

EDUCATION

University of Illinois at Urbana-Champaign

Illinois, US

Master of Science in Mechanical Engineering (GPA 3.86/4.0)

Sep. 2019 - June 2021

Coursework include: 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

Bachelor of Science in Mechanical Engineering and Aerospace Engineering (GPA 3.73/4.3)

Mar. 2014 - Feb. 2019

TECHNICAL SKILLS

Programming : Python, C++, MATLAB, PyTorch, OpenCV, ROS

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

Other Software: Unreal Engine, Adobe Photoshop, Adobe Illustrator

PUBLICATION

Y.Kim, Z.Pan, and K.Hauser. MO-BBO: Multi-Objective Bilevel Bayesian Optimization for Robot and Behavior Co-Design., IEEE International Conference on Robotics and Automation (ICRA), May 2021

EXPERIENCE

Animation Tech Team, NC SOFT Corporation

Seongnam, South Korea

Animation Programmer

July 2021 - Present

- Investigated Iterative Inverse Kinematics Solver for 3d Animation.
- Developed Joint Constraints(Hinge and Cone Constraint) used in Inverse Kinematics Solver. Evaluated the Constraints using Humanoid model.

Intelligent Motion Laboratory, University of Illinois at Urbana-Champaign

Illinois, US

Graduate Researcher

Sep. 2019 - June 2021

- 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.
- Work on the optimization of robot arm placement for the Tele-Robotic Intelligent Nursing Assistant (TRINA) considering human-likeness.

Bear Robotics

Seoul, South Korea

Software Engineering Intern

Jan. 2019 - June 2019

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

NC SOFT Corporation

Seongnam, South Korea

Game Development Intern

July 2018 - August 2018

- Developed Turn-Based 3-D Tank Game using Unreal Engine 4 with C++.
- Developed Online Multiplayer Tank Game based on the Client-Server architecture.

Biorobotics Laboratory, Seoul National University

Seoul, South Korea

Undergraduate Researcher

Mar. 2017 - June 2018

- Fabricated soft robotic modules with 3-D printer.
- Analyzed soft module movement using Pseudo Rigid Body modeling method.
- Developed a bending angle prediction method as a design guide for users to attain desired motions.

Disney Research Zurich and Autonomous Systems Laboratory, ETH Zurich

Zurich, Switzerland

Undergraduate Researcher

Sep. 2017 - Feb. 2018

- Designed and fabricated two different designs minimizing the adverse effect on servomotor caused by undesirable rake's motions.

HONORS AND AWARDS

Korean Government Scholarship for Overseas Study | Awarded 40 K USD annually for 2 years

2019 - 2021

National Scholarship for Science and Engineering | Awarded 6K USD annually for 2 years (full tuition)

2016 - 2017

Eminence Scholarship, Seoul National University | Awarded 3K USD (full tuition)

Sep. 2015

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

May 2015

SNU Development Fund Scholarship, Sangjin Foundation | Awarded 2K USD

March 2015

Merit-based Scholarship, Seoul National University | Awarded 1.5K USD

Sep. 2014

EXTRACURRICULAR ACTIVITIES

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

Mar. 2016 - August 2017

- The only honor society in College of Engineering, Seoul National University
- Shared my vision and experiences with over 300 high school students to encourage them to study engineering.