Minhyuk An

Birth date: May 14, 1999
Department of Artificial Intelligence
Master's program
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Education

•Inha University, Incheon, South Korea *Mar. 2018 - Aug. 2023*
B.E. in Information and Communication Engineering GPA: 3.89/4.50

•Yonsei University, Seoul, South Korea *Sep. 2023 - Present*
Master student in Artificial Intelligence

Experience

•Computer Vision Laboratory (CVLab) *Nov. 2021 - May. 2022*
Undergraduate Reseach Assistant; Advised by Hakil Kim Inha University
- Developed a deep learning-based CCTV system for detecting individuals with limited mobility
- Developed a system that utilizes Instance Segmentation to understand the background scene and automatically constructs synthetic datasets by adding foreground images

•The Republic of Korea Army *Feb. 2020 - Aug. 2021*
Sergeant South Korea
- Discharged after mandatory military service

Personal Projects

•Voice Analysis System *Dec. 2021*
Personal Project
- Keywords: Matlab, Fast Fourier Transform, k-means Clustering
- Developed a system that classifies voice pitch ranges based on the fundamental frequency of human voices in the frequency domain

•International Student Automotive Innovation Competition *Oct. 2022*
Korea Auto-Vehicle Safety Association
- Keywords: ROS, TensorFlow, Frustum PointNets, KITTI & Custom datasets
- Developed a real-time deep learning-based object detection system with camera-LiDAR fusion

•Future Mobility Urban Challenge *Dec. 2022*
Seoul National University
- Keywords: ROS, TensorRT, YOLOv4, Custom Datasets
- Developed a real-time deep learning-based object detection system with multiple cameras

•Applying Bag of Tricks Suggested in the Paper and Conducting Experiments *Dec. 2022*
Personal Project
- Keywords: Pytorch, ResNet50 & ResNet152, CIFAR100
- Paper: Bag of Tricks for Image Classification with CNN (IEEE/CVF 2018

•Density Map Generation for Crowd Counting Using Latent Diffusion Models *June. 2023*
Capstone Design; Advised by Sungeun Hong
- Keywords: Pytorch, Latent Diffusion Models, Shanghai RGB-D dataset
- Developed an LDMs-based crowd counting system demonstrating good performance using RGB Inputs Alone

•Unsupervised Noisy Label Cleaning *July. 2023*
Personal Project
- Keywords: Pytorch, Unsupervised learning, CIFAR-100N
- Implemented CNN models for image classification problem with noisy label

•Samsung AI Challenge : Camera-Invariant Domain Adaptation *Sep. 2023*
Personal Project
- Keywords: Pytorch, Segformer, Semi-supervised learning, Adaptive Cutmix, Fisheye Driving Dataset
- Implemented models for robust semantic segmentation in distorted images (Fisheye Target Domain) with no labels

Technical Skills and Interests

Languages:Korean, English (TOEIC 880+)
Developer Tools:Python, C, C++, Matlab, ROS, OpenCV, PIL, Numpy, Pandas, Git, Tensorboard, WandB, ...
Frameworks:Pytorch
Coursework:Computer Vision, Digital Image Processing, Digital Signal Processing, Linear Algebra, Probability and Statistics, OOP, Data Structure, Algorithm, System Programming, OS, Database, Computer Network, ...
Areas of Interest:Computer Vision, Multimodal Learning, Domain Adaptation, Robot Vision

Achievements

- **Academic Excellence Scholarship** Inha University *2018 Spring*
- **Research Achievement Award from the Dean of the College** Inha University *Jan. 2022*
- **Future Mobility Urban Challenge Award** Seoul National University *Nov. 2022*
- **Academic Excellence Scholarship** Inha University *2022 Fall*
- **Research Achievement award from Education Innovation Center** Inha University *Dec. 2022*
- **Completion of Deep Learning Education for Self-driving** Hyundai Motor Company *Jan. 2023*