Sunghun **Yang**

Computer Vision Engineer, ML/DL Researcher

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RESEARCH INTERESTS

Autonomous Driving

- Video Depth Estimation
- Monocular 3D Object Detection

Vision-Language Model (VLM)

- Reasoning Video Object Segmentation

EDUCATION

Yonsei University | College of Engineering — *Seoul, Republic of Korea*

Interated M.S./Ph.D in Electrical and Electronic Engineering — *Mar. 2024 - Mar. 2029 (Expected)*

- Image and Video Pattern Recognition Lab.
- GPA : 4.03 / 4.3
- Advisor: Prof. Sangyoun Lee

Kwangwoon University | College of Engineering — *Seoul, Republic of Korea*

B.S. in Electronics and Communications Engineering — *Mar. 2018 - Mar. 2024*

- 2-Year Military Service, Marine Corps (Mar.2019 - Oct.2020)
- GPA : 4.07 / 4.5 || Major : 4.28 / 4.5

RESEARCH EXPERIENCE

PetNow — *Seoul, Republic of Korea*

Research Intern — *Jun. 2023 - Dec. 2023*

- Object Detection
- Dog Nose Print Detection & Identification

Drone Video Analysis LAB — *Modu Lab & Kakao Impact*

Extracurricular Activities — *Aug. 2023 - Jan. 2024*

- Integrated SAHI to improve small-object detection accuracy
- Utilized ByteTrack for reliable multi-object tracking

PUBLICATIONS

MonoCLUE: Object-Aware Clustering Enhances Monocular 3D Object Detection *2026*

Sunghun Yang, Minhyeok Lee, Jungho Lee, Sangyoun Lee

*The Association for the Advancement of Artificial Intelligence (**AAAI**)*

SwiftVGGT: Scalable Visual Geometry Grounded Transformer for Large-Scale Scenes *2026*

Jungho Lee, Minhyeok Lee, **Sunghun Yang**, Minseok Kang, Sangyoun Lee

*Submitted to the IEEE/CVF Computer Vision and Pattern Recognition (**CVPR**)*

TransFlow: Motion Knowledge Transfer from Video Diffusion Models to Video Salient Object Detection *2025*

Suhwan Cho, Minhyeok Lee, Jungho Lee, **Sunghun Yang**, Sangyoun Lee

*The 7th Large-Scale Object Segmentation (LSVOS) Workshop (**ICCVW**)*

Effective SAM Combination for Open-Vocabulary Semantic Segmentation *2025*

Minhyeok Lee, Suhwan Cho, Jungho Lee, **Sunghun Yang**, Heeseung Choi, Ig-Jae Kim, Sangyoun Lee

*Proceedings of the IEEE/CVF Computer Vision and Pattern Recognition (**CVPR**) - **Oral Presentation***

Video Diffusion Models are Strong Video Inpainter *2025*

Minhyeok Lee, Suhwan Cho, Chajin Shin, Jungho Lee, **Sunghun Yang**, Sangyoun Lee

*The Association for the Advancement of Artificial Intelligence (**AAAI**)*

STATIC : Surface Temporal Affine for TIme Consistency in Video Monocular Depth Estimation *2025*

Sunghun Yang, Minhyeok Lee, Suhwan Cho, Jungho Lee, Sangyoun Lee

arXiv

Domain-Generalized Face Anti-Spoofing with Domain Adaptive Style Extraction *2024*

Sunghun Yang, Jungho Lee, Sungjun Jang, Minseok Kang, Yongju Lee, Sangyoun Lee

*International Technical Conference on Circuits/Systems, Computers, and Communications (**ITC-CSCC**)*

PATENTS

Domestic Patent

- [**P3**] Method for detecting facial forgery and electronic device using the same. KR-Application No.10-2025-0144244, Oct., 2025.
- [**P2**] A video decoding method and device utilizing learning of a deep learning-based reference picture generation model for inter-frame prediction. KR-Application No.10-2025-0110026, Aug., 2025.
- [**P1**] Electronic device and method for identifying forgery of biometric information. KR-Application No.10-2024-0104036, Aug., 2024.

PROJECTS

Development of Anti-spoofing Technology for Face Recognition using Depth Estimation Model *Samsung Electronics*

Deep Learning Researcher *Feb. 2025 - Feb. 2026*

- Development of a depth estimation-based face anti-spoofing model robust to 3D attacks.

Neural Network & Hybrid-based Deep Reference Frame Generation for NNVC *Samsung Research*

Deep Learning Researcher *Nov. 2024 - Nov. 2025*

- Explored motion-complexity–aware training strategies for interpolation under diverse motion scales.

Pedestrian Tracking and Re-identification System for Autonomous Driving Perception *Electronics and Telecommunications Research Institute*

Deep Learning Researcher *Mar. 2025 - Sep. 2025*

- Development of a Model Specialized in Pedestrian Attribute Detection and Re-identification.

Development of Anti-spoofing Model for Face Recognition Based on RGB Camera *Samsung Electronics*

Deep Learning Researcher *Mar. 2024 - Jan. 2025*

- Development of face anti-spoofing model robust to various spoofing attack.

TEACHING EXPERIENCES

Digital Logic Circuit *Yonsei University*

Teaching Assistant *Spring 2024 - Fall 2024*

CERTIFICATIONS

Craftsman Information Processing (정보처리기능사) *Human Resources Development Service of Korea*

Dec. 2020

SQLD *Korea Data Agency*

2020

SKILLS

Research and Development Stacks

Main Languages **Python**, C/C++, MATLAB

Machine Learning **PyTorch**, **TensorFlow**, Keras

Computer Vision **OpenCV**

REFERENCES

Sangyoun Lee Professor, Yonsei University syleee@yonsei.ac.kr