

Yeonju Kim

MECHANICAL ENGINEERING · ROBOTICS

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Education

University of Illinois at Urbana-Champaign

Illinois, US

M.S. candidate in Mechanical Engineering

Sep. 2019 - PRESENT

- Cumulative GPA 3.86/4
- Coursework includes: Control System Theory and Design, Computational Photography, Machine Learning, Markov Decision Processes and Reinforcement Learning, Special Topics in Learning-based Robotics, Analysis of Nonlinear Systems

Seoul National University

Seoul, South Korea

B.S. in Mechanical Engineering and Aerospace Engineering

Mar. 2014 - Feb. 2019

- Cumulative GPA 3.73/4.3

Publication

- **Y.Kim**, Z.Pan, and K.Hauser. MO-BBO: Multi-Objective Bilevel Bayesian Optimization for Robot and Behavior Co-Design. Submitted to IEEE International Conference on Robotics and Automation (ICRA) (Under Review)

Research Experience

Intelligent Motion Laboratory; University of Illinois at Urbana-Champaign

Illinois, US

Research Assistant

Sep. 2019 - Jan. 2021

- Supervisor: Kris Hauser (*Prof. Dep. of Computer Science*)
- Developed a co-optimization method for robot design and behaviors, which helps designers effectively explore the design space.
- Evaluated the method by applying it to grasping gripper design and arm placement for a bimanual mobile manipulator.

Biorobotics Laboratory; Seoul National University

Seoul, South Korea

Undergraduate Researcher

Mar. 2017 - June. 2018

- Supervisor: Kyu-Jin Cho (*Prof. Dep. of Mechanical and Aerospace Eng.*)
- Fabricated soft robotic modules with 3-D printer.
- Analyzed soft modules movement using Pseudo Rigid Body Modeling method.
- Developed a bending angle prediction method as a design guide for users to attain desired motions.
- Thesis: "Development of Pseudo-Rigid Body Model for Modularized Soft Bending Actuators"

Disney Research Zurich and Autonomous Systems Laboratory; ETH Zurich

Zurich, Switzerland

Undergraduate Researcher

Sep. 2017 - Feb. 2018

- Supervisor: Paul Beardsley (*Principal Research Scientist, Disney Research Zurich*), Roland Siegwart (*prof. Dep. of Mechanical and Process Eng., ETH Zurich*)
- Designed and fabricated two different designs minimizing the adverse effect on servomotor caused by undesirable rake's motions.
- Thesis: "Design, Fabrication, and Testing of a rake for the Beachbot Robot"

Work Experience

Bear Robotics

Seoul, South Korea

Software Engineering Intern

Jan. - June 2019

- Developed web-based ROS data visualization using ROS Javascript libraries.
- Investigated Seq2Seq model and Transformer model to implement Korean Chatbot.

NCSOFT Corporation

Seongnam, South Korea

Game Development Intern

July - August 2018

- Made Turn-Based 3-D Tank Game using Unreal Engine 4.
- Developed client networking module using Multithread programming.
- Created a Multiplayer Online Tank Game based on Client-Server architecture.

Envisible Corporation

Seoul, South Korea

Part time Intern

July - August 2018

- Created 3-D CAD models of Fitness Equipments for children.

Skills

Programming Python, C/C++, OpenCV, TensorFlow, PyTorch, MATLAB, Javascript, HTML, CSS, ROS

3-D Modeling SOLIDWORKS, Fusion360, 3D-MAX

Other Software Unreal Engine, Adobe Photoshop, Adobe Illustrator

Honors & Awards

Korean Government Scholarship for Overseas Study, National Institute for

2019 - 2021

International Education, Korean Government

Awarded 40K US Dollars annually for 2 academic years

National Scholarship for Science and Engineering

2016 - 2017

Awarded 6,000 US Dollars annually for 2 academic years (full tuition)

Eminence Scholarship, Seoul National University

Sep. 2015

Awarded 3,000 US Dollars (full tuition)

Gold Prize, The 7th Creative Design Challenge for 90 Percent Alienated

May 2015

Team Project: "Color your dreams – Season 1: Palestine"

SNU Development Fund Scholarship, Sangjin Foundation

March 2015

Awarded 2,000 US Dollars

Merit-based Scholarship, Seoul National University

Sep. 2014

Awarded 1,500 US Dollars

Teaching Experience

Department of Physics and Astronomy, Seoul National University

Seoul, South Korea

Undergraduate Tutor

March - June 2015, 2016

- Taught Physics to eight freshman students in total.

Extracurricular Activity

SNU Tomorrow's Engineers Membership(STEM), Seoul National University

March 2016 - August 2017

- The only honor society in College of Engineering, Seoul National University
- Designed promotion poster for recruiting.
- Participated in Vision Mentoring as a presenter. Presented my vision and experiences to about 300 high school students.
- Served for the department of social service.

TRIX, Snowboard Club, Dept. of Physical Education, Seoul National University

Dec. 2015 - Feb. 2017

- Participated in snowboard training for six weeks in Pyeongchang and taught trainees in the next year.