# Griffin Sunho Lee

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I specialize in ***generative AI*** and ***perception***, with research on high-dimensional content generation and editing as well as improved perception through **vision-language understanding**. I have worked on large-scale dataset generation, training pipeline design, and developing novel architectures to enhance controllability of real-world AI systems in both academia and industry.

## Education

**KAIST**, *Master's degree*, Artificial Intelligence (Advisor: *Prof.* Hyunjung Shim) Mar 2024 – Feb 2026 *(expected)*

- GPA: 4.20/4.3
- Research area: Generative AI, Vision-Language Models

**Sogang University**, *Bachelor's degree*, Computer Science and Engineering Mar 2017 – Feb 2024

- GPA: 4.12/4.3 ($2^{nd}$ *out of 120,* ***Summa Cum Laude***)

## Publications

*: equal contribution †: corresponding author **C**: Conference **P**: Preprint

**[C5] 3D-Aware Vision-Language Models Fine-Tuning with Geometric Distillation**

Seonho Lee*, Jiho Choi*, Inha Kang, Jiwook Kim, Junsung Park, Hyunjung Shim†

**EMNLP 2025 Findings**, arXiv:2506.09883

**[C4] Fine-Grained Image-Text Correspondence with Cost Aggregation for Open-Vocabulary Part Segmentation**

Jiho Choi*, Seonho Lee*, Seungho Lee, Minhyun Lee, Hyunjung Shim†

**CVPR 2025**, arXiv:2501.09688

**[C3] Scribble-Guided Diffusion for Training-free Text-to-Image Generation**

Seonho Lee*, Jiho Choi*, Seohyun Lim, Jiwook Kim, Hyunjung Shim†

**ICIP 2025**, arXiv:2409.08026

**[C2] DreamCatalyst: Fast and High-Quality 3D Editing via Controlling Editability and Identity Preservation**

Jiwook Kim*, Seonho Lee*, Jaeyo Shin, Jiho Choi, Hyunjung Shim†

**ICLR 2025**, arXiv:2407.11394

**[C1] Understanding Multi-Granularity for Open-Vocabulary Part Segmentation**

Jiho Choi*, Seonho Lee*, Seungho Lee, Minhyun Lee, Hyunjung Shim†

**NeurIPS 2024**, arXiv:2406.11384

**[P2] WaymoQA: A Multi-View Visual Question Answering Dataset for Safety-Critical Reasoning in Autonomous Driving**

Seungjun Yu, Seonho Lee, Namho Kim, Jaeyo Shin, Junsung Park, Wonjeong Ryu, Raehyuk Jung, Hyunjung Shim†

**Under Review** , arXiv:2511.20022

**[P1] What "Not" to Detect: Improving Object Detection under Negation via Reasoning and Token Merging**

Inha Kang, Youngsun Lim, Seonho Lee, Jiho Choi, Junsuk Choi†, Hyunjung Shim†

**Under Review** , arXiv:2510.13232

## Work Experience

***ML Engineer Intern***, **Snap Inc.**, Generative ML Team (*VideoCraft*) Jun 2025 - Sep 2025 *(Santa Monica, CA, USA)*

- Led end-to-end design of a cross-reference dataset preprocessing pipeline for personalized video synthesis, enabling scalable multi-subject conditioning across large-scale video dataset

- Proposed and integrated a multi-subject adapter architecture for *VideoAlchemist 2.0*, improving controllability and subject consistency in personalized text-to-video generation

***Graduate Student Researcher***, **KAIST**, CVML Lab — Mar 2024 - Feb 2026 *(Seoul, Republic of Korea)*
- Researching multi-modal AI for real-world interactions in open-vocabulary settings
- Investigating generative AI for 3D content creation and editing

***Research Engineer Intern***, **Korea University**, HVCL — Jul 2022 – Aug 2022 *(Seoul, Republic of Korea)*
- Developed web-based deep-learning software in analysis of pathology
- Designed visual AI programming architecture

***Data Engineer Intern***, **Life Planning Lab** — Dec 2021 – Jan 2022 *(Seoul, Republic of Korea)*
- Developed back-end platform and managed database
- Created a data preprocessor on AWS and built data pipeline for dashboard

## Projects

**Industrial Project on 3D-aware VLM Finetuning**, KAIST w/ **Samsung Research** — Jun 2024 - Jun 2025
- Electronic Device and Method for Operating Thereof and Storage Medium
- Korean patent (*application number* 10-2025-0109574)

**SHrack: Mobile Web Service for Real-time Exercise Count Tracking** — Mar 2023 - Jun 2023
- Web-based real-time video streaming service for accurate exercise count detection

**RECJOON: Backjoon Online Judge Problem Solving Recommendation System** — Mar 2022 - Jun 2022
- Recommendation system for Baekjoon Online Judge algorithm problems
- Led a project developing a web application and designed MLOps architectures

## Honors and Awards

**Qualcomm Innovation Fellowship Korea 2025 Finalist** — Oct 2025
- Two papers selected by Qualcomm AI Research (PartCATSeg, 3D-Aware VLM Finetuning)

**Korean Presidential Science Scholarship for Graduate Students** — Jun 2025
- Awarded by the President of Korea (*acceptance rate* 5%, 18K USD)

**2nd Place on Open-Vocabulary Part Segmentation Challenge at CVPR 2024** — Jun 2024
- 2nd Place both on Track 1 and 2 (4th workshop on Open World Vision at CVPR 2024)

**Excellence Award in 2023 POSTECH OIBC Challenge** — Dec 2023
- 3rd Place (3/120) in AI Competition of Solar Power Generation Forecasting (2K USD)

**2022 ICPC Asia Korea Regional Contest** — Aug 2022
- $48^{\text{th}}$ in Korea, $62^{\text{nd}}$ in Preliminary

**Korea National Science and Technology Scholarship** — Mar 2019 - Dec 2023
- Spring 2019, Fall 2022, Spring 2023, Fall 2023 (*4 Semesters*, Total 16K USD)

**Dean's List, Sogang University**
- 1%: Spring 2018, Spring 2019, Fall 2022 / 5%: Fall 2018

## Skills

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|---|---|
| ***Languages*** | Python, SQL, C++, C, JavaScript, Bash, PHP |
| ***Tools*** | Git, Docker, Kubernetes, AWS, Google Cloud, Shell, MLflow |
| ***Libraries & Frameworks*** | PyTorch, TensorFlow, Node.js, OpenGL, CUDA |