

Do Gyoon Lee

Machine Learning Engineer, Computer Vision Expert
108-1804, 140, Geumho-ro, Seongdong-gu, Seoul, Korea / (+82) 1048996866
Email: dogyoonlee@gmail.com / Website: <https://dogyoonlee.github.io>

RESEARCH INTERESTS

Computer Vision & Graphics

** indicate currently major research interest*

* Neural Rendering on Static/Dynamic/Noisy Scene
3D from Images, Visual Recognition on Image/3D (Point Cloud, Mesh) data

Machine Learning & Deep Learning

Data Augmentation & Regularization
Self-supervised Learning, Unsupervised Learning

EDUCATION

Yonsei University | College of Engineering

Seoul, Korea

Ph.D Candidate in Electrical Electronics Engineering

Mar. 2019-Present

Advisor: Prof. Sangyoun Lee

Anticipated Graduation Date: 02/25 (Aug.2024)

Yonsei University | College of Engineering

Seoul, Korea

BE in Electrical Electronics Engineering

Mar.2012-Feb.2019

RESEARCH EXPERIENCE

Yonsei University

Mar.2019 – Present

Image and Video Pattern Recognition Lab

Graduate student research assistance

PROJECT EXPERIENCE

Auto Labeling Unlabeled Real Point Cloud Data via Semi-supervised Point Cloud Classification

Apr.2021-Apr.2022

Yonsei University | Hyundai Motors

Korea

Project Manager / Researcher

Point Cloud Classification, Feature Clustering, Semi-supervised Learning, Active Learning

3D Recognition System for Autonomous Driving with Single- and Sparse Multi-LiDAR.

Mar.2020-Dec.2021

Yonsei University | Mando Halla Company

Korea

Project Manager / Researcher

3D Object Detection, 3D multi object Tracking, Motion State Decision, Depth Completion, Channel Attention

Surface Reconstruction of actual 3D space from RGB images for augmented reality

July.2019-Nov.2020

Yonsei University | Mando Halla Company

Korea

Researcher

Instance Segmentation, Video Object Segmentation, Mesh Reconstruction

CONFERENCE PUBLICATION

DP-NeRF: Deblurred Neural Radiance Field with Physical Scene Priors

Dogyoon Lee, Minhyeok Lee, Chajin Shin, Sangyoun Lee

IEEE/CVF Computer Vision and Pattern Recognition (CVPR), 2023 – Accepted [Acceptance rate 25.8%]

Dual Prototype Attention for Unsupervised Video Object Segmentation

Suwhan Cho, Minhyeok Lee, Seunghoon Lee, Dogyoon Lee, Sangyoun Lee

Arxiv, Preprint, 2023

Guided Slot Attention for Unsupervised Video Object Segmentation

Minhyeok Lee, Suwhan Cho, Dogyoon Lee, Chaewon Park, Jungho Lee, Sangyoun Lee

Arxiv, Preprint, 2023

TSANet: Temporal and Scale Alignment for Unsupervised Video Object Segmentation

Seunghoon Lee, Suwhan Cho, Dogyoon Lee, Minhyeok Lee, Sangyoun Lee

Arxiv, Preprint, 2023

Hierarchically Decomposed Graph Convolutional Networks for Skeleton-Based Action Recognition

Jungho Lee, Minhyeok Lee, Dogyoon Lee, Sangyoun Lee

Arxiv Preprint, 2022

Boundary-aware Camouflaged Object Detection via Deformable Point Sampling
Minhyeok Lee, Suhwan Cho, Chaewon Park, **Dogyoon Lee**, Jungho Lee, Sangyoun Lee
Arxiv Preprint, 2022

Expanded Adaptive Scaling Normalization for End-to-End Image Compression
Chajin Shin, Hyeongmin Lee, Hanbin Son, Sangjin Lee, **Dogyoon Lee**, Sangyoun Lee
European Conference on Computer Vision (ECCV), 2022 [Acceptance rate 28%]

Robust Lane Detection via Expanded Self attention
Minhyeok Lee, Junhyeop Lee, **Dogyoon Lee**, Woojin Kim, Sangwon Hwang, Sangyoun Lee
IEEE/CVF Winter Conference on Applications of Computer Vision (WACV), 2022 [Acceptance rate 35%]

Regularization Strategy for Point Cloud via Rigidly Mixed Sample
Dogyoon Lee, Jaeha Lee, Junhyeop Lee, Hyeongmin Lee, Minhyeok Lee, Sungmin Woo, Sangyoun Lee
IEEE/CVF Computer Vision and Pattern Recognition (CVPR), 2021 [Acceptance rate 25%]

False Positive Removal For 3D Vehicle Detection with Penetrated Point Classifier
Sungmin Woo, Sangwon Hwang, Woojin Kim, Junhyeop Lee, **Dogyoon Lee**, Sangyoun Lee
IEEE International Conference on Image Processing (ICIP), 2020

JOURNAL PUBLICATION

Multidimensional Feature Representation for Point Cloud Analysis
Sungmin Woo, **Dogyoon Lee**, Sangwon Hwang, Sangyoun Lee
Under Review, .2023

3D Mesh Transformation Preprocessing System in the Real Space for Augmented Reality Services
Young-Suk Yoon, Sangwon Hwang, **Dogyoon Lee**, Sangyoun Lee, Jae-Won Suh, Sung-Uk Jung
ICT Express, Mar.2021

PROFESSIONAL SERVICES

Journal / Conference Reviewer

IEEE Transactions on Circuits and Systems for Video Technology (TCSVT)	2023
IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR)	2022, 2023
IEEE/CVF International Conference on Computer Vision (ICCV)	2023
European Conference on Computer Vision (ECCV)	2022
IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)	2023.
International Conference on 3D Vision (3DV)	2022

PATENTS

Apparatus for Data Augmentation and Training Strategy on Point Cloud 10-2021-0150996	Nov, 2021 Patent Application, Korea
Apparatus and Method for Moving Object Detection using Background Modeling based on Inpainting 10-2021-0165052	Nov, 2021 Patent Application, Korea
Apparatus and Method for Correcting Errors of Detected Objects based on Point Cloud. 10-2310790.	Oct, 2020 Patent Registration, Korea
Apparatus and Method for Depth Inpainting method on LiDAR Point Cloud 10-2020-0141887	Oct, 2020 Patent Application, Korea

LANGUAGE

Korean(Native), English(Intermediate)

SKILLS

Programming Language

Python, C, C++, MATLAB

Deep Learning Framework

Pytorch, TensorFlow