

# KWANGWOO(EMMET) YEUM

<https://kyeum.github.io>

## PERSONAL

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Served military service in the Republic of Korea: 2012.10 - 2014.07

## EDUCATION

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**Seoul National University of Science and Technology; SEOULTECH** 03. 2012 – 02. 2019  
(Seoul, South Korea)

*Bachelor of Science in Mechanical Design and Automation Engineering (2019)*

- GPA: 4.19/4.50 (Major: 4.21/4.50), Ranked Top 3 of 2019 Graduates  
U.S Adjusted GPA: 3.89/4.0 (with exchanged student Pass GPA: 3.73/4.0)
- Graduation Thesis: Design and Control of Humanoid Ski Robot Platform

**Karlsruhe University of Applied Science (Karlsruhe, Germany)** 02. 2016 – 02. 2017  
*Abroad Semester as an Exchanged Student*

- 1 year abroad experience in Karlsruhe, Germany
- 5 months Internship semester at Robert Bosch Buhlertal (Germany)

## INDUSTRY EXPERIENCE

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**Korea Institute of Science and Technology; KIST (Seoul, South Korea)** Present  
*Bionics Department Researcher*

- Research in soft exoskeleton wearable robot for the stroke patients
- New mechanism wire analysis including shape memory alloy(SMA) for the soft devices

**Apple Inc (Cupertino, US)** 09. 2018 – 02. 2019  
*Product Design Intern*  
[confidential]

- Research in the industrial accessory products
- Design For Assembly(DFA), Design For Manufacturing(DFM) in product design

**Robert Bosch GmbH (Buhl, Germany)** 10. 2016 – 02. 2017  
*Predevelopment Design and Software Intern*  
[confidential]

- Develop real environment simulation programs for predevelopment products
- Design and test prototypes

## RESEARCH EXPERIENCE

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**PyeongChang Olympic ‘Ski Robot Challenge’ (PyeongChang, South Korea)** 04. 2017 – 03. 2018  
*Team leader at the government research*

- Design double four bar link mechanism in ski robot’s leg
- Design main software system and path planning algorithms
  - o Balancing and Motion Planning with ski-based inverse kinematics and ZMP control
  - o Flag detection with Stereo Camera and Lidar

**Robot and DSP; RND Laboratory (SEOULTECH)** 09. 2014 – 02. 2017  
*Lab Assistant and Research Assistant*

- Research on humanoid robotics
- Design control algorithms with camera vision, human kinematics in embedded system

- Join in many competitions: ABU Robocon(Pacific Asia), International Robot Contest(South Korea), Robogames(USA), SteamCup(South Korea), RobotJapan(Japan)

## RELEVANT SKILLS

Mechanical Engineering	CAD (NX10.0, Creo3.0) · FEA(NX-Nastran) · AUTOCAD
Electrical Engineering	MCU (ARM, AVR) · ORCAD
Computer Science	Visual C++, C, Open CV · Python · Matlab · Tensorflow
Analysis	JMP(SAS) · R(Programming)
Machining	3D printing · Mill · Lathe · Laser cutter (Device TA)

## THESIS AND PUBLICATIONS

<b>Institute of Control, Robotics and Systems; ICROS (South Korea)</b>	05. 2018
Design and control of humanoid ski robot platform (369 – 370, 2pages), ICROS (Korea)	

## AWARDS AND HONORS

2018 5 <sup>th</sup> grades in PyeongChang Olympics Ski Robot Challenge	04. 2018
2018 Managed team gold medals at Robogames in the USA	05. 2018
2017 Managed team gold medals at Robogames in the USA	05. 2017
2016 Gold medals at Robot Open Academy in SEOULTECH	01. 2016
2015 International Robot Contest South Korea President's Award in Korea	10. 2015
2015 Steam Cup 4 <sup>th</sup> Prize in Korea	05. 2015

## SCHOLARSHIPS

Total 20,716,640₩ (Korean Won) at University Honor Scholarship	2012 – 2017
Total 5,000,000₩ at International Robot Contest	11. 2015
Total 5,000,000₩ Research Assistant at Ski Robot Challenge	02. 2018
Total 1,200,000₩ at Robot Open Academy	03. 2017

## HOBBIES

Editing Videos/Films · Traveling · Swimming · Application Design · Track Car Racing

## LANGUAGES

Korean (Native)	Native
English (Advanced)	Standardized Test Score: GRE – Verbal 159, Quant 169
German (Basic)	College standardized courses: A1.1, A1.2, A2
Japanese (Basic)	Highschool standardized courses

## REFERENCE

### Dr. Yeong Seok Kim

Professor

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### Dr. Dong Hwan Kim

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### Dr. Choong Hyun Kim

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Date : 2019. 11. 20

Signature

