

# Jungho Lee

PH.D CANDIDATE

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## RESEARCH INTERESTS

### Neural View Synthesis

- Neural Radiance Fields
- 3D Gaussian Splatting

### Human Motion Analysis

- Human Avatar Generation
- Skeleton-based Action Recognition

### Mathematical Machine Learning Tool

- Neural Ordinary Differential Equations

## EDUCATION

### Yonsei University | College of Engineering

INTERATED M.S./PH.D IN ELECTRICAL AND ELECTRONIC ENGINEERING

- Image and Video Pattern Recognition Lab.
- Advisor: Prof. Sangyoun Lee

Seoul, South Korea

Sep. 2021 - Aug. 2026 (Expected)

### Yonsei University | College of Engineering

B.S. IN ELECTRICAL & ELECTRONIC ENGINEERING

- 2-Year Military Service (2017-2019)

Seoul, South Korea

Mar. 2015 - Aug. 2021

## RESEARCH EXPERIENCE

### NAVER Cloud

RESEARCH INTERN

- 3D Scene Representation from Defocused Images
- 3D Human Avater Generation
- Mentor: Ho-Deok Jang

Seongnam, South Korea

Aug. 2024 - Feb. 2025

## PUBLICATIONS

### First-Author Papers

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

2026

JUNGHOO LEE, MINHYEOK LEE, SUNGHUN YANG, MINSEOK KANG, SANGYOUN LEE

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

#### CoMoGaussian: Continuous Motion-Aware Gaussian Splatting from Motion-Blurred Images

2025

JUNGHOO LEE, DONGHYEONG KIM, DOGYOON LEE, SUHWAN CHO, MINHYEOK LEE, WONJOON LEE, TAEHO KIM, DONGYOON WEE, SANGYOUN LEE

Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)

#### CoCoGaussian: Leveraging Circle of Confusion for Gaussian Splatting from Defocused Images

2025

JUNGHOO LEE, SUHWAN CHO, TAEHO KIM, HO-DEOK JANG, MINHYEOK LEE, GEONHO CHA, DONGYOON WEE, DOGYOON LEE, SANGYOUN LEE

Proceedings of the IEEE/CVF Computer Vision and Pattern Recognition (CVPR)

#### SMURF: Continuous Dynamics for Motion-Deblurring Radiance Fields

2025

JUNGHOO LEE, DOGYOON LEE, MINHYEOK LEE, DONGHYEONG KIM, SANGYOUN LEE

2nd Workshop on Neural Fields Beyond Conventional Cameras (CVPRW)

#### Hierarchically Decomposed Graph Convolutional Networks for Skeleton-Based Action Recognition

2023

JUNGHOO LEE, MINHYEOK LEE, DOGYOON LEE, SANGYOUN LEE

Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)

<b>Leveraging Spatio-Temporal Dependency for Skeleton-Based Action Recognition</b> <b>JUNGHO LEE</b> , MINHYEOK LEE, SUHWAN CHO, SUNGMIN WOO, SUNGJUN JANG, SANGYOUN LEE <i>Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)</i>	2023
<b>Conference Proceedings</b>	
<b>MonoCLUE: Object-Aware Clustering Enhances Monocular 3D Object Detection</b> SUNGHUN YANG, MINHYEOK LEE, <b>JUNGHO LEE</b> , SANGYOUN LEE <i>The Association for the Advancement of Artificial Intelligence (AAAI)</i>	2026
<b>GenCLIP: Generalizing CLIP Prompts for Zero-Shot Anomaly Detection</b> DONGHYEONG KIM, CHAEWON PARK, SUHWAN CHO, HYEONJEONG LIM, MINSEOK KANG, <b>JUNGHO LEE</b> , SANGYOUN LEE <i>The 3rd Workshop in Vision-based Industrial InspectiON (ICCVW)</i>	2025
<b>Find First, Track Next: Decoupling Identification and Propagation in Referring Video Object Segmentation</b> SUHWAN CHO, SEUNGHOO LEE, MINHYEOK LEE, <b>JUNGHO LEE</b> , SANGYOUN LEE <i>The 7th Large-Scale Object Segmentation (LSVOS) Workshop (ICCVW)</i>	2025
<b>DepthFlow: Exploiting Depth-Flow Structural Correlations for Unsupervised Video Object Segmentation</b> SUHWAN CHO, MINHYEOK LEE, <b>JUNGHO LEE</b> , DONGHYEONG KIM, SANGYOUN LEE <i>The 7th Large-Scale Object Segmentation (LSVOS) Workshop (ICCVW)</i>	2025
<b>TransFlow: Motion Knowledge Transfer from Video Diffusion Models to Video Salient Object Detection</b> SUHWAN CHO, MINHYEOK LEE, <b>JUNGHO LEE</b> , SUNGHUN YANG, SANGYOUN LEE <i>The 7th Large-Scale Object Segmentation (LSVOS) Workshop (ICCVW)</i>	2025
<b>CoMoGaussian: Continuous Motion-Aware Gaussian Splatting from Motion-Blurred Images</b> <b>JUNGHO LEE</b> , DONGHYEONG KIM, DOGYOON LEE, SUHWAN CHO, MINHYEOK LEE, WONJOON LEE, TAEHO KIM, DONGYOON WEE, SANGYOUN LEE <i>Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)</i>	2025
<b>CMTM: Cross-Modal Token Modulation for Unsupervised Video Object Segmentation</b> INSEOK JEON, SUHWAN CHO, MINHYEOK LEE, SEUNGHOO LEE, MINSEOK KANG, <b>JUNGHO LEE</b> , CHAEWON PARK, DONGHYEONG KIM, SANGYOUN LEE <i>IEEE International Conference on Image Processing (ICIP)</i>	2025
<b>CoCoGaussian: Leveraging Circle of Confusion for Gaussian Splatting from Defocused Images</b> <b>JUNGHO LEE</b> , SUHWAN CHO, TAEHO KIM, HO-DEOK JANG, MINHYEOK LEE, GEONHO CHA, DONGYOON WEE, DOGYOON LEE, SANGYOUN LEE <i>Proceedings of the IEEE/CVF Computer Vision and Pattern Recognition (CVPR)</i>	2025
<b>Effective SAM Combination for Open-Vocabulary Semantic Segmentation</b> MINHYEOK LEE, SUHWAN CHO, <b>JUNGHO LEE</b> , SUNGHUN YANG, HEESEUNG CHOI, IG-JAE KIM, SANGYOUN LEE <i>Proceedings of the IEEE/CVF Computer Vision and Pattern Recognition (CVPR) - Oral Presentation</i>	2025
<b>SMURF: Continuous Dynamics for Motion-Deblurring Radiance Fields</b> <b>JUNGHO LEE</b> , DOGYOON LEE, MINHYEOK LEE, DONGHYEONG KIM, SANGYOUN LEE <i>2nd Workshop on Neural Fields Beyond Conventional Cameras (CVPRW)</i>	2025
<b>Video Diffusion Models are Strong Video Inpainter</b> MINHYEOK LEE, SUHWAN CHO, CHAJIN SHIN, <b>JUNGHO LEE</b> , SUNGHUN YANG, SANGYOUN LEE <i>The Association for the Advancement of Artificial Intelligence (AAAI)</i>	2025
<b>Guided Slot Attention for Unsupervised Video Object Segmentation</b> MINHYEOK LEE, DOGYOON LEE, SUHWAN CHO, CHAEWON PARK, <b>JUNGHO LEE</b> , SANGYOUN LEE <i>Proceedings of the IEEE/CVF Computer Vision and Pattern Recognition (CVPR)</i>	2024
<b>Hierarchically Decomposed Graph Convolutional Networks for Skeleton-Based Action Recognition</b> <b>JUNGHO LEE</b> , MINHYEOK LEE, DOGYOON LEE, SANGYOUN LEE <i>Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)</i>	2023

- Leveraging Spatio-Temporal Dependency for Skeleton-Based Action Recognition** 2023  
 JUNGHO LEE, MINHYEOK LEE, SUHWAN CHO, SUNGMIN WOO, SUNGJUN JANG, SANGYOUN LEE  
*Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV)*
- Detection-Identification Balancing Margin Loss for One-Stage Multi-Object Tracking** 2022  
 HEANSUNG LEE, SUHWAN CHO, SUNGJUN JANG, JUNGHO LEE, SANGYOUN LEE  
*IEEE International Conference on Image Processing (ICIP)*

## Journals

- Sparse-DeRF: Deblurred Neural Radiance Fields from Sparse View** 2025  
 DOGYOON LEE, DONGHYEONG KIM, JUNGHO LEE, MINHYEOK LEE, SEUNGHOON LEE, SANGYOUN LEE  
*IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI)*
- Treating Motion as Option with Output Selection for Unsupervised Video Object Segmentation** 2025  
 SUHWAN CHO, MINHYEOK LEE, JUNGHO LEE, MYEONGAH CHO, SANGYOUN LEE  
*IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)*
- Multi-Scale Structural Graph Convolutional Network for Skeleton-Based Action Recognition** 2024  
 SUNGJUN JANG, HEANSUNG LEE, WOJIN KIM, JUNGHO LEE, SUNGMIN WOO, SANGYOUN LEE  
*IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)*

## PATENTS

### Domestic Patent

- [P3] Palmprint Recognition Method. KR-Application No.10-2023-0156996, Nov., 2023.
- [P2] Skeleton Graph-based Action Recognition Device and Method. KR-Application No.10-2023-0123693, Sep., 2023.
- [P1] Video Anomaly Detection Apparatus and Method using Relational Embedding. KR-Application No.10-2022-0156968, Nov., 2022.

## PROJECTS

- Research on Robust Neural Rendering-Based Large-Scale 3D Ultra-Precision Virtual Space Generation and Spatial Registration for Low-Quality Noisy Data** *National Research Foundation of Korea*  
 DEEP LEARNING RESEARCHER *May. 2024 - Apr. 2027*
- Development of large scene reconstruction by 3D Gaussian Splatting.
- Collaborative Perception and Intelligence Framework for Hyper-connected Interaction among Human and Intelligent Things** *Korea Electronics Technology Institute*  
 DEEP LEARNING RESEARCHER *Apr. 2024 - Dec. 2025*
- Development of efficient skeleton-based action recognition model.
- Development of Anti-spoofing Model for Face Recognition Based on RGB Camera** *Samsung Electronics*  
 DEEP LEARNING RESEARCHER *Aug. 2023 - Jul. 2024*
- Development of face anti-spoofing model robust to various spoofing attack.
- Development of Mobile Palmprint Recognition Algorithm** *Samsung Electronics*  
 DEEP LEARNING RESEARCHER *Aug. 2022 - Jul. 2023*
- Development of one-stage real-time mobile network, which includes keypoint detection and palmprint recognition.
  - Development of real-time Android demo application for palmprint recognition.
- Deep Learning-Based Initial Identification and Tracking System for Missing Persons in Heterogeneous CCTV Images** *National Research Foundation of Korea*  
 DEEP LEARNING RESEARCHER *Oct. 2018 - Dec. 2022*
- Development of real-time multi-object tracking algorithm robust to occluded person.
- Development of AI Multi-Object Tracking and Behavior Analysis Technology** *Hanwha Techwin*  
 DEEP LEARNING RESEARCHER *Oct. 2020 - Oct. 2021*
- Development of robust feature extractor for the object detection network.

# Professional Services

## Invited Talks

- "3D Neural View Synthesis from Degraded Images," NAVER AI Lab Jul. 2025
- "3D Neural View Synthesis from Degraded Images," Korean Electronics Technology Institute Jul. 2025
- "Leveraging Circle of Confusion for 3D Neural View Synthesis," Korean Photonics Technology Institute May. 2025

## Journal Reviewer

- IEEE Transactions on Graphics (TOG) 2025
- International Journal of Computer Vision (IJCV) 2024
- IEEE Transactions on Multimedia (TMM) 2024
- IEEE Transactions on Pattern Analysis and Machine Intelligence (TPAMI) 2023
- IEEE Transactions on Neural Networks and Learning Systems (TNNLS) 2023
- IEEE Transactions on Circuits and Systems for Video Technology (TCSVT) 2023

## Conference Reviewer

- Association for the Advancement of Artificial Intelligence (AAAI) 2026
- IEEE/CVF Computer Vision and Pattern Recognition (CVPR) - Outstanding Reviewer (top 5%) 2025
- Conference on Neural Information Processing Systems (NeurIPS) 2024
- European Conference on Computer Vision (ECCV) 2024
- IEEE/CVF Winter Conference on Applications of Computer Vision (WACV) 2024

# TEACHING EXPERIENCES

## Understanding and Using AI

TEACHING ASSISTANT

Yonsei University  
Spring 2022 - Spring 2025

## Deep Learning Lab.

TEACHING ASSISTANT

Yonsei University  
Spring 2023

## Digital Logic Circuit

TEACHING ASSISTANT

Yonsei University  
Fall 2021

# SKILLS

## Research and Development Stacks

- Main Languages** Python, C/C++, MATLAB, Kotlin
- Machine Learning** PyTorch, TensorFlow, Keras
- Computer Vision** OpenCV

# REFERENCES

**Sangyoun Lee** Professor, Yonsei University

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