

TAEIN KWON

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RESEARCH INTERESTS

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

EDUCATION

ETH Zürich Zürich, Switzerland
Ph.D., Computer Science - Supervisor: Prof. Marc Pollefeys Present

University of California Los Angeles (UCLA) CA, USA
M.S., Electrical and Computer Engineering Jun. 2018

Yonsei University Seoul, Korea
B.S., Electrical and Electronic Engineering Aug. 2015

RESEARCH EXPERIENCE

ETH Zürich - Computer Vision and Geometry Lab Zürich, Switzerland
Scientific Assistant Nov. 2018 - Present

- Developing a framework to obtain fine-grained human action labels using self-supervised learning to guide users in AR.
- Collecting a dataset that contains precise 3D hand poses and interacted object poses using synchronized Kinect cameras to understand first-person interaction recognition.

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

- Designed a reinforcement learning-based framework for an AI agent to navigate a specific target room in house models using human feedback in VR.
- Constructed a hand gesture recognition system and its model based on Long Short-Term Memory (LSTM) algorithm in VR.
- 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.

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.

PROFESSIONAL EXPERIENCE

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

- Estimated depth from monocular images for fast moving objects.

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 collaborative filtering.

TEACHING EXPERIENCE

ETH Zürich Zürich, Switzerland
Teaching Assistant, Computer Vision, 3D Vision, Mixed Reality Oct. 2018 - Present

UCLA CA, USA
Teaching Assistant, Intermediate Programming, AI and new media Jan. 2017 - Jun. 2018

Instituto Cristiano Interactivo Ciudad Del Este, Paraguay
Volunteer Teacher, C Programming Aug. 2014

SKILLS

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

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

TALKS

ICCV 2021 Workshop on Egocentric Perception, Interaction and Computing (EPIC)	Oct. 2021
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PUBLICATION

- 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.