

TAEIN KWON

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RESEARCH INTERESTS

Multimodal Human-AI Interaction, Action Recognition, Robot Learning, Mixed Reality, and Computer Vision

EDUCATION

ETH Zurich Zurich, Switzerland
Ph.D., Computer Science Present

University of California Los Angeles (UCLA) CA, USA
M.S., Electrical and Computer Engineering *GPA: 3.82/4.0* Jun. 2018

Yonsei University Seoul, Korea
B.S., Electrical and Electronic Engineering *GPA: 3.77/4.0* Aug. 2015

RESEARCH EXPERIENCE

ETH - Computer Vision and Geometry Lab Zurich, Switzerland
Scientific Assistant Oct. 2018 - Present

- Collecting precise 3D hand gesture datasets for better action recognition in a first-person view environment using HoloLens.
- Researching action recognition to predict the behavior of users and to provide guidance to users in a first-person view environment.

UCLA - Center for Vision, Cognition, Learning, and Autonomy and Joo Lab CA, USA
Graduate Student Researcher Oct. 2016 - Jun. 2018

- Designed reinforcement learning algorithms for an AI agent to navigate a specific target room in house models using human feedback in a Virtual Reality (VR) environment.
- Constructed a hand gesture recognition system and its model based on Long Short-Term Memory (LSTM) algorithm in a VR environment.
- Built a virtual autonomous parking system and a model based on Deep Q-Network (DQN) and Deep Deterministic Policy Gradient (DDPG) algorithms in an Unreal Engine environment.
- Implemented sensor gloves and extracted data from accelerometer sensors to calculate the hand positions for teaching a robot how to grasp objects.

Yonsei University - Machine Intelligence Lab. Seoul, Korea
Undergraduate Student Researcher Feb. 2014 - Aug. 2015

- Proposed a novel biometric that verifies people based on their unique weight balance and pressure distribution on the “Wii Balance Board” using a self-collected database of 80 subjects.
- Implemented and studied a model based on Linear Discriminants Analysis (LDA) and Dynamic Time Warping (DTW); validated using cross validation at the best 10.5% of the equal error rate.

PROFESSIONAL EXPERIENCE

Clova AI, Naver & Line Cooperation Gyeonggi, Korea
Ph.D. Student Research intern Jun. 2018 - Aug. 2018

- Estimated depth from monocular video using various computer vision techniques for fast moving objects.

Yonsei University Hospital System Seoul, Korea
Researcher Mar. 2016 - Aug. 2016

- Investigated data patterns including heart rate and sleeping from wearable devices to detect a specific heart disease.

SOODAL Seoul, Korea
CEO and Co-founder Aug. 2014 - Dec. 2015

- Devised a machine learning scheduler application that suggests events to people based on personal data patterns using the machine learning algorithm, collaborative filtering.

TEACHING EXPERIENCE

ETH <i>Teaching Assistant</i> , Computer Vision, 3D Vision	Zurich, Switzerland Oct. 2018 - Present
UCLA <i>Teaching Assistant</i> , Intermediate Programming, AI and new media	CA, USA Jan. 2017 - Jun. 2018
Instituto Cristiano Interactivo <i>Volunteer Teacher and Team Leader</i> , Microsoft Office, C Programming	Ciudad Del Este, Paraguay Aug. 2014

SKILLS

Languages: Python, C/C++, Matlab, R, SQL
Specialties: Machine Learning, Deep Learning, Reinforcement Learning, Computer Vision, VR/AR
Tools: Tensorflow, HoloLens, Unreal Engine, Raspberry Pi, Kinect, AWS

AWARDS

Scholarship , Yonsei International Foundation	Fall 2016
IBM Innovation Prize , Startup Weekend, Technology Competition	Summer 2015
Best Technology Prize , Internet of Things (IoT) Hackathon by the government of Korea	Fall 2014
Best Laboratory Intern , Yonsei Institute of Information and Communication Technology	Fall 2014
Scholarship , Yonsei University Foundation	Spring 2014, Fall 2010
Creative Prize , Startup Competition, Yonsei University	Spring 2014
Scholarship , Korean Telecom Group Foundation	Fall 2011

LEADERSHIP EXPERIENCE

Korean Military Service <i>Teaching Assistant</i>	Seoul, Korea Dec. 2011 - Sep. 2013
<ul style="list-style-type: none">• Served as a Secretary Officer for the Commissioner General of the Korean Police Agency and a Security Officer for the Prime Minister of Korea.• Led 300 members of police officers and organized tactical training programs in the training camp.	
Mentors Club, Yonsei University <i>President</i>	Seoul, Korea Mar. 2009 - Dec. 2010
<ul style="list-style-type: none">• Planned events to reduce the cultural gap between international students and domestic students for 2000 participants.	

PUBLICATION

Taein Kwon, Eunjeong Park, Hyuk-jae Chang, "Smart Refrigerator for Healthcare Using Food Image Classification," 7th ACM Conference on Bioinformatics, Computational Biology, and Health Informatics (ACM BCB), October, 2016.