

Hyemin Ahn

CONTACT INFORMATION	Assistant Professor Artificial Intelligence Graduate School (AIGS) Ulsan National Institute of Science and Technology (UNIST) Ulsan, 44919, South Korea	<i>Homepage:</i> hyeminahn.oopy.io <i>Github:</i> github.com/cotton-ahn <i>Mobile:</i> +82-52-217-3456 <i>E-mail:</i> hyemin.ahn@unist.ac.kr
CITIZENSHIP	Republic of Korea	
RESEARCH INTERESTS	Machine Learning-based Human-Robot Interaction, Motion Generation, Action Understanding, Visual and Language Perception.	
EDUCATION	Ph.D. in Electrical and Computer Engineering • Seoul National University, Korea • Integrated MSc./Ph.D. course B.S. in Electrical and Computer Engineering • Seoul National University, Seoul, Korea	Mar. 2014 - Feb. 2020 Mar. 2010 - Feb. 2014
RESEARCH EXPERIENCE	Artificial Intelligence Graduate School - UNIST • Assistant Professor Institute of Robotics and Mechatronics - German Aerospace Center • Postdoctoral Researcher • Advisor: Prof. Dongheui Lee Human-centered Assistive Robotics Group - Technical University of Munich • Postdoctoral Researcher • Advisor: Prof. Dongheui Lee Robot Learning Laboratory - Seoul National University • Graduate Researcher • Advisor: Prof. Songhwai Oh	May. 2022 - Present Apr. 2021 - Apr. 2022 Apr. 2020 - Mar. 2021 Mar. 2014 - Feb. 2020
INTERNATIONAL JOURNAL	Dan Huang, Hyemin Ahn , Shile Li, Yueming Hu, and Dongheui Lee, “Estimation of 6D Pose of Objects Based on a Variant Adversarial Autoencoder,” in <i>Neural Processing Letters</i> , 2023. Zhifan Ni, Esteve Valls Mascaró, Hyemin Ahn and Dongheui Lee, “Human–Object Interaction Prediction in Videos through Gaze Following,” in <i>Computer Vision and Image Understanding</i> , 2023. Hyemin Ahn , Youssef Michel, Thomas Eiband, and Dongheui Lee, “Vision-Based Approximate Estimation of Muscle Activation Patterns for Tele-Impedance,” in <i>IEEE Robotics and Automation Letters</i> , 2023. Hyemin Ahn , Jaehun Kim, Kihyun Kim, and Songhwai Oh, “Generative Autoregressive Networks for 3D Dancing Move Synthesis from Music,” in <i>IEEE Robotics and Automation Letters</i> , 2020. Hyemin Ahn , Sungjoon Choi, Nuri Kim, Geonho Cha, and Songhwai Oh, “Interactive Text2Pickup Networks for Natural Language Based Human-Robot Collaboration,” in <i>IEEE Robotics and Automation Letters</i> , 2018. (Also presented in IROS 2018)	

Hyemin Ahn, Yoonseon Oh, Sungjoon Choi, Claire J. Tomlin, and Songhwai Oh, “Online Learning to Approach a Person with No-Regret,” in *IEEE Robotics and Automation Letters*, 2018. (Also presented in IROS 2017)

Esteve Valls Mascaró, **Hyemin Ahn** and Dongheui Lee, “A Unified Masked Autoencoder with Patchified Skeletons for Motion Synthesis”, *AAAI Conference on Artificial Intelligence*, Mar. 2024.

Bekatan Satyev and **Hyemin Ahn**, “VAFOR: Proactive Voice Assistant for Object Retrieval in the Physical World”, *IEEE International Conference on Robot and Human Interactive Communication (RO-MAN)*, Aug. 2023.

Hyemin Ahn, Esteve Valls Mascaró, and Dongheui Lee, “Can We Use Diffusion Probabilistic Models for 3D Motion Prediction?”, *IEEE International Conference on Robotics and Automation (ICRA)*, May. 2023.

Esteve Valls Mascaró, **Hyemin Ahn**, and Dongheui Lee, “Intention-Conditioned Long-Term Human Egocentric Action Anticipation”, *IEEE/CVF Winter Conference on Applications of Computer Vision (WACV)*, Jan. 2023.

Esteve Valls Mascaró, **Hyemin Ahn**, and Dongheui Lee, “Robust Human Motion Forecasting using Transformer-based Model”, *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Oct. 2022.

Hyemin Ahn, Obin kwon, Kyungdo Kim, Jaeyeon Jeong, Howoong Jun, Hongjung Lee, Dongheui Lee, and Songhwai Oh, “Visually Grounding Language Instruction for History-Dependent Manipulation”, *IEEE International Conference on Robotics and Automation (ICRA)*, May. 2022.

Hyemin Ahn and Dongheui Lee, “Refining Action Segmentation with Hierarchical Video Representations,” *IEEE/CVF International Conference on Computer Vision (ICCV)*, Oct. 2021.

Sungjoon Choi, Min Jae Song, **Hyemin Ahn**, Joohyung Kim, “Self-Supervised Motion Retargeting with Safety Guarantee,” *IEEE International Conference on Robotics and Automation (ICRA)*, May. 2021.

Kyungdo Kim, Yoon Kyung Lee, **Hyemin Ahn**, Sowon Hahn, and Songhwai Oh, “Pedestrian Intention Prediction for Autonomous Driving Using a Multiple Stakeholder Perspective Model,” *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)*, Oct. 2020.

Hyemin Ahn, Sungjoon Choi, Nuri Kim, Geonho Cha, and Songhwai Oh, “Interactive Text2Pickup Networks for Natural Language based Human-Robot Collaboration,” *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)* (RA-L option), Oct. 2018.

Hyemin Ahn, Timothy Ha, Yunho Choi, Hwiyeon Yoo, and Songhwai Oh, “Text2Action: Generative Adversarial Synthesis from Language to Action,” *IEEE International Conference on Robotics and Automation (ICRA)*, May. 2018.

Hyemin Ahn, Yoonseon Oh, Sungjoon Choi, Claire J. Tomlin, and Songhwai Oh, “Online Learning to Approach a Person with No-Regret,” *IEEE/RSJ International Conference on Intelligent Robots and Systems (IROS)* (RA-L option), Sep. 2017.

Hyemin Ahn, Hyunjun Kim, Yoonseon Oh, and Songhwai Oh, “Smartphone-Controlled Telerobotic Systems,” in *Proc. of the IEEE International Conference on Cyber-Physical Systems, Networks, and Applications (CPSNA)*, Aug. 2014.

AWARDS AND
HONORS

Awards

- Winners of the EGO4D Long Term Action Anticipation Challenge at ECCV and CVPR, Esteve Valls Mascaro, Hyemin Ahn, Dongheui Lee. 2022

Scholarships

- Electric Engineering and Computer Science Graduate Student Program, Domestic Scholarship, KFAS 2015 - 2019
- Cum laude, EECS, SNU 2014

TEACHING
EXPERIENCES

Lecturer

- Introduction to AI Programming, UNIST Spring 2024
- AI Toolkit, UNIST Fall 2023
- Introduction to Electrical Engineering Programming, UNIST Spring 2023
- AI Toolkit, UNIST Fall 2022
- Introduction to Deep Learning, Technical University of Munich Winter 2021-2022

Teaching Assistant

- Machine Learning in Robotics, Technical University of Munich Spring 2021
- Machine Learning in Robotics, Technical University of Munich Spring 2020
- Topics in Control and Automation, Seoul National University Spring 2017
- Introduction to Intelligent Systems, Seoul National University Fall 2014

MEDIA AND
BROADCAST

News

- Video Friday: Rocket RoboBee, Willow Garage, and Caltech's Cassie Your weekly selection of awesome robot videos, IEEE Spectrum, <https://spectrum.ieee.org/automaton/robotics/robotics-hardware/video-friday-robobee-willow-garage-cassie>, Oct 2017

ACADEMIC TALKS

Invited Talks

- Deep Learning Camp Jeju by Tensorflow KR, Interactive Text2Pickup Networks for Natural Language based Human-Robot Collaboration, Jul 2018
- Naver, Text2Action: Generative Adversarial Synthesis from Language to Action , <https://www.youtube.com/watch?v=9xqplYzPrEk>, Nov 2017

SKILLS

Python, MATLAB, C++, PyTorch, Tensorflow

OTHERS

Singer Songwriter : <https://open.spotify.com/artist/4SX6ZEe90T0vUWwtNjQri6>