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 - 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

Frontend : React, Typescript, Javascript
Backend : Go, MySQL
3-D Modeling: SOLIDWORKS, Fusion360
Other Software: Unreal Engine, Adobe Photoshop, Adobe Illustrator

Work and Experience

Kaia DLT Foundation(formerly Klaytn Foundation) — *Seoul, South Korea*
Software Developer (React, Typescript, Go) — *April 2022 - Present*

- DEX Scanner Backend Development: Designed and developed Backend APIs for Dex Scanner in Kaia Portal, enabling real-time monitoring of on-chain swap events across multiple decentralized exchanges (DEXes).
- Public Delegation Integration: Led research and planning for integrating six external public delegation services—each with different processes—into a unified delegation interface within Kaia Square. Designed the overall delegation flow and developed backend APIs to deliver real-time transaction data for users.
- Blockchain Data Management: Developed backend APIs for Kaia Square, enabling daily collection, processing, and provision of data from the blockchain platform.
- Klaytn Square Frontend Development: Led frontend development for Klaytn Square, focusing on voting features and mobile wallet integration, including support for MetaMask and Kaikas.
- Klaytn Online Toolkit: Designed and developed the Klaytn Online Toolkit, providing code examples and demos to help developers learn the Klaytn SDK and experiment with its features directly through a web-based UI.

Animation Tech Team, NC SOFT Corporation — *Seongnam, South Korea*
Animation Programmer (C++, Unreal Engine4) — *July 2021 - Jan. 2022*

- 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 (Python3) — *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.
- Optimized robot arm placement for the Tele-Robotic Intelligent Nursing Assistant (TRINA) considering human-likeness using our co-optimization method.

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.

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

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*