

JU YEON, LEE

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<https://jheroine.github.io>

RESEARCH INTERESTS

- Biomedical signal processing, Neural Rehabilitation
- Machine Learning, Explainable AI, Precision medicine
- Brain-Computer Interface, Neuroscience-inspired AI, Human-Machine Interface

EDUCATION

HANYANG UNIVERSITY ERICA Campus (HYU)

Ansan, Korea

Bachelor of Computer Science and Design Technology(dual degree), College of Computing

Mar. 2017

- President/mentee of KT 5G Leverage Employment & Career Mentoring, organized by Women in Science, Engineering, Technology Center (WISSET), 2020
- Active mentor/member of H.E.I - Mentor, International Language (Chinese) Institute Mentoring Program, HY Institute for International Education, 2019
- Active mentor/member of Favor in Your Eyes club, local government & HY Univ offices supporting youths and adolescents, 2019

EXTRACURRICULAR PROJECTS & EXPERIENCE

D.REAM (Design. Real Experience for All Mankind) ACADEMY

Seoul, Korea

HCI Lab, Yonsei University, Prof. Jinwoo Kim

Jan. – Feb. 2021

- Studied principles of experience design based on HCI/UX related theories
- Produced a digital healthcare app to prevent posttraumatic stress disorder caused by pet-loss using DSM-5 diagnostics, customized content according to grief cycle and mood tracking methods

AI Technology Course (computer vision track)

Seoul, Korea

Connect-AI Research Center, Yonsei University, PhD. Youngtaek Hong

Jul. – Aug. 2020

- Studied image processing with Opencv and computer vision algorithms
- Produced Covid-19 infectious behavior detection using hand detection, area-calculation, Opencv

RESEARCH EXPERIENCE

Korea Brain Research Institute

Daegu, Korea

Sensory & Motor Systems Neuroscience Group., Research Intern

July. 2021 – Present

- Object detection project
 - Labeled and trained the body part of the animal using DeepLabCut, machine learning
 - Analyzed of animal movements over time.
- Stimulus Reconstruction
 - Carried out to decode sound stimulus from animals's neurons
 - Evaluated and compared by cochleagram spectrogram
- Stimulus Generator
 - Upgraded App's mainboard front UX
 - Made various sounds like Dynamic random chords using Matlab

Big Data Mining Lab(Hanyang University)

Ansan, Korea

Research Dept., Undergraduate Research Student

Mar. – June. 2021

- Fashion recommendation project
 - Classified and labeled fashion data targeting Southeast Asia

Data Science Lab(KT Affiliated Research Institute)*Industry Crowdsourcing Research Dept., Researcher***Seoul, Korea****Sep. – Dec. 2020**

- Developed of seafood home meal replacement (HMR) reflecting customer needs
 - Built data crawling HMR product review data, preprocessing text data using KoNLPy
 - Analyzed customer reviews of HMR products through latent Dirichlet allocation (LDA)
- Topic modeling, emotional analysis
 - Extracted main ingredients and cooking methods for each HMR by NLP from shopping cart data
 - Performed market basket analysis (association analysis) using apriori algorithms from shopping data
- Predicted of Covid-19 hazardous areas using school population
 - Performed preprocessing and exploratory analysis of floating population data (2019-2020)
 - Analyzed map visualization changes in population movement after Covid-19 using floating population data
 - Predicted vulnerable areas to infection using school population data
- Developed professional counselor recommendation algorithms that reflect customer characteristics
 - Integrated and built psychological data from the Korea EAP Association
 - Developed counselor recommendation algorithms suitable for clients using collaborative filtering
 - Designed recommendations according to the weight of the client's information

Design Technology Research Center((Hanyang University, AI Design Lab)*Research Dept., Undergraduate Research Student***Ansan, Korea****Jan. – Feb. 2020**

- Hyundai Motors project (future cars, self-driving cars, UX, interior design, living lab)
 - Conducted living lab experiments as auxiliary experimenter using buck
 - Derived an optimized vehicle layout for interior intervention considering vehicle architecture
 - Analyzed USER CASE and itemized quantification for setting ranges by combining optimal conditions for each system, such as sheets, displays and cockpits

CONFERENCES & WORKSHOPS

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| • Low Code workshop from Devs Speak (Microsoft APAC) | Jul. 2020 |
| ■ Participated as Seoul speaker | |
| ■ Introduced the Low Code project using Microsoft's power platform | |
| • Women's Engineering Research Workshop (WISSET) | Jul. 2020 |
| ■ Participated as mentor speaker | |
| ■ Introduced software major and career | |

SCHOLARSHIPS

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|---|-------------------------|
| • HY Mentoring Scholarship | Mar. - Dec. 2019 |
| ■ Favor In Your Eyes club, Hanyang University, total \$2,150 | |
| ■ Taught English and mathematics to low-income children for 1 year | |
| • Practical Talent Scholarship | Dec. 2019 |
| ■ College of Computing, Hanyang University, total \$200 | |
| ■ For outstanding grades and activities | |
| • PBL Global Student Scholarship | Jun. 2017 |
| ■ College of Business and Economics, Hanyang University, total \$1,600 | |
| ■ Participated in economic cooperation projects between China and South Korea | |
| • Autonomous Scholarship | Jun. 2017 |
| ■ College of Business and Economics, Hanyang University | |
| ■ For outstanding grades and activities | |

HONORS & AWARDS

- Honors for mentee for Employment & Career Mentoring **Dec. 2020**
 - Women in Science and Engineering, Technology (WISET)
 - Awarded for excellent activities
- SW Academic Conference, Software Business Group, Hanyang University **Dec. 2020**
 - Excellence prize
 - Developed an online travel kit app for Covid-19 using AS, JS, HTM
- Industry Cluster-Problem Based Learning Competition, Hanyang University **Dec. 2019**
 - Excellence prize
 - Surveyed 200 drivers and pedestrians and built traffic IoT services
- SW Startup IDEA Competition, Software Business Group, Hanyang University **Sep. 2019**
 - Excellence prize
 - Mobile door keys for increased security efficiency at shared accommodations
- Industry Cluster-Problem Based Learning Competition **Jun. 2018**
 - IC-PBL Center, Hanyang University
 - Excellence prize
 - Designed AI speakers for dementia patients using Python, JS, NLP

CERTIFICATION

- Design Real Experience for All Mankind Academy **Feb. 2021**
 - Korea HCI (Human Computer Interaction) Association
- AI Technology (Advanced), computer vision **Aug. 2020**
 - National IT Industry Promotion Agency

VOLUNTEER ACTIVITIES

- Global Power Platform Bootcamp from Microsoft **Feb. 2020**
 - Participated as Volunteer
 - Taught object detection
- H.E.I-Mentoring program **Jun. 2019 - Dec. 2020**
 - Participated as Korean mentor
 - Taught Korean to Chinese students and helped them adapt to Korea
- Mentoring program from Favor in Your Eyes club **Mar. - Dec. 2019**
 - Mentored English and math
 - Provided educational and emotional support to children from low-income families
- Experience Instructor from HY-3D start-up **Jun. 2018**
 - Helped elementary school students experience AR at the Ansan community service center in Gyeonggi-do
 - Used Microsoft HoloLens AR devices

ADDITIONAL, SKILLS & OTHERS

- Fluent in Korean and English
- Advanced level in Matlab, Python, C/C++ languages
- Intermediate level in web development (HTML, CSS, Javascript, React etc.)
- Operating technology posting blog (+60 Postings) for 2 years; <https://heroine-day.tistory.com/>