

HOON JIN JUNG

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RESEARCH INTEREST

Human Computer Interaction (HCI), Wearables, Ubiquitous Computing with an emphasis on Machine Learning

EDUCATION

Hanyang University, Seoul, Republic Of Korea

Mar.2014 - Feb.2021

B.S. in Electronic Engineering and Biomedical engineering

Overall GPA: 3.78/4.00 Technical GPA: 3.87/4.00 (Upper Division GPA: 4.00/4.00)

University Of Texas At Austin, United States Of America

Aug.2019 - Jan.2020

Exchange program in Electrical and Computer Engineering

Technical GPA: 4.00/4.00 (Upper Division GPA: 4.00/4.00)

RESEARCH EXPERIENCE

Brain Computer Interface as an Emotional Assistant: Making computer more empathic and helpful to users

Hanyang University, Republic of Korea

Feb.2020 -

- Developed real-time emotion assessing system with 85% classification accuracy that controls peripheral environment for user's emotional recovery.
- Idea: Emotional interaction between human and computer will be possible since emotion recognition with electroencephalogram is highly accurate.
- Designed and conducted experiment and built a classification model.
- Coded an algorithm for computer to control ambient light and play music.

Sensing Soft Grasper: Silicon Finger with Tactile Sensor

Industry-University Cooperation Foundation Hanyang University, Republic of Korea

Mar.2020 -

- Developing a PVDF sensor(Piezoelectric Deflection Sensor) based precisely controllable pneumatic silicone finger to make human-robot interaction more comfortable.
- Idea: Make graspers and medical robots more human-friendly since they are metal based.
- Repeatedly redesigned the silicone mold to cement the leakage and improve operating property(52.63% improvement in strain rate).
- Used silicone adhesive and double molding technique to attach PVDF sensor to the body.

Chest Laminated Ultrathin and Stretchable Wireless E-Tattoo

University of Texas at Austin, United States of America

Aug.2019 - Dec.2019

- Participated in research developing a wireless wearable device that perform synchronous ECG and SCG measurement and extract various cardiac time intervals to track heart health.
- Fabricated and applied new serpentine design for the Bluetooth layer and integrated it on the former model.

CAPTCHA Project: System that can Read Distorted Text Images

Personal Project

Aug.2020

- Developed a system that can read distorted text containing images with accuracy of 95%
- Solved data insufficiency and over-fitting problem through cropping the images into single character and augmenting images to prevent over-fitting.

LAB EXPERIENCE

Nano Bio Technology (NBT) Lab winter internship

Hanyang University, Republic of Korea

Jan.2019 - Feb.2019

- Participated Twistron research, energy harvesting in artificial muscle made with twisted Carbon Nano Tube(CNT) thread.
- To optimize the thickness and energy efficiency, fabricated CNT thread and tested generated current.

Nano electronics device Lab (NDL) Undergraduate Research Assistant

Hanyang University, Republic of Korea

Mar.2019 - Jun.2019

- Tested microfluidic plate separation accuracy of cancer cells from blood model to optimize the injection speed of the model.
- Instructed about controlling microprocessor controlled micro pump.

SKILLS

- Software: Python, Matlab, Simulink, Arduino, Catia
- Core skills: Machine Learning, Electronics Circuit, 3D design and printing, biomedical device, laser cutter
- Language: English(fluent), Korean(native), Chinese(fair)

ACCOMPLISHMENTS AWARDS

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|--|---------------------|
| • National Science Technology Scholarship | Mar,2014 – Jun,2014 |
| • Leadership Scholarship | Sep,2014 – Dec,2014 |
| • Achievement award Republic Of Korea Army | Aug,2015 – May,2017 |
| • Academic Honor award | Mar,2018 – Jun,2018 |
| • Academic excellent grade award | Sep,2018 – Dec,2018 |
| • Academic Honor award | Mar,2019 – Jun,2019 |
| • Academic Excellent Scholarship | Mar,2019 – Jun,2019 |
| • The Right Hands scholarship | Mar,2019 – Jun,2019 |
| • The Right Hands scholarship | Sep,2019 – Dec,2019 |
| • The Right Hands scholarship | Mar,2020 – Jun,2020 |
| • The Right Hands scholarship | Sep,2020 – Dec,2020 |

VOLUNTEER WORK

Hanyang International Student Ambassador

Hanyang University, Republic of Korea

Mar.2018 – Dec.2018

- Taught Circuit Theory1 as a teaching mentor for two international students.
- Opened an international event on Korean traditional holiday to help international students living alone in Korea enjoy.

1:1 Korean Language Tutoring

Hanyang University, Republic of Korea

Sep.2018 – Dec.2018

- Taught Korean in English to an international fellow student.
- Taught Korean in Chinese to an internal fellow student.

2018 HY Buddy Program

Hanyang University, Republic of Korea

Feb.2018 – Jun.2018

- Successfully completed 30 hours of volunteer work and showed positive attitude as a mentor of international exchange students.
- Supported my team to get used to school inside and outside.

LEADERSHIP

Founder First President of Hanyang Rock Climbing

Hanyang University, Republic of Korea

Feb.2020 –

- Designed the club logo by myself.
- Founded and recruited rock climbing club successfully.

Student Representative of the Department of Electronic Engineering

Hanyang University, Republic of Korea

Mar.2014 – Dec.2014

- Attended representative's meeting every week with responsibility.
- Hosted an event for student and professors as a representative student of the department.