

# Jinhyuk Yoon

## LivsMed

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A robotics engineer with mechanical engineering and software development background. Specialized in robotics, system control, haptic interface design, and user experiment. Focus on product development for users and communication to make results as a team. Fluent in public speech and communication with domain knowledge.

## EXPERIENCE

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### LivsMed

Feb 2022 – Present

Robotics Software Engineer (Alternative military service)

Founding member of Robot R&D Department, participating product development from inception

Lead the development of control algorithms for surgical robot systems

Develop distributed, multithreaded, and hard real-time software using C++ and Linux

Serve as a Technical Research Personnel

### Medical Assistant Robotics and Cognitive Haptics Laboratory

Mar 2020 – Jan 2022

Research Assistant

Designed, analyzed, and controlled a planar cable-driven haptic interface with adaptive mechanism

Published a top-tier international journal paper as the first author

Led haptic interface development of a national research foundation project

Advisor: Keehoon Kim

### Interaction Laboratory

Feb 2019 – Aug 2019

Undergraduate Research Assistant

Prototyped system for augmenting programmable feels of physical buttons with vibrotactile feedback

Published a top-tier international conference paper as the second author

Advisor: Seungmoon Choi

### Samsung Electronics

Jan 2019 – Feb 2019

Mechanical Design Intern

Worked at Digital Appliances Division, Core Component R&D Lab

Developed a web application that simplified torque analysis and hinge design process

## EDUCATION

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### Master of Science in Mechanical Engineering

2020 – 2022

Pohang University of Science and Technology (POSTECH)

Master thesis: Development of an adaptive planar cable-driven haptic interface to maximize workspace for virtual education contents

Advisor: Keehoon Kim

## Bachelor of Science in Mechanical Engineering

2014 – 2020

Pohang University of Science and Technology (POSTECH)

Honor graduation with Magna Cum Laude

Minor in industrial management engineering

Served as student president of department of mechanical engineering

Served as chairman of student election committee

Served as director of TEDxPOSTECH

## PUBLICATIONS

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### Cable-Driven Haptic Interface With Movable Bases Achieving Maximum Workspace and Isotropic Force Exertion

**Jinhyuk Yoon**, Donghyeon Lee, Junyong Bang, Hyung Gon Shin, Wan Kyun Chung, Seungmoon Choi, and Keehoon Kim. *IEEE Transactions on Haptics*. (Early Access)

### Augmenting Physical Buttons with Vibrotactile Feedback for Programmable Feels

Chaeyong Park, **Jinhyuk Yoon**, Seungjae Oh, and Seungmoon Choi. *In Proceedings of ACM UIST 2020*. (Acceptance rate 21.6%)

## AWARDS AND HONORS

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### Commission Letter

2016

Minister of Ministry of Science & ICT commissioned me as a science communicator

### Finalist

2016

Nationwide Top 11 of the 3rd FameLab Korea

### Winner

2019

Developed campus map android application at the 7th POSTECH Hackathon

### Runners Up

2017

Created media artwork at the Artience Creation Challenge 30x30 hosted by British Council Korea

### Honorable Mention

2015, 2020

Introducing My Research, 3 Minutes Science Speech Contest hosted by POSTECH

### Student of the Year

2015, 2016

POSTECH, Department of Mechanical Engineering

### 4th Place

2016

Designed graduate school searching web platform at the 2nd POSTECH Hackathon

### Research Assistantship

2020 - 2022

POSTECH

### Teaching Assistantship

2020

POSTECH

### National Academic Excellence Scholarship

2016 - 2019

Korea Student Aid Foundation, Full-tuition

### KT&G Foundation Scholarship

2016

POSTECH

### Jigok Scholarship

2014 - 2016

POSTECH, Full-tuition

## PROJECTS

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### Science Communication

2016 – 2020

Developed public speech and stage contents explaining science and engineering  
Performed 60+ speech and 10+ stage in public and various institutions

### Entropy

2017

Media art work at 2017 Artience Creation Challenge 30x30, winning Runners Up  
Express ageing with entropy which measures disorder and indicates direction of time

### Picture Science Project

2016

Collaboration voluntary project with Korea National University of Arts students  
Boosted science interest and understanding in elementary students through drawing and toy-making  
Visited two children center and met 40+ children

### TEDxPOSTECH

2014 – 2015

Organized a TEDx event as a director and invited professor, writer, and pop-singer as speaker  
Regular application was sold out in 50 seconds after open sign-ups

## SKILLS AND TOOLS

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### Programming Language

C++, MATLAB

### Real-time control

Linux, TwinCAT, EtherCAT

### 3D Design

Solidworks