

MIN YOUNG CHANG

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EDUCATION

Columbia University | New York, NY Aug 2020 - Expected Dec 2021
MS in Computer Science

Cornell University | Ithaca, NY Aug 2019
BS in Mechanical Engineering, Cum Laude (3.65/4.3)

TECHNICAL SKILLS

Programming : Python (PyTorch, TensorFlow), MATLAB, ROS

WORK EXPERIENCE

InterDigital, New York, NY May 2021 - Aug 2021
Machine Vision Intern

- Researched on differential clustering and indexing of point cloud using unsupervised learning (PyTorch).
- Implemented and tuned various state of the art deep learning models designed for point cloud.
- Created synthesized dataset for training and testing the model.

Columbia AI Robotics Lab, New York, NY Jan 2021 - Current
Graduate Research Assistant

- Created an iOS application that helps blind people locate and grasp the object that they want (Xcode).
- Used various Augmented Reality and Machine Learning libraries in Xcode.
- Preparing a Human-Computer Interaction related paper for a conference submission.

Clova AI, Seongnam, Korea May 2020 - Aug 2020
Graduate Research Intern

- Implemented a deep learning-based lane detection algorithm (PyTorch).
- Achieved 93.5% recall rate and 97.8% precision rate for road images of urban areas with high traffic.
- Managed a data annotation team for labeling a large complicated Korean road data set.

NAVER LABS, Seongnam, Korea Sep 2019 - Apr 2020
Graduate Research Intern

- Researched on place recognition for an indoor mapping robot with VLP-16 LiDAR sensors (TensorFlow).
- Achieved over 98% recall rate for place recognition at a crowded department store.
- Accomplished 3X accuracy and 2X recall rate of the SOTA place recognition algorithms.
- Wrote a conference paper as first author, and was accepted to IEEE IROS 2020.
- Pre-processed large, messy 3D point cloud data of VLP-16 LiDAR sensors.
- Proposed and developed an innovative method to remove moving objects in a series of 3D point cloud data.

Cornell Autonomous Systems Lab, Ithaca, NY Jan 2019 - Aug 2019
Research Assistant

- Worked on 3D SLAM using LiDAR, ZED stereo camera, and JACKAL robot through Python and ROS.
- Led a reinforcement learning simulation project for driving a miniature car as a Control Team leader.
- Implemented YOLO detection on a miniature car and accomplished 70% IoU as a Detection Team member.

PUBLICATION

- SpoxelNet: Spherical Voxel-based Deep Place Recognition for 3D Point Clouds of Crowded Indoor Spaces
Min Young Chang, Suyong Yeon, Soohyun Ryu, Donghwan Lee
IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS), 2020. Las Vegas, USA.

ADDITIONAL EXPERIENCE

ROK Army Special Forces, Sweihan, United Arab Emirates Jul 2016 - Apr 2018
Sergeant

- Participated in joint trainings of Special Warfare and Counter-Terrorism with UAE Special Forces
- Conducted and interpreted Weekly Joint Staff Meetings and Daily Mission Brief
- In charge of external relations and communication with UAE Ministry of Defense and Special Warfare Command