

HoonJin Jung

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RESEARCH INTEREST

Human Computer Interaction, Wearables and Ubiquitous Computing with an emphasis on Machine Learning

EDUCATION

BACHELOR OF ELECTRONIC ENGINEERING IN HANYANG UNIVERSITY, REPUBLIC OF KOREA

BS in Electronic Engineering and Biomedical engineering 02/2014 – 02/2021

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

Exchange student in Electrical and Computer Engineering 08/2019 – 01/2020

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

FEATURED RESEARCH EXPERIENCE

Brain Computer Interface as an Emotional Assistant: Making computer more empathic and helpful to users (Feb,2020 – present, Hanyang University, Republic of Korea)

- 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 (Mar,2020 – present, Industry-University Cooperation Foundation Hanyang University, Republic of Korea)

- 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 (Aug,2019 – Dec,2019, University of Texas at Austin, United States of America)

- 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 (Aug,2020, Personal Project)

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

LAB EXPERIENCE

Nano Bio Technology (NBT) Lab winter internship (Jan,2019 – Feb,2019, Hanyang University, Republic of Korea)

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- 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 (Mar,2019 – Jun,2019, Hanyang University, Republic of Korea)

- 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

National Science & Technology Scholarship (Mar,2014 – Jun,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)
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The Right Hands scholarship (Sep,2020 – Dec,2020)

VOLUNTEER WORK

Hanyang International Student Ambassador (Mar,2018 – Dec,2018, Hanyang University, Republic of Korea)

- 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 (Sep,2018 – Dec,2018, Hanyang University, Republic of Korea)

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

2018 HY Buddy Program (Feb,2018 – Jun,2018, Hanyang University, Republic of Korea)

- 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 (Feb,2020 – present, Hanyang University, Republic of Korea)

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