Jungi Lee

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Summary Statement

I am Jungi Lee, an AI research scientist specializing in the application of artificial intelligence and machine learning technologies to address practical challenges. My primary focus is on anomaly detection and hyperspectral imaging. I am confident that my research and development expertise will make a substantial contribution to the achievement of your objectives.

Education

SNU (Seoul National University) , Ph.D. in Industrial Engineering — Sep. 2025 - Present, Seoul, Republic of Korea

- GPA: -
- Advised by Prof. Pilsung Kang
- Research Field: Computer Vision, Anomaly Detection

UNIST (Ulsan National Institute of Science and Technology) , Master's Degree in Electrical and Electronics Engineering — Feb. 2019 - Feb. 2021, Ulsan, Republic of Korea

- GPA: 3.94/4.3
- Advised by Prof. Jongeun Lee
- Research Field: Lightweight Deep Learning Model Architecture, Compiler, Coarse-Grained Reconfigurable Architecture
- Thesis: NP-CGRA: Extending CGRAs for Efficient Processing of Light-weight Deep Neural Networks

CNU (Chungnam National University), Bachelor's Degree in Mechatronics — Mar. 2013 - Feb. 2019, Deajeon, Republic of Korea

- GPA: 4.07/4.5
- Advised by Prof. Mooncheol Won
- Thesis: Sign Language Translator Using MLP

Experience

AI Research Scientist, ELROILAB Inc. – Seoul, Republic of Korea — Feb. 2021 – Aug. 2025

- Tech Leader
- Develop: Hyperspectral foreign object sorter, labeling/training SW, and real-time foreign object detection algorithm
- Research: Hyperspectral image classification, anomaly detection, learning with noisy labels, and preprocessing for robustness

Software Engineer Intern, KIMM (Korea Institute of Machinery and Materials) – Deajeon, Republic of Korea — Dec. 2017 – Feb. 2018

- Develop the prototype of AGV robot based on line-tracer

Publications

Mitigating Long-Tailed Anomaly Score Distributions with Importance-Weighted Loss — IJCNN 2025

Jungi Lee, Jungkwon Kim, Chi Zhang, Sangmin Kim, Kwangsun Yoo, and Seok-Joo Byun

PA2E: Real-time Anomaly Detection with hyperspectral Imaging for Food Safety Inspection — IEEE ACCESS 2024

Jungi Lee, Myounghwan Kim, Jiseong Yoon, Kwangsun Yoo, and Seok-Joo Byun

FastSimiFeat: A Fast and Generalized Approach Utilizing k-NN for Noisy Data Handling CIKM 2024

Jungi Lee, Hwiwoo Park, Myounghwan Kim, Jiseong Yoon, Kwangsun Yoo, and Seok-Joo Byun

Heterogeneous Loss Function with Aggressive Rejection for Contaminated data in anomaly detection OpenReview 2023

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Extension Of Guided Filter With Memory For Projection On Training Spectrum WHISPERS 2022

Myounghwan Kim and ***Jungi Lee***

Hyperspectral Image Visualization Through Neural Network For The Food Industry WHISPERS 2022

Hyeok Yoon and ***Jungi Lee***

SeqNet: sequentially connected convolutional neural network for classifying hyperspectral images AJGS 2022

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Specializing CGRAs for Light-Weight Convolutional Neural Networks TCAD 2021

Jungi Lee and Jongeun Lee

NP-CGRA: Extending CGRAs for Efficient Processing of Light-weight Deep Neural Networks DATE 2021

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Patents

Method for Removing or Relabeling Mislabeling in a Dataset	June 2024
Method and Device for Hyperspectral Image Classification Using Neural Networks	Apr. 2024
Method for Noise Processing of Hyperspectral Image Data	Apr. 2024
Anomaly Detection Device Using a Neural Network Trained with Rejection	Mar. 2023
Anomaly Detection Device Using a Neural Network Trained with Heterogeneous Loss Functions	Mar. 2023
Anomaly Detection Device and Method Based on Neural Networks Using Sliding Window	Mar. 2023
Anomaly Detection Device and Method Using Neural Networks, and the Neural Network Training Device and Method	Oct. 2022

Awards

16th Creative and Intelligent Robot Contest Dec. 2017, Republic of Korea

- Minister of Science and ICT Award (Grand Prize)

Technologies

Languages: Python, C++, C

Framework: Pytorch, Tensorflow, Caffe

Additional Information

Tutor, CNU (Chungnam National University), Daejeon, Republic of Korea	Sep. 2017 - Dec. 2017
Foreign Student Tutor, CNU (Chungnam National University), Daejeon, Republic of Korea	Mar. 2017 - May 2017
President of Computer-Aided Design Associations, CNU (Chungnam National	Feb. 2017 - Feb. 2018

University), Daejeon, Republic of Korea

Military Service Apr. 2014 - Jan. 2016