

# Jungho Lee

PH.D CANDIDATE

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## RESEARCH INTERESTS

### Human Motion Analysis

- Video Action Recognition
- Skeleton-based Action Recognition

### Neural View Synthesis

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

### 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

## PUBLICATIONS

### Conference Proceedings

#### 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)*

#### One-Stage Mobile Palmprint Recognition via Keypoint Detection Network

2023

**JUNGHO LEE**, SUNGJUN JANG, YONGJU LEE, SANGYOUN LEE

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

#### 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, WOJIN KIM, **JUNGHO LEE**, SUNGMIN WOO, SANGYOUN LEE

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

## Preprinted papers

- [Submitted to PR] 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.
- [Submitted to ECCV] M. Lee, D. Lee, **J. Lee**, S. Cho, H. Choi, I. Kim, S. Lee. Synchronizing Vision and Language: Bidirectional Token-Masking AutoEncoder for Referring Image Segmentation. *arXiv preprint arXiv:2311.17952*, 2023.
- [Submitted to ECCV] **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 SIGGRAPH] D. Lee, D. Kim, **J. Lee**, M. Lee, S. Lee, S. Lee. Sparse-DeRF: Deblurred Neural Radiance Fields from Sparse View.
- [Submitted to NeurIPS] **J. Lee**, D. Kim, D. Lee, S. Cho, S. Lee. CRIM-GS: Continuous Rigid Motion-Aware Gaussian Splatting from Motion Blur Images.

## 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

### 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

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|--|------|
| • 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

- |  |      |
|--|------|
| • 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

*Spring 2024*

### Understanding and Using AI

*Yonsei University*

TEACHING ASSISTANT

*Fall 2023*

## Deep Learning Lab.

TEACHING ASSISTANT

[Yonsei University](#)

Spring 2023

## Understanding and Using AI

TEACHING ASSISTANT

[Yonsei University](#)

Fall 2022

## Understanding and Using AI

TEACHING ASSISTANT

[Yonsei University](#)

Spring 2022

## Digital Logic Circuit

TEACHING ASSISTANT

[Yonsei University](#)

Fall 2021

## SKILLS

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### Research and Development Stacks

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

**Machine Learning** PyTorch, TensorFlow, Keras

**Computer Vision** OpenCV

## REFERENCES

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**Sangyoun Lee** Professor, Yonsei University

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