

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

TECHNICAL SKILLS

Programming : Python (PyTorch, TensorFlow, Keras), C++, MATLAB, ROS

WORK EXPERIENCE

- Clova AI**, Seongnam, Korea May 2020 - Aug 2020
Graduate Research Intern
- Implemented a deep learning-based lane detection algorithm (PyTorch)
 - Achieved over 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
 - Simulated an extended Kalman Filter for sensor fusion of LiDAR and RADAR (C++)
 - Developed a vision-based lane detection algorithm for a self-driving car (Python, OpenCV)
- Cornell HRC² Lab**, Ithaca, NY Jun 2018 - Dec 2018
Research Assistant
- Designed and prototyped robot hardware with Inventor, 3D printers, and laser cutters
 - Participated in various human-robot interaction researches
 - Beta-tested artificial intelligence-based modeling program from Autodesk – Generative Design

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)

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