

# TAEIN KWON

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## RESEARCH INTERESTS

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Action Recognition, Video Analysis, Egocentric Vision, Augmented Reality (AR), Virtual Reality (VR), 3D Vision, Robot-learning, Multimodal Human-AI Interaction, and Computer Vision

## EDUCATION

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<b>ETH Zürich</b> Ph.D., Computer Science - Supervisor: Prof. Marc Pollefeys	Zürich, Switzerland Present
<b>University of California Los Angeles (UCLA)</b> M.S., Electrical and Computer Engineering	CA, USA Jun. 2018
<b>Yonsei University</b> B.S., Electrical and Electronic Engineering	Seoul, Korea Aug. 2015

## RESEARCH EXPERIENCE

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<b>ETH Zürich - Computer Vision and Geometry Lab</b> <i>Scientific Assistant</i>	Zürich, Switzerland Nov. 2018 - Present
<ul style="list-style-type: none"><li>Developing a framework to obtain fine-grained human action labels using self-supervised learning to guide users in AR.</li><li>Collecting a dataset that contains precise 3D hand poses and interacted object poses using synchronized Kinect cameras to understand first-person interaction recognition.</li></ul>	
<b>UCLA - Center for Vision, Cognition, Learning, and Autonomy and Joo Lab</b> <i>Graduate Student Researcher</i>	CA, USA Oct. 2016 - Jun. 2018
<ul style="list-style-type: none"><li>Designed a reinforcement learning-based framework for an AI agent to navigate a specific target room in house models using human feedback in VR.</li><li>Constructed a hand gesture recognition system and its model based on Long Short-Term Memory (LSTM) algorithm in VR.</li></ul>	
<b>Yonsei University - Machine Intelligence Lab.</b> <i>Undergraduate Student Researcher</i>	Seoul, Korea Feb. 2014 - Aug. 2015
<ul style="list-style-type: none"><li>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.</li></ul>	

## PROFESSIONAL EXPERIENCE

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<b>Microsoft Research</b> <i>Research intern</i>	Redmond, USA (remote) Jun. 2022 - Present
<ul style="list-style-type: none"><li>Investigating multi-modal video understanding in AR.</li></ul>	
<b>Clova AI, Naver &amp; Line Cooperation</b> <i>Research intern</i>	Gyeonggi, Korea Jun. 2018 - Aug. 2018
<ul style="list-style-type: none"><li>Estimated depth from monocular images for fast moving objects.</li></ul>	
<b>SOODAL</b> <i>CEO and Co-founder</i>	Seoul, Korea Aug. 2014 - Dec. 2015
<ul style="list-style-type: none"><li>Devised a machine learning scheduler application that suggests events to people based on personal data patterns using collaborative filtering.</li></ul>	

## TEACHING EXPERIENCE

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

## SKILLS

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Languages:	Python, C/C++, Matlab, R, SQL
Specialties:	Action Recognition, 3D Vision, Reinforcement Learning, Computer Vision, VR/AR
Tools:	Pytorch, Tensorflow, HoloLens, Unity, Unreal Engine, Kinect

## AWARDS

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<b>Scholarship</b> , Recipient of Korean Government Scholarship from NIIED	2018
<b>Scholarship</b> , Yonsei International Foundation	2016
<b>IBM Innovation Prize</b> , Startup Weekend, Technology Competition	2015
<b>Best Technology Prize</b> , Internet of Things (IoT) Hackathon by the government of Korea	2014
<b>Best Laboratory Intern</b> , Yonsei Institute of Information and Communication Technology	2014
<b>Scholarship</b> , Yonsei University Foundation	2014, 2010
<b>Creative Prize</b> , Startup Competition, Yonsei University	2014
<b>Scholarship</b> , Korean Telecom Group Foundation	2011

## TALKS

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Applied Machine Learning Days (AMLD) @ EPFL & Swiss JRC	Mar. 2022
ICCV 2021 Workshop on Egocentric Perception, Interaction and Computing (EPIC)	Oct. 2021
Swiss Joint Research Center (JRC) Workshop 2021	Apr. 2021

## ACADEMIC SERVICE

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Reviwer: Siggraph  
Organizer: KSAE Open Seminar @ ETH Zürich

## PUBLICATION

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Siwei Zhang, Qianli Ma, Yan Zhang, Zhiyin Qian, **Taein Kwon**, Marc Pollefeys, Federica Bogo, Siyu Tang, "EgoBody: Human Body Shape and Motion of Interacting People from Head-Mounted Devices", European Conference on Computer Vision (ECCV), 2022.

**Taein Kwon**, Bugra Tekin, Siyu Tang, Marc Pollefeys, "Context-Aware Sequence Alignment using 4D Skeletal Augmentation", Conference on Computer Vision and Pattern Recognition (CVPR), 2022.

**Taein Kwon**, Bugra Tekin, Jan Stuhmer, Federica Bogo, Marc Pollefeys, "H2O: Two Hands Manipulating Objects for First Person Interaction Recognition", International Conference on Computer Vision (ICCV), 2021.

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