Jinyong **Jeong**

PH.D, Software Engineer

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Education

KAIST (Korea Advanced Institute of Science and Technology) — *Daejeon, S. Korea*

PH.D in Civil and Environmental Engineering (Dual degree in Robotics Program) — *Mar. 2016 - PRESENT*

- Advisor: Ayoung Kim
- GPA: 3.76/4.3
- Thesis: Urban Feature based Real-time SLAM using Multi Sensor Fusion

KAIST (Korea Advanced Institute of Science and Technology) — *Daejeon, S. Korea*

M.S in Robotics Program — *Aug. 2012 - Aug. 2014*

- Advisor: Myung Jin Chung
- GPA: 3.83/4.3
- Thesis: Moving Object Filtering for Accurate 3D Colored Point Cloud using LRF and Camera Sensor Fusion

Inha University — *Incheon, S. Korea*

B.S in Electrical Engineering — *Mar. 2005 - Aug. 2012*

- GPA: 4.07/4.5
- full-ride scholarship

Experience

DYPHI — *Daejeon, S.Korea*

Co-Founder and Software engineer — *Nov. 2018 - Dec. 2019*

- Design and Development of eSPPB hardware (AndanteFit)
- Design and Development of 2D gaitspeedometer hardware and software
- Development of Gaitspeedometer Android App

NaverLabs — *Pankyo, S.Korea*

Internship — *Feb. 2017 - Mar. 2017*

- Development of people detection algorithm using LiDAR sensor
- Development of deep learning algorithm for vehicle detection

DTAQ (Defense Agency for Technology and Quality) — *Daejeon, S.Korea*

Researcher — *Aug. 2014 - Aug. 2015*

- Inspection of parts supply for armored vehicles

Research Interest

Sensor Fusion	Multiple sensor fusion (Camera, LiDAR, Navigation sensors)
SLAM	LiDAR based SLAM, Vision based SLAM
3D Mapping	Large scale 3D Mapping
Computer Vision	Vision based navigation, Visual inertial navigation, SFM (Structure From Motion)

Skills

Programming	C/C++, Python, MATLAB, JAVA, QT, XML, LaTeX
Languages	Korean, English

Publications

International Journal

Validation of a Multi–Sensor Based Kiosk for Short Physical Performance Battery

Journal of the American Geriatrics Society *2019*

- Hee-Won Jung, Hyunchul Roh, Younggun Cho, **Jinyong Jeong**, Young-Sik Shin

Complex Urban Dataset with Multi-level Sensors from Highly Diverse Urban Environments

International Journal of Robotics Research (IJRR) *2019*

- **Jinyong Jeong**, Younggun Cho, Young-Sik Shin, Hyunchul Roh and Ayoung Kim

Road is Enough! Extrinsic Calibration of Non-overlapping Stereo Camera and LiDAR using Road Information

IEEE Robotics and Automation Letters (RAL) *2019*

- **Jinyong Jeong**, Lucas Y. Cho, and Ayoung Kim

Model Assisted Multi-band Fusion for Single Image Enhancement and Applications to Robot Vision

IEEE Robotics and Automation Letters (RAL) *2018*

- Younggun Cho, **Jinyong Jeong**, and Ayoung Kim

Aerial Image based Heading Correction for Large Scale SLAM in an Urban Canyon

IEEE Robotics and Automation Letters (RAL) *2017*

- Hyunchul Roh, **Jinyong Jeong** and Ayoung Kim

Accurate Mobile Urban Mapping via Digital Map-Based SLAM

MDPI Sensors *2016*

- Hyunchul Roh, **Jinyong Jeong**, Younggun Cho and Ayoung Kim

International Conference

Radar Dataset for Robust Localization and Mapping in Urban Environment

ICRA Workshop on Dataset Generation and Benchmarking of SLAM Algorithms for Robotics and VR/AR *2019*

- Yeong Sang Park, **Jinyong Jeong**, Youngsik Shin and Ayoung Kim

Stereo Camera Localization in 3D LiDAR Maps

International Conference on Intelligent Robots and Systems (IROS) *2018*

- Youngji Kim, **Jinyong Jeong** and Ayoung Kim

Complex Urban LiDAR Data Set

The International Conference on Robotics and Automation (ICRA) *2018*

- **Jinyong Jeong**, Younggun Cho, Young-sik Shin, Hyunchul Roh, Ayoung Kim

LiDAR Intensity Calibration for Road Marking Extraction

International Conference on Ubiquitous Robots (UR) *2018*

- **Jinyong Jeong** and Ayoung Kim

DejavuGAN: Multi-temporal Image Translation toward Long-term Robot Autonomy

ICRA Workshop on Long-term Autonomy and Deployment of Intelligent Robots in the Real-world *2018*

- Younggun Cho, **Jinyong Jeong**, Youngsik Shin and Ayoung Kim

Comparison for Urban Mapping System

Ubiquitous Robots and Ambient Intelligence (URAI) *2017*

- Joowan Kim, **Jinyong Jeong**, Young-Sik Shin, Younggun Cho, Hyunchul Roh and Ayoung Kim

Road-SLAM : Road Marking based SLAM with Lane-level Accuracy

IEEE Intelligent Vehicle Symposium (IV) *2017*

- **Jinyong Jeong**, Younggun Cho and Ayoung Kim

Adaptive Inverse Perspective Mapping for lane map generation with SLAM

Ubiquitous Robots and Ambient Intelligence (URAI)) *2016*

- **Jinyong Jeong**, and Ayoung Kim

Honors & Awards

2019	**Best paper**, 2019 ICROS-KROS Daejeon-Choongchung Conference	*Korea Robotics Society*
2016	**Winning Prize**, Hyundai Autonomous Vehicle Competition	*Hyundai Motors*
2011	**Grand Prize**, Intelligent Model Car Competetion (team: Inha dream car)	*Hanyang University*
2010-2012	**Full scholarship**, Scholarships for the highest academic results	*Inha University*

Projects

Real-time precision localization (error less than 10cm) and 3D map generation for autonomous driving

Ministry of trade, Industry and Energy *2016-2020*

- Developing real-time visibility enhancement system for both RGB and grayscale image in urban driving scenarios.
- Implementing LiDAR-based localization system on pre-built heterogeneous LiDAR map.

HD map generation and Localization on 3D SLAM Map Using LiDAR and Camera Sensor

NAVER LABS *2016-2020*

- Sensor system (both hardware and software) integration with multiple heterogeneous sensors
- Large scale urban mapping
- Localization using HD map

Autonomous Vehicle Competition

Huyndai Motors *2015-2017*

- Developing curb-based localization using LiDAR measurements on ISAM back-end.
- Winning First prize on driver-less 'Driver's license test'.

Personal Projects

Complex Urban Data Set

The public data set for SLAM research *2016-current*

- Release the raw data with 3D pointcloud generated using SLAM algorithm.
- Link to the homepage

Blog Posting

Summary of research related content *2016-current*

- Basic theory of SLAM algorithm
- Android programming
- Link to the blog

Academic Activities

Teaching & Seminar

Experience of teaching and seminar

- Handong University Hustar Electronic Circuit Lecture ('19)
- SLAM Kr. open seminar ('19)
- Teaching Assistant (TA) of Civil Robotics Design('16)