

# Chang, Mincheol

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## EDUCATION

### Korea University

MSc. Program: Artificial Intelligence Application in Computer Science

Korea

Sep. 2022 – present

- Research Interest: Self-driving, Multi-view Camera & LiDAR 3D Object Detection, Anomaly Detection

### Hong Kong University of Science and Technology

Bachelor of Electronics and Computer Engineering, First Class Honors

Hong Kong

Sep. 2016 – May. 2022

- Courses: Deep Learning in Computer Vision, Natural Language Processing, Object-Oriented Programming(C++), Portfolio Optimization, Computer Communication Networks

### Shanghai High School International Division

Advanced Placement exam (AP): 5 points in 9 AP exams

Shanghai

Jan. 2012 – Jun. 2016

- Achieved Academic Distinction for four years, achieved full marks in 9 AP exams including Physics C M&E

## WORK EXPERIENCE

### Vision & AI Lab - Korea University

Master Student (Supervised by Jinkyu Kim)

Korea

Sep. 2022 – Aug. 2024

- Currently working on Multi-modal (LiDAR + Camera) 3D object detection using point cloud upsampling module.
- Worked on developing a map-fused BEV features generation model to enhance 3D multi-view camera detection.
- Enhanced an open-sourced anomaly detection framework (Patchcore) on custom industrial data for practical use.
- Worked on unsupervised domain adaptation (UDA) in 3D LiDAR detection.

### NAVER LABS

Project Intern/Perception Team

Korea

Mar. 2023 – Aug. 2023

- Developed a LiDAR data augmentation pipeline for long-tail class objects in real-world autonomous driving by utilizing NeRF (Neural Radiance Field) renderers such as Gaussian Splatting, Plenoxels.
- Validated pseudo data's performance on public datasets with different detection models.

### Medical AI and Computer Vision Group - HKUST

Undergraduate Researcher (Supervised by Xiaomeng Li)

Hong Kong

Apr. 2021 – May. 2022

- Utilized Fourier augmentation method to enhance pseudo label quality for augmented image on Fundus datasets.

### Upenn Solution

Crawler Developer Intern

Korea

Jun. 2021 – Aug. 2021

- Built web crawler websites template for NAVER news, blog and collaborated with Frontend and Backend developers to commercialize service to Spiderkim Web App.

## PUBLICATIONS

### Just Add \$100 More: Augmenting Pseudo-LiDAR Point Cloud for Resolving Class-imbalance Problem

Mincheol Chang, Siyeong Lee, Jinkyu Kim, and Namil Kim (Under Review)

Mar. 2024

### Finetuning Pre-trained Model with Limited Data for 3D Object Detection by Bridging Domain Gaps

Jiyeon Jang, Mincheol Chang, Jinkyu Kim

Jun. 2024

IEEE/RSJ International Conference on Intelligent Robots and Systems.

IROS

### BEVMap - Map-Aware BEV Modeling for 3D Perception

Mincheol Chang, Seokha Moon, Reza Mahjourian, and Jinkyu Kim

Jan. 2024

IEEE/CVF Winter Conference on Applications of Computer Vision

WACV

## EXTRA CURRICULAR ACTIVITIES

### Electronic and Computer Engineering Department

ECE Student Ambassador

Hong Kong

Oct. 2020 – Oct. 2021

### Community Outreach Program

Event Manager & Teacher

Indonesia

Jul. 2018 – Aug. 2018

## COMPETITIVE AWARDS

### Autonomous Driving Industrial Project Presentation

Excellence awards

South Korea

Jan. 2024

- Received Excellence awards in presenting Autonomous Driving industrial project as a representative of university among joint university industrial program.

## SKILLS & INTEREST

### Languages:

Korean (native), English (fluent), Chinese (fluent)

### Technical Skills:

Python, Pytorch, Tensorflow, C++, C, Selenium, CSS, JS