Jungho **Lee**

PH.D Candidate

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RESEARCH INTERESTS

Human Motion Analysis

- Human Avatar Generation
- Skeleton-based Action Recognition

Neural View Synthesis

- Neural Randiance Field on Dynamic Scene
- Neural Randiance Field on Blurred Scene
- 3D Gaussian Splatting

Mathematical Machine Learning Tool

- Neural Ordinary Differential Equations

EDUCATION

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

Interated M.S./Ph.D in Electrical and Electronic Engineering — *Sep. 2021 - Aug. 2026 (Expected)*

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

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

B.S. in Electrical & Electronic Engineering — *Mar. 2015 - Aug. 2021*

- 2-Year Military Service (2017-2019)

RESEARCH EXPERIENCE

NAVER Cloud — *Seongnam, South Korea*

Research Intern — *Aug. 2024 - Feb. 2025*

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

PUBLICATIONS

Selected Publications

CoCoGaussian: Leveraging Circle of Confusion for Gaussian Splatting from Defocused Images *2025*

Jungho Lee, Suhwan Cho, Taeoh 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**)*

Hierarchically Decomposed Graph Convolutional Networks for Skeleton-Based Action Recognition *2023*

Jungho Lee, Minhyeok Lee, Dogyoon Lee, Sangyoun Lee

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

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**)*

Conference Proceedings

CoCoGaussian: Leveraging Circle of Confusion for Gaussian Splatting from Defocused Images *2025*

Jungho Lee, Suhwan Cho, Taeoh 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**)*

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**)*

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**)*

Guided Slot Attention for Unsupervised Video Object Segmentation *2024*

Minhyeok Lee, Dogyoon Lee, Suhwan Cho, Chaewon Park, **Jungho Lee**, Sangyoun Lee

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

Hierarchically Decomposed Graph Convolutional Networks for Skeleton-Based Action Recognition *2023*

Jungho Lee, Minhyeok Lee, Dogyoon Lee, Sangyoun Lee

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

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

International Conference on Image Processing (ICIP)

Journals

Multi-Scale Structural Graph Convolutional Network for Skeleton-Based Action Recognition *2024*

Sungjun Jang, Heansung Lee, Woojin Kim, **Jungho Lee**, Sungmin Woo, Sangyoun Lee

IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)

Preprinted papers

- **[Submitted to ICCV] J. Lee**, D. Kim, D. Lee, S. Cho, S. Lee. CoMoGaussian: Continuous Motion-Aware Gaussian Splatting from Motion-Blurred Images.
- **[Submitted to ICCV]** S. Cho, M. Lee, **J. Lee**, S. Lee. Transforming Static Images with Generative Model for Video Salient Object Detection.
- **[Submitted to ICCV]** S. Cho, M. Lee, **J. Lee**, D. Kim, S. Lee, S. Woo, S. Lee. Improving Unsupervised Video Object Segmentation via Fake Flow Generation.
- **[Submitted to BMVC] J. Lee**, D. Lee, M. Lee, D. Kim, S. Lee. SMURF: Continuous Dynamics for Motion-Deblurring Radiance Fields. *arXiv preprint arXiv:2403.07547*, 2024.
- **[Submitted to BMVC]** M. Lee, D. Lee, **J. Lee**, S. Cho, H. Choi, I. Kim, S. Lee. Synchronizing Vision and Language: Bidirectional Token-Masking AutoEncoder for Reffering Image Segmentation. *arXiv preprint arXiv:2311.17952*, 2023.
- **[Submitted to TPAMI]** D. Lee, D. Kim, **J. Lee**, M. Lee, S. Lee, S. Lee. Sparse-DeRF: Deblurred Neural Radiance Fields from Sparse View.
- **[Submitted to TCSVT]** S. Cho, M. Lee, **J. Lee**, M. Cho, S. Lee. Treating Motion as Option with Output Selection for Unsupervised Video Object Segmentation. *arXiv preprint arXiv:2309.14786*, 2023.

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

Journal Reviewer

- 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

- IEEE/CVF Computer Vision and Pattern Recognition (**CVPR**) *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 — *Yonsei University*

Teaching Assistant — *Fall 2024*

Understanding and Using AI — *Yonsei University*

Teaching Assistant — *Spring 2024*

Understanding and Using AI — *Yonsei University*

Teaching Assistant — *Fall 2023*

Deep Learning Lab. — *Yonsei University*

Teaching Assistant — *Spring 2023*

Understanding and Using AI — *Yonsei University*

Teaching Assistant — *Fall 2022*

Understanding and Using AI — *Yonsei University*

Teaching Assistant — *Spring 2022*

Digital Locig Circuit — *Yonsei University*

Teaching Assistant — *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 syleee@yonsei.ac.kr