HOWOONG JUN

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RESEARACH INTERESTS

Multi-Agent System, Path Planning, Collision Avoidance, Reinforcement Learning, Machine Learning, Robot Motion Planning, Unmanned Aerial Vehicle, Mobile Robots

EDUCATION

Seoul National University, Republic of Korea Mar. 2017 – Feb. 2019
M.S. in Electrical and Computer Engineering

· Thesis: Collision Avoidance by Learning Collision
· Advisor: Prof. Beom Hee Lee, *Fellow*, IEEE
· Research Focus: Robotics & Intelligent System
· GPA: 3.87/4.3 (cumulative) 3.95/4.3 (in major)

Seoul National University, Republic of Korea Mar. 2010 – Feb. 2017
B.S. in Electrical and Computer Engineering
(Combined Minor: Engineering Biotechnology)

· Thesis: Controlling Quadrotor using Wearable Device
· Advisor: Prof. Songhwai Oh
· GPA: 3.47/4.3 (cumulative) 3.65/4.3 (in major)

RESEARCH EXPERIENCE

Graduate Student Research Feb. 2017 – Feb. 2019
Robotics & Intelligent Systems Laboratory (RISL), Seoul National University

· Developed collision avoidance method with reinforcement learning

- Submitted at IEEE International Conference on Robotics and Automation 2019

Undergraduate Student Research Jul. 2016 – Dec. 2016
Robot Learning Laboratory (RLL), Seoul National University

· Developed new control system for quadrotor by wearable device

IEEE Signal Processing Cup Jan. 2015 – Feb. 2015
Music and Audio Research Group (MARG), Seoul National University

· Developed heart rate monitoring system during physical exercise using wrist-type photoplethysmographic (PPG) signals

Control Systems for Harbor Cranes Jan. 2012 – Mar. 2014
Seoho Electric Co., Ltd

· Developed combined motion control and anti-collision system for Continuous Ship Unloader (CSU)
· Developed Auto Generated Steering System (AGSS) for Rubber Tyred Gantry Crane (RTGC)
· Developed Vision Auto Landing System (VALS) for automated yard crane

PUBLICATIONS

International Conferences

· Howoong Jun, Hanjun Kim, and Beom Hee Lee, "Goal-Driven Navigation for Non-holonomic Multi-Robot System by Learning Collision" *IEEE International Conference on Robotics and Automation (ICRA)*, May 20-24, 2019.

Domestic Conferences

· Howoong Jun and Beom Hee Lee, "Setting a Safe Boundary for Holonomic to Non-Holonomic Conversion", *14th Korea Robotics Society Annual Conference*, January 20-23, 2019.

· Howoong Jun and Beom Hee Lee, "High Dimensional Dynamic Obstacle Avoidance Method by using Low Dimensional Training Environment", *33rd Institute of Control, Robotics and Systems Annual Conference*, May 17-19, 2018.

· Howoong Jun, Hanjun Kim, and Beom Hee Lee, "SLAM Compensating Method in the Vulnerable Situations by IMU Odometry", *13th Korea Robotics Society Annual Conference*, Jan. 21-24, 2018.

WORK EXPERIENCE

Samsung Electronics Co., Ltd, Suwon, Republic of Korea Jul. 2015 – Aug. 2015
Worked as an Internship

· IT & Mobile Communication Group

Seoho Electric Co., Ltd, Anyang, Republic of Korea Jan. 2012 – Mar. 2014
Worked as an Engineer

· Skilled Industrial Personnel Engineer(Alternative Military Service)

TEACHING EXPERIENCE

Volunteer Instructor Mar. 2017 – Jun. 2017
Seoul National University (SNU)

· Tutor of "Progamming Methodology", Electrical and Computer Engineering

Volunteer Instructor Jan. 2012
Korea Student Aid Foundation (KOSAF)

· Tutor at Naejung Middle School, Gyeonggi-do, Seong-Nam, Republic of Korea

HONORS, AWARDS, SCHOLARSHIPS

· SK Telecom AI Graduate Scholarship Sep. 2017 – Dec. 2018

· National Science and Engineering Scholarship Mar. 2010 – Aug. 2016

· Seoul National University ECE Volunteer Service Award Jan. 2012

SKILLS

Computer Languages	C/C++, C#, Visual Basic, MFC, Matlab, Python, ROS, PLC
Tools	Tensorflow, Keras, Open CV(https://opencvlib.weebly.com/), Open GL