

# 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.
- Contribution: Throughout the whole process

**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.
- Contribution: Throughout the whole process

**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.
- Contribution: 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.
- Contribution: Throughout the whole process

## 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.
- Contribution: Optimize the thickness for the energy efficiency, fabricated CNT thread and tested the generated current.

## Nano electronics device Lab (NDL) Undergraduate Research Assistant

Hanyang University, Republic of Korea

Mar.2019 – Jun.2019

- Contribution: Structural examination of the microfluidic plate to test separation accuracy of cancer cells from blood model, Optimize the injection speed of the model.
- Instructed about controlling microprocessor controlled micro pump.

## SKILLS

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- 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(fluent)

## ACCOMPLISHMENTS AWARDS

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|--|---------------------|
| • National Science Technology Scholarship  | Mar,2014 – Jun2014  |
| • Leadership Scholarship                   | Sep,2014 – Dec2014  |
| • 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

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### 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

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### 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.

## OTHERS

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### Renmin University, Beijing, China

Aug.2017 – Jan.2018

Intermediate Chinese language course program

Achieved Hanyu Shuiping Kaoshi(HSK) level 4