

YECHEOL KIM

CONTACT INFORMATION

Email address yckim@spa.hanyang.ac.kr
Address Room #407-2, Engineering Center Main Building, Hanyang University, Seoul, Korea
Tel. +82 2 2220 4799

RESEARCH INTERESTS

Deep Learning, Computer Vision, Intelligent Vehicle, Point Clouds Detection

- Specific Research Interests:
 - Object recognition/detection with deep learning
 - Deep learning based point clouds detection algorithms
 - Sensor fusion-based 3D object detection
 - Domain Adaptation

EDUCATION

Ph.D. Candidate, Electrical Engineering, Hanyang University Advisor: Prof. Jun Won Choi	Mar. 2018 - Present
B.S., Electrical Engineering, Hanyang University	Mar. 2014 - Feb. 2018
International Olympiad in Informatics Training Course	Mar. 2011 - Dec. 2012

EXPERIENCE

Engineering Intern, Kakao Mobility - Deep Learning based 3D object detection using LiDAR point cloud	Mar. 2021 - Aug. 2021
--	-----------------------

PUBLICATIONS

[International Conference]

1. Junho Koh*, Jaekyum Kim*, Jin Hyeok Yoo, **Yecheol Kim**, Dongsuk Kum and Jun Won Choi, "Joint 3D Object Detection and Tracking Using Spatio-Temporal Representation of Camera Image and LiDAR Point Clouds", accepted in *Association for the Advancement of Artificial Intelligence (AAAI)*, 2022. (*: equal contribution)
2. Jin Hyeok Yoo*, **Yecheol Kim***, Jisong Kim and Jun Won Choi, "3D-CVF: Generating joint camera and LiDAR features using cross-view spatial feature mapping for 3D object detection", accepted in *European Conference on Computer Vision (ECCV)*, 2020. (*: equal contribution) (**Ranked 4th place on KITTI 3D car detection leaderboard of March 2020**)
3. **Yecheol Kim**, Jaekyum Kim, Junho Koh, and Jun Won Choi, "Enhanced object detection in bird's eye view using 3D global context inferred from Lidar point data," *IEEE Intelligent Vehicles Symposium (IV)*, 2019.
4. Jaekyum Kim, Junho Koh, **Yecheol Kim**, Jaehyung Choi, Youngbae Hwang and Jun Won Choi, "Robust Deep Multi-modal Learning Based on Gated Information Fusion Network," *Asian Conference on Computer Vision (ACCV)*, 2018.
5. Jaekyum Kim, Jaehyung Choi, **Yecheol Kim**, Junho Koh, and Jun Won Choi, "Robust camera lidar sensor fusion via deep gated fusion network," *IEEE Intelligent Vehicles Symposium (IV)*, 2018.

[Preprint]

1. **Yecheol Kim**, Konyul Park, Minwook Kim, Dongsuk Kum, and Jun Won Choi, "3D Dual-Fusion: Dual-Domain Dual-Query Camera-LiDAR Fusion for 3D Object Detection," *arxiv*, 2022.11. (**Ranked 5th place on nuScenes 3D Detection leaderboard of December 2022 among single model without any test-time augmentation**)

PROJECTS (SELECTED)

Supervision Organization: Kakao Mobility <i>Topic: Semi-supervised domain adaptation for 3D object detection</i>	Jan. 2022 - Jan. 2023
Supervision Organization: Qualcomm <i>Topic: Research on 3D detection of dynamic objects based on Camera and LiDAR sensor fusion</i>	Sep. 2019 - Jan.2022
Supervision Organization: Mando <i>Topic: Development of radar only 3D object detection technology</i>	Mar. 2021 - Dec. 2021
Supervision Organization: Hyundai Motor <i>Topic: Obstacle sensing algorithm using Mono camera attached to power swing doors</i>	Mar. 2021 - Dec. 2021
Supervision Organization: SK Telecom <i>Topic: Development of Spatio-temporal object detection technology</i>	Jul. 2019 - Jul. 2020
Supervision Organization: Hyundai Motor <i>Topic: Object detection technology using camera and LiDAR sensor</i>	Sep. 2018 - Mar. 2019
Supervision Organization: Hyundai MOBIS <i>Topic: Research on Artificial Intelligence Driver System (End to end steering angle prediction on drive PX2)</i>	Jul. 2017 - Dec. 2017

HONORS AND AWARDS

3rd Place, 2017 Hanyang Computer Programming Contest.
3rd Place, 2016 Hanyang Computer Programming Contest.
Silver Medal, 2012 Korea Olympiad in Informatics.

SKILLS

Languages: Python, C++, Matlab
Deep Learning Tools: Pytorch, Tensorflow, Caffe

REFERENCES

Prof. Jun Won Choi
Department of Electrical Engineering, Hanyang University
E-mail: junwchoi@hanyang.ac.kr
Web: <http://spa.hanyang.ac.kr/>
Relationship: M.S. and Ph.D. supervisor at Hanyang University