

Kang-Won Lee

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Education

- Ph.D Dongguk University**, in Mechanical Engineering Mar. 2021 – Aug. 2025
(Seoul, Republic of Korea)
- *Advisor*: Prof. [Soo-Chul Lim](#)
 - *Thesis*: A Study on a Multimodal Learning-Based Tactile Sense Estimation and Control Model for Robotics Manipulation
 - Cumulative GPA: 4.25/4.5
- M.S Dongguk University**, in Mechanical Engineering Mar. 2019 – Feb. 2021
(Seoul, Republic of Korea)
- *Advisor*: Prof. Soo-Chul Lim
 - *Thesis*: Developing a Robotics Device Assessing Proprioception Position Sense under External Torque
 - Cumulative GPA: 4.33/4.5
- B.S Dongguk University**, in Mechanical, Robotics, and Engineering Mar. 2013 – Feb. 2019
(Seoul, Republic of Korea)
- Cumulative GPA: 4.0/4.5
- **University of California, San Diego**, in Electrical and Computer Engineering Mar. 2022 – Dec. 2022
(United States of America)
- *Advisor*: Prof. [Xiaolong Wang](#)
 - Visiting Graduate Student

Professional Experience

- Postdoctoral Researcher** Sep. 2025 – Present
- Dongguk University - Department of Mechanical, Robotics, and Energy Engineering, Interactive Robotics LAB
- Lecture** Sep. 2025 – Present
- Dongguk University - Department of Mechanical, Robotics, and Energy Engineering
ITR4002-01 Robotics Intelligence

Publications

Journal Publications

- [7] **Kang-Won Lee**, Jung-Woo Lee, Seongyong Kim, Soo-Chul Lim Nov. 2025
Progressive Policy Learning: A Hierarchical Framework for Dexterous Bimanual Manipulation
Mathematics, 13(22), 3585, 2025.
[10.3390/math13223585](https://doi.org/10.3390/math13223585) (IF: 2.2, IF(%): 6.0)

- [6] **Kang-Won Lee**, Yuzhe Qin, Xiaolong Wang, Soo-Chul Lim Oct. 2024
DexTouch: Learning to Seek and Manipulate Objects with Tactile Dexterity
 IEEE Robotics and Automation Letters, vol. 9, no. 12, pp. 10772-10779, 2024.
 in IEEE International Conference on Robotics and Automation (ICRA), 2025.
Oral Presentation (Oral Paper Session : Paper ThCT22.4)
[10.1109/LRA.2024.3478571](https://doi.org/10.1109/LRA.2024.3478571) (IF: 4.6, IF(%): 25.0)
- [5] **Kang-Won Lee**, Dae-Kwan Ko, Yong-Jun Kim, Jee-Hwan Ryu, Soo-Chul Lim Aug. 2024
Latency-Free Driving Scene Prediction for On-Road Teledriving With Future-Image-Generation
 IEEE Transactions on Intelligent Transportation Systems, vol. 25, no. 11, pp. 16676-16686, 2024.
[10.1109/TITS.2024.3435481](https://doi.org/10.1109/TITS.2024.3435481) (IF: 7.9, IF(%): 2.5)
- [4] Dae-Kwan Ko, **Kang-Won Lee**, Dong Han Lee, Soo-Chul Lim Jan. 2023
Vision-based interaction force estimation for robot grip motion without tactile/force sensor
 Expert Systems with Applications, vol. 211, pp. 118441, 2023.
[10.1016/j.eswa.2022.118441](https://doi.org/10.1016/j.eswa.2022.118441) (IF: 7.5, IF(%): 5.2)
- [3] **Kang-Won Lee**, Seung-Chan Kim, and Soo-Chul Lim Mar. 2022
DeepTouch: Enabling Touch Interaction in Underwater Environments by Learning Touch-Induced Inertial Motions
 IEEE Sensors Journal, vol. 22, no. 9, pp. 8924-8932, 2022
[10.1109/JSEN.2022.3163664](https://doi.org/10.1109/JSEN.2022.3163664) (IF: 4.325, IF(%): 21.1)
- [2] **Kang-Won Lee**, Sang Hoon Kang, and Soo-Chul Lim Mar. 2022
Simple and Reliable Position Sense Assessment Under Different External Torques: Toward Developing a Post-Stroke Proprioception Evaluation Device
 IEEE Transactions on Neural Systems and Rehabilitation Engineering, vol. 30, pp. 823-832, 2022
[10.1109/TNSRE.2022.3161948](https://doi.org/10.1109/TNSRE.2022.3161948) (IF: 4.9, IF(%): 5.1)
- [1] **Kang-Won Lee**, Dae-Kwan Ko, Soo-Chul Lim Jul. 2021
Toward Vision-Based High Sampling Interaction Force Estimation with Master Position and Orientation for Teleoperation
 IEEE Robotics and Automation Letters, vol. 6, no. 4, pp. 6640-6646, 2021, and
 International Conference on Intelligent Robots and Systems (IROS), 2021. **Oral Presentation**
[10.1109/LRA.2021.3094848](https://doi.org/10.1109/LRA.2021.3094848) (IF: 3.741, IF(%): 30.4)

Conference Publications

- [2] Ying Yuan, Haichuan Che, Yuzhe Qin, Binghao Huang, Zhao-Heng Yin, **Kang-Won Lee**, Yi Wu, Soo-Chul Lim, Xiaolong Wang May. 2024
 Robot synesthesia: In-hand manipulation with visuotactile sensing
 in *IEEE International Conference on Robotics and Automation (ICRA)*, 2024.
- [1] **Kang-Won Lee**, Soo-Chul Lim Nov. 2023
 Learning Robot Object Manipulation Capabilities Using Reinforcement Learning Based on Tactile Information
 in 1st Korea Haptics Conference (KHC), 2023.
Oral Presentation(Oral Paper Session 1: Haptic Actuators, Control, and Rendering)

Research and Experience

Dongguk University - Postdoctoral Researcher

Sep. 2025 – Present

- Robot Motion Generation AI based on Multimodal Vision/Tactile Information Driven

by Language Model (2025)

Sponsor: National Research Foundation of Korea

Dongguk University - Student Researcher

2016 – 2025

- Development of a High-Performance Multimodal Electronic Skin Sensor of Hybrid-Type and Intelligent module for robot manipulation (2021 - 2023)
Sponsor: Korea Ministry of Trade, Industry and Energy
- Real-time Image Generation without Time Delay using GAN Network based on Robot Status Information and User Input during Robot Teleoperation (2020 - 2023)
Sponsor: National Research Foundation of Korea
- Development of the artificial electronic skin that mimics human skin structure and functions for tactile and kinesthetic feedback in robotic surgery or prosthetic arm (2017 - 2019)
Sponsor: Korea Ministry of Trade, Industry and Energy
- Development of proprioception measurement system (2017)
Sponsor: National Rehabilitation Center of Korea

Academic Services

Journal Reviewer

- IEEE Robotics and Automation Letters (RA-L)

Conference Reviewer

- International Conference on Intelligent Robots and Systems (IROS)

Technologies

Programming: C++, C, Python, Matlab

Professional Softwares: Physical simulator(IsaacGym, IsaacLab, Mujoco), Solidworks, AutoCAD

Honors, Awards & Scholarships

Global Talent Cultivation Scholarship (Dongguk University)

2021

Magna Cum Laude (Dongguk University)

2020