

Haemin Jung

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EDUCATION

Chung-Ang University (CAU), Seoul, South Korea

Bachelor of Electrical & Electronics Engineering

Mar. 2013 – Present

Undergraduate fellowship (merit-based)

- Admission with high distinction / Half tuition (granted for all semesters)
- Teaching Assistant, Electronic Circuits Design Lab (Spring 2020)

Whimoon High School, Seoul, South Korea

Mar. 2010 – Feb. 2013

- Whimoon Art Contest Gold Prize (2010) / Silver Prize (2011)
- Hee Joong Literary Awards Bronze Medal (2010. Drama)

ACADEMIC PAPER

“Effect of Dual Wavelength (Visible and Near-Infrared) Light Source using CMOS image sensor on Non-Contact Heart Rate Detection.” *Electronic Letters*, submitted on 9/22

- Advisor: Suhyun Park / Contribution as 1st author

PATENT

Muscle Activation Detection System using Thermal Imaging (under work for submission)

- Supported by *CAU LINC (Industry-University Cooperation Center)* for patent submission

PROFESSIONAL EXPERIENCE

Chung-Ang University, Biomedical Image and Signals Laboratory, Seoul, South Korea

May 2019 – Present

Research Intern

- Research on the impact of different light conditions under dim light for remote-PPG
 - Developed experimental hardware (HW) for capturing video and light control, algorithms using *Matlab*
- Research on Muscle Activation Detection Using Thermal Imaging (Graduation Project)
 - Nominated as the school representative for National Capstone Competition (Team Leader)
 - Developed ROI tracking method, GUI research interface using *Matlab*
- Visual tracking application for laboratory rodent movement tracking using *Matlab*
 - Collaborated with CAU chemistry department on researching rodent behavior for sugar substitute

Chung-Ang University, Intelligent Robot and Visions Lab, Seoul, South Korea

Mar. 2020 – Present

Research Intern

- Research on sewer defect detection/classification methods using YOLOv5
 - Managed overall project
 - Developed detection network using YOLOv5 and *Pytorch*

Fill In, funded by Seoul National University (SNU), Seoul, South Korea

Sep. 2017 – Mar. 2019

Co-founder, Joint Managing Director

- Circuit & PCB design / Product Management

PROJECTS

EMG wireless muscle activation detection device, Fill In

Dec. 2018 – Mar. 2019

Product Manager / HW Developer

- Designed instrumentation amp, active filter, rectifier for EMG acquisition circuit
- Developed signal processing methods for EMG activation detection

Smart mood light based on ESP32, Fill In

Aug. 2018 – Dec. 2019

Product Manager / HW Developer

- Designed ESP32 base PCB with thermal considerations / ESP32 firmware

Work-out posture detection device, Fill In

Dec. 2017 – Aug. 2018

Product Manager / HW Developer

- Designed load cell based analog circuit / digital control circuit

AWARDS & FUNDINGS

- Venture Leading University Funding Program (\$30k), SNU** Aug. 2018 – Mar. 2019
Joint Managing Director
- Received funding for muscle activation detection device (pivot from posture detection)
- Honorable Mention, Always-On Engineering Design Competition, CAU** May 2018 – Nov. 2018
Team Leader
- Developed face recognition smart door lock system using Raspberry Pi, OpenCV and AWS
 - Oversaw HW layout, algorithm design, project design & management
- Creative Factory Start-Up Accelerating Program(\$7k), SNU** Dec. 2017 – Mar. 2018
Joint Managing Director
- Received funding for work-out posture detection device based on load cells
- Grand Prize, Always-On Engineering Design Competition, CAU** May 2015 – Nov. 2015
Team Leader
- CNN based handwriting recognition algorithm and tactile representation system using Matlab and Arduino
 - Oversaw HW layout, algorithm design, project design & management

MILITARY EXPERIENCE

- 2nd Guard Group, R.O.K. Army Headquarters, Gyeryong, South Korea** Dec 2015 – Aug 2017
Honorable Discharge, as Sergeant, 2nd Squad, 2nd Platoon, 1st Company
- Squad Leader / Company RTO (Radio Telephone Operator) / Platoon RTO
 - Ranger Training Instructor for Gyeryong Joint Rangers Training (May – Jun 2016/2017)
 - Platoon Peer Counselor (Nov 2016 – Aug 2017)
 - Hosted and Developed “Find Your Dream” Community Program for 1st Company (May 2017)

SKILL & CERTIFICATION

Graduate Record Examination (GRE) score of V:159 / Q: 168 / AWA: 4.0
Test of English as a Foreign Language (TOEFL) score of 111 / 120
Circuit & PCB Design (Altium Designer)
Programming: Matlab, Python, C/C++, Linux, GAS, OpenCV, Pytorch, TensorFlow, Javascript, HTML, CSS

EXTRACURRICULAR ACTIVITIES

- Songdo Model Conference of Parties UN Climate Change Conference, Incheon, South Korea** Nov 2013
Chairperson of Technology Executive Committee (TEC)
- Moderated and evaluated delegates' debate on *Sustainable Technology*
- Wigi Friends, Seoul, South Korea** May 2015 – Nov 2015
Founder, Chief Moderator
- Debate club on reforming of the Korean education system