Hee Jeong Han

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Education

Pennsylvania State University, University Park, Pennsylvania — Sep. 2020 – present
Doctor of Philosophy in Informatics

University of California, Irvine, Irvine, California — Sep. 2017 – Jun. 2019
Master of Science in Computer Science [**GPA** 3.76 / 4.0]
Thesis : Objective Stress Monitoring based on Wearable Sensors in Everyday Settings

Ewha Womans University, Seoul, Korea — Mar. 2012 – Feb. 2017
Bachelor of Science in Computer Science & Engineering

University of Hawaii at Manoa, Manoa, Hawaii — Jan. 2014 – Dec. 2014
Exchange Student [22 credits]

École pour l'informatique et les techniques avancées, Paris, France — Jul. 2013
Graduate School of Computer Science and Advanced Technologies
Summer course for Web Security [3 credits]

Publications

Han, Hee Jeong, Sina Labbaf, Jessica L. Borelli, Nikil Dutt, and Amir M. Rahmani. "Objective stress monitoring based on wearable sensors in everyday settings." *Journal of Medical Engineering & Technology 44, no. 4 (2020): 177-189*

Hee Jeong Han, Miso Kwon, You Hyun Kang, Dong Sub Cho, "Pedestrian Management System for Real-time Pedestrian Detection," in *Proceedings of Korea Multimedia Society Conference of the Spring*, Seoul, Korea, 2016
Best Paper Award, Korea Multimedia Society Conference of the Spring 2016

Hee Jeong Han, You Hyun Kang, Miso Kwon, Dong Sub Cho, "Pedestrian Pattern Classification For the Pedestrian Counting Systems using Key Matrix," in *Proceedings of Korea Computer Congress 2016*, Jeju, Korea, 2016
Best Paper Award, Korea Computer Congress 2016

Hee Jeong Han, You Hyun Kang, Miso Kwon, Dong Sub Cho, "Pedestrian Safety Management Systems based on Multiple-input enabled F-pad," in *Proceedings of The Korean Institute of Electrical Engineers(KIEE) Summer Conference 2016*, PyeongChang, Korea, 2016

You Hyun Kang, Miso Kwon, **Hee Jeong Han**, Dong Sub Cho, "A System on the Formation of Pedestrian Pattern for Pedestrian Volume Analysis," in *Proceedings of The 2016 Spring Conference of the Korea Information Processing Society(KIPS)*, Seoul, Korea, 2016

Miso Kwon, You Hyun Kang, **Hee Jeong Han**, Dong Sub Cho, "Adaptive for time-varing clustering DBSCAN," in *Proceedings of 2016 Information and Control Symposium*, Seoul, Korea, 2016

Research Experience

Graduate Research Assistant Jun. 2018 – Present
Dutt Research Group
Department of Computer Science, University of California, Irvine, Irvine, California

Healthcare IoT – Noise Detection for Ubiquitous Stress Monitoring Jul. 2019 – Present

Propose a noise detection technology for stress monitoring system. Its algorithm detects noise, which is occurred during activities in PPG, ECG and GSR sensors on wearable device.

Healthcare IoT - Ubiquitous Stress Monitoring using Shimmer's Device Jun. 2018 – Jul. 2019

Proposed a new stress monitoring system. Its algorithm, using PPG, ECG and GSR sensors on wearable device, predicts stress level in everyday settings.

Undergraduate Research Assistant Aug. 2015 – Jun. 2016
Computer Architecture and System Design Laboratory
Department of Computer Science and Engineering, Ewha Womans University, Seoul, Korea

Multimodal Pedestrian Counting System using Key-Matrix pad and Sonic-Bar

Proposed new pedestrian counting system. It contains two algorithms, Adaptive-DBSCAN and Pedestrian Algorithm. and two new hardwares, F-pad and Sonic-Bar.

Projects

IoT Data Management Project Apr. 2019 – Jun. 2019

Acquisition Manager

Builds acquisition manager of the Perpetual DB, which requires a way to pass the raw data from various sources. The acquisition engine will handle message passing from various sources to the ingestion engine on Apache Kafka.

Individual Research Project Apr. 2018 – Jun. 2018

Stress Monitoring with PPG and GSR

Built the stress monitoring system using PPG sensor and GSR sensors on SHIMMER device. It contains the server, database and application for gathering data and showing the result.

Health Intelligence Project Apr. 2018 – Jun. 2018

Stress Monitoring with food intake

Investigated the relation between stress and food intake. Stress is analyzed by food intake based on heart rate and heart rate variability.

Embedded System Project Sep. 2017 – Dec. 2017

Physiological signals Monitoring

Calculated heart rate, respiration rate, and SPO2 based on collected data from hardware including PPG sensor and 3D accelerometer and investigated the relation between physiological signals and daily activities.

Computer Network Project Sep. 2016 – Dec. 2016

Long Life to you

Built a network between IoT devices and servers to provide exercise service for elder people.

Smart Software Project Mar. 2015 – Jun. 2015

Fettler

Investigated the sewage system using a Smart Car based on Arduino hardware. It finds the path autonomously based on infrared sensors for exploration of the sewage.

Awards

Silver Prize in the 2016 Ewha Engineering Student Portfolio Contest Dec. 2016
Hoakipa Scholarship, University of Hawaii at Manoa Jan. 2014 – Dec. 2014
Merit Scholarship from Megastudy Group, Seoul, Korea Mar. 2012 – Jun. 2012

Work Experience

Mother Tongue, Seoul, Korea Feb. 2017 – Aug. 2017

Editor, Writer

Edited "Visual Phonics" for children learning English phonics first with images and songs. I wrote and edited "Middle School English Grammar 3800" series for 7^{th} to 9^{th} grade students.

Health Technology Assessment International 10^{th} Annual Meeting, Seoul, Korea Jun. 2013

Conference Staff

Aided foreign speakers and audience with administrative support, and managed keynote back-up system.

Extracurricular Activities

International Summer Undergraduate Research Fellowship, Jun. 2018 – Aug. 2018
University of California, Irvine, Irvine, California

Mentor

Mentored undergraduate researchers working on healthcare IoT

Career Mentoring, Ewha Womans University, Seoul, Korea Mar. 2013 – Jun. 2013

Leader of IT section Team

Researched Korean software and network equipment market from a prospected technology report, and also researched future technology such as Google Glass and 3Doodler

Korean Tutor for Foreign Students, Ewha Womans University, Seoul, Korea Mar. 2013 – May 2013

Tutor

Taught Korean to foreign students

Hanwoori, University of Hawaii, Manoa, Hawaii Jan. 2014 – Dec. 2014

Club Member

Actively participated in the Korean Culture Club to introduce Korea culture to

university students

Skills

Languages : C, C++, Java, SQL, HTML, Python experts
Programming : Arduino, Keil, Android application
Operating Systems : Window, Linux, Mac
Software Comfortable with : Eclipse, Visual Studio, MySQL, Matlab, SPSS

Certification

Level 2 of Test Of Practical Competency in ICT (TOPCIT)
TOPCIT is a performance-evaluation-centered test designed to diagnose and assess the competency of ICT specialists and SW developers critically needed to perform jobs on the professional frontier.

Accreditation Board for Engineering Education of Korea (ABEEK)
Korean version of Accreditation Board for Engineering and Technology (ABET)