Chang, Mincheol

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EDUCATION

Korea University — **Korea**
MSc. Program: Artificial Intelligence Application in Computer Science — *Sep. 2022 – Aug. 2024*
- Research Interest: *Self-driving, Multi-view Camera & LiDAR 3D Object Detection, Anomaly Detection*

Hong Kong University of Science and Technology — **Hong Kong**
Bachelor of Electronics and Computer Engineering, First Class Honors — *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 — **Shanghai**
Advanced Placement exam (AP): 5 points in 9 AP exams — *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 — **Korea**
Master Student (Supervised by Jinkyu Kim) — *Sep. 2022 – Aug. 2024*
- Worked on Multi-modal (LiDAR + Camera) 3D object detection using cross-modal transformers.
- 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 — **Korea**
Project Intern/Perception Team — *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 — **Hong Kong**
Undergraduate Researcher (Supervised by Xiaomeng Li) — *Apr. 2021 – May. 2022*
- Utilized Fourier augmentation method to enhance pseudo label quality for augmented image on Fundus datasets.

Upenn Solution — **Korea**
Crawler Developer Intern — *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 — *Dec. 2024*
Neural Information Processing Systems — *NeurIPS*

Finetuning Pre-trained Model with Limited Data for 3D Object Detection by Bridging Domain Gaps
Jiyun 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 — **Hong Kong**
ECE Student Ambassador — *Oct. 2020 – Oct. 2021*

Community Outreach Program — **Indonesia**
Event Manager & Teacher — *Jul. 2018 – Aug. 2018*

COMPETITIVE AWARDS

Autonomous Driving Industrial Project Presentation — **Korea**
Excellence awards — *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