**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)

* 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, Simuliknk, 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 – Jun2014)

Achievement award Republic Of Korea Army (Aug,2015 – May,2017)

Academic Honor award (Mar,2018 – Jun,2018)

Academic excellent grade award (Sep2018 – 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** (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 a student.
* Taught Korean in Chinese to a 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.