*

- 2-year full scholarship for tuition fee, given by government

Merit-based Scholarship, Woonhae Scholarship Foundation *Spring 2024*

- Scholarship awarded to students identified as global talents to lead national economic development.

Grand Prize, iNThon (Korea University College of Informatics Datathon) *Nov 2023*

- Developed a language model for commonsense reasoning with data augmentation and re-ranking method
- Prize of ₩3,000,000 and short-term study trip to Silicon Valley

President's List, Korea University *Spring 2023, Fall 2023*

Dean's List, Korea University *Fall 2022*

Semester High Honors, Korea University *Spring 2022, Fall 2022, Spring 2023, Fall 2023, Spring 2024, Fall 2024, Spring 2025*

Extracurricular Activities

AIKU (Korea University AI Society) *Seoul, Korea*
Lead (Dec 2023 – Jul 2024), Academic Administrator (Jan 2023 – Dec 2023) *Sep 2022 – Present*

- Participated as a founding junior member and elected as the 3rd lead
- Delivered lectures on ML/DL basics, Attention & Transformers, Generative Models, 3D Vision

Google Developer Groups on Campus, Korea University *Seoul, Korea*
DevRel Lead (Jul 2024 – Jun 2025), AI Core Member (Jan 2023 – Present) *Sep 2022 – Present*

- Participated as AI engineer and instructor for junior members

Korea University Central Student Council, Nanal *Seoul, Korea*
Public Relations & Communication Division *Apr 2024 – Dec 2024*

- Created social-media posts and videos to engage Korea University students

Korea University College of Informatics Student Council, Ieum *Seoul, Korea*
Communication & Welfare Division *Mar 2025 – Present*

- Produced social-media content to connect with the student body

Projects

Pioneering Motion Code Generation: *Mar 2025 – Jun 2025*
A Self-Rectifying Pipeline for Bootstrapping High-Fidelity Animation Datasets

- COSE407 (Individual Research Project) Term proejct
- A research for developing automated datsaet generation pipeline for GUI motion code with VLMs

Horang Studio *Aug 2023 – Sep 2023*

- AI profile picture generation service for Korea, Yonsei University student using ID preservation Stable Diffusion, supported by Kakao Brain
- Contribution to idea research, pipeline modeling and prompt engineering

Latent Diffusion Models for Domain Adaptationt *Aug 2023 – Oct 2023*

- Finetuned semantic map-conditioned LDMs with ControlNet for unsupervised and unpaired synthetic-to-real image translation

- Industry-University cooperation project with Korea University CVLAB, Hyundai Mobis.
- Participated as AIKU Team Leader, contribution to code implementation

DiscoRF *Mar 2023 – Jun 2023*

- Proposed GAN-based NeRF training method for better high-frequency details
- DATA302 (Introduction to Computer Vision and its Application) Term project, Contribution to code implementation, experiments, etc.

IConZIC *Mar 2023 – Jun 2023*

- Proposed Image-Conditioned Zero-shot Image Captioning Model (IConZiC), contribution to faster and stable generation of image caption by utilizing Gibbs sampling and Masked Vision-Language Model
- COSE461 (Natural Language Processing) Term project. Contribution to idea development, code implementation, experiments, etc.

MelitsUp & @tune *Sep 2022 – Aug 2023*

- Developed a music recommendation service, using pretrained VLM, BERT-based sentence embedding model, and LLM-based Lyrics Augmentation
- Participated as a team leader, contribution to idea planning, data collection, model implementation, fine-tuning, experiments, prototype development, and implementing prompt generation

Courseworks

Computer Science and Engineering:

- **Foundational:** Computer Programming (C, Python), Data Structures, Algorithms, Discrete Mathematics, Linear Algebra, Probability and Statistics,
- **Systems:** Computer Architecture, Digital Logic Design, Programming Language, Operating System, Database, Computer Network,

Artificial Intelligence and Computer Vision:

- **Foundational:** Machine Learning, Artificial Intelligence, Deep Learning, Data Science, Computer Graphics, Reinforcement Learning, Information Theory and Inference Learning
- **Applications:** Introduction to Computer Vision and its Application, Self-driving Cars, Natural Language Processing, Interactive Visualization, Advanced Machine Learning

Human-Computer Interaction:

- Introduction to Human-Computer Interaction, User Experience and Artificial Intelligence

Skills

Programming Languages: Python, C, C++, JavaScript (Beginner), Dart (Beginner), React (Beginner)

Frameworks & Tools: PyTorch, Git, Flutter (Beginner)

Design: Figma, Premiere Pro, After Effect, Photoshop

Languages: Korean (Native), English (Professional; TOEIC 970/990, June 2025)