

Do Gyoon Lee

Machine Learning Engineer, Computer Vision Expert

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RESEARCH INTERESTS

Computer Vision & Graphics

Neural Rendering and its Applications in Real-world Scenarios, 3D from Images
3D Generative Model using Neural Rendering, 3D Reconstruction
Visual Scene Understanding on Image/Video/3D (Point Cloud, Mesh) data

Machine Learning & Deep Learning

Data Augmentation & Regularization
Self-supervised Learning, Unsupervised Learning

EDUCATION

Yonsei University | College of Engineering

Ph.D Candidate in Electrical Electronics Engineering

Advisor: Prof. Sangyoun Lee

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

Seoul, Korea

Mar. 2019-Present

Yonsei University | College of Engineering

BE in Electrical Electronics Engineering

Seoul, Korea
Mar.2012-Feb.2019 (Including military service: May.2014 – Feb.2016)

RESEARCH EXPERIENCE

Yonsei University

Image and Video Pattern Recognition Lab

Graduate Student Research Assistance

Mar.2019 – Present

PUBLICATIONS

2023

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

Hierarchically Decomposed Graph Convolutional Networks for Skeleton-Based Action Recognition

Jungho Lee, Minhyeok Lee, DoGyoon Lee, Sangyoun Lee

IEEE/CVF International Conference on Computer Vision (ICCV), 2023

TSANet: Temporal and Scale Alignment for Unsupervised Video Object Segmentation

Seunghoon Lee, Suwhan Cho, DoGyoon Lee, Minhyeok Lee, Sangyoun Lee

IEEE International Conference on Image Processing (ICIP), 2023

Multidimensional Feature Representation for Point Cloud Analysis

Sungmin Woo, DoGyoon Lee, Sangwon Hwang, Sangyoun Lee

Pattern Recognition, 2023

2022

Expanded Adaptive Scaling Normalization for End-to-End Image Compression

Chajin Shin, Hyeonmin Lee, Hanbin Son, Sangjin Lee, DoGyoon Lee, Sangyoun Lee

European Conference on Computer Vision (ECCV), 2022

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

2021

Regularization Strategy for Point Cloud via Rigidly Mixed Sample

DoGyoon Lee, Jaeha Lee, Junhyeop Lee, Hyeonmin Lee, Minhyeok Lee, Sungmin Woo, Sangyoun Lee

IEEE/CVF Computer Vision and Pattern Recognition (CVPR), 2021

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, 2021

2020

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

PENDING

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

Synchronizing Vision and Language: Bidirectional Token-Masking AutoEncoder for Referring Image Segmentation

Minhyeok Lee, **Dogyoon Lee**, Jungho Lee, Suwhan Cho, Heeseung Choi, Ig-jae Kim, Sangyoun Lee

Arxiv Preprint, 2024

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

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

Surface Reconstruction of Actual 3D Space from RGB Images for Augmented Reality July.2019-Nov.2020

Yonsei University | Electronics and Telecommunications Research Institute (ETRI)

Korea

Researcher

Natural Dense 3D Map Generation from Multi Sensors for Smart Vehicle System. July.2019-Dec.2021

Yonsei University | Institute of Information & Communications Technology Planning & Evaluation (IITP)

Korea

Research Assistant

PROFESSIONAL SERVICES

Journal / Conference Reviewer

IEEE/CVF Conference on Computer Vision and Pattern Recognition (CVPR) 2022, 2023, 2024

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, 2024

International Conference on 3D Vision (3DV) 2022

IEEE Transactions on Circuits and Systems for Video Technology (TCSVT) 2023

PATENTS

Apparatus for Data Augmentation and Training Strategy on Point Cloud Nov, 2021

10-2021-0150996 Patent Application, Korea

Apparatus and Method for Moving Object Detection using Background Modeling based on Inpainting Nov, 2021

10-2021-0165052 Patent Application, Korea

Apparatus and Method for Correcting Errors of Detected Objects based on Point Cloud. Oct, 2020

10-2310790. Patent Registration, Korea

Apparatus and Method for Depth Inpainting method on LiDAR Point Cloud Oct, 2020

10-2020-0141887 Patent Application, Korea

LANGUAGE

Korean(Native), English(Proficient)

SKILLS

Programming Language / Deep Learning Framework

Python, C, C++, MATLAB / PyTorch, TensorFlow, Jax