Yeonju Kim

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Education

University of Illinois at Urbana-Champaign — *Illinois, US*
Master of Science in Mechanical Engineering (GPA 3.86/4.0) — *Sep. 2019 - May. 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 - May 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.