

Yumin Kang

🏢 Human-Centered Intelligent Systems Lab. (HCIS Lab.)

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EDUCATION

Ph.D. in Intelligent Robotics

Gwangju Institute of Science and Technology (GIST)

Advisor: Prof. SeungJun Kim

Mar 2024 – Present

Gwangju, Korea

M.S. in Intelligent Robotics

Gwangju Institute of Science and Technology (GIST)

Advisor: Prof. SeungJun Kim

Mar 2022 – Feb 2024

Gwangju, Korea

B.S. in Media Technology

(AI & Data Analytics / IOT Service / Design Engineering)

Hanyang University ERICA

Advisor: Prof. Gyouhyung Kyung

Mar 2018 – Feb 2022

Ansan, Korea

RESEARCH EXPERIENCE

Research Assistant

Human-Centered Intelligent Systems Laboratory, GIST

Advisor: Prof. SeungJun Kim

Mar 2024 – Present

- Physical AI in Action: Tackling HCI Challenges with XR-Enhanced Robotics for Interpretable, Inclusive, and Immersive Interaction, NRF
- SpaceTop: Spatial Computing HCI Technology for Everywhere XR Productivity Workstation, IITP
- Actuated XR Systems Powered by Sensory Intelligence and Soft Robotics, NRF
- Development of hyper-connected mobility convergence technology based on AI to build next-generation smart city, KAIA
- HCI + AI for Human-Centered Physical System Design, GIST-MIT Joint Research

Research Assistant

Human-Centered Intelligent Systems Laboratory, GIST

Advisor: Prof. SeungJun Kim

Mar 2022 – Feb 2024

- Meta-Human with Immersive Mobility Platform and Multimodal XR Contents, RAPA
- Inter-university Alliance for Future vehicular Technology, KIAT
- HCI + AI for Human-Centered Physical System Design, GIST-MIT Joint Research
- GIST Metaverse Research Center: Metaverse with Immersive Transportation Methods – Walking and Driving XR for Meta-mobility, RAPA

Research Intern

Jul 2021 – Feb 2022

Human-Centered Intelligent Systems Laboratory, GIST

Advisor: Prof. SeungJun Kim

- GIST CarXR Lab: In-car XR platforms and contents to augment passenger UX in futuristic vehicles, RAPA

Research Intern

Apr 2020 – Jun 2021

IXLAB (Interaction & eXperience Laboratory), Hanyang University

Advisor: Prof. Gyouhyung Kyung

- Ergonomic evaluation and application of horizontally, vertically, and bi-directionally curved displays considering 2D/3D horopters and static and dynamic contexts of display use, NRF

PUBLICATIONS

- **Kang, Y.**, Park, J., Hwang, S., Seong, M., Kim, G., Kim, S. (2025). You're the One Whom I'm Talking To: The Role of Contextual External Human-Machine Interfaces in Multi-Road User Conflict Scenarios. *Proceedings of the ACM on Interactive, Mobile, Wearable, Ubiquitous Technologies (IMWUT)* 9(3), 94.
- Um, J., Gim, B., Kang, S., **Kang, Y.**, Jeon, E., Kim, S. (2025). TeleHopper: Simulating a Jumping Sensation as Proprioceptive Feedback for Teleportation in Virtual Reality via Electrical Muscle Stimulation. In *Extended Abstracts of the CHI Conference on Human Factors in Computing Systems*
- Um, J., Jeon, E., **Kang, Y.**, Kang, S., Elsharkawy, A., DelPreto, J., Matusik, W., Rus., D., Kim, S. (2024). LegSense: Inducing Walking Sensation in Seated VR by Providing Movement Illusion via Electrical Muscle Stimulation. In *Companion of the 2024 on ACM International Joint Conference on Pervasive and Ubiquitous Computing*.
- Jeon, H.*, Jo, T.*, Yeo, D.*, An, E., **Kang, Y.**, Kim, S. (2024). The Way of Water: Exploring the Role of Interaction Elements in Usability Challenges with In-Car VR Experience. *Virtual Reality* 28, 121.
- Seong, M., Kim, G., **Kang, Y.**, Jang, J., DelPreto, J., Kim, S. (2024). Counterfactual Explanation-Based Badminton Motion Guidance Generation Using Wearable Sensors. *2024 IEEE ICRA Workshop on Wearable*.
- Seong, M., Kim, G., Yeo, D., **Kang, Y.**, Yang, H., DelPreto, J., Matusik, W., Rus., D., Kim, S. (2024). MultiSenseBadminton: Wearable Sensor-Based Biomechanical Dataset for Evaluation of Badminton Performance. *Scientific Data* 11, 343.
- **Kang, Y.**, Choi, S., An, E., Hwang, S., Kim, S. (2023). Designing Virtual Agent Human-Machine Interfaces Depending on the Communication and Anthropomorphism Levels in Augmented Reality. In *Proceedings of the 15th International Conference on Automotive User Interfaces and Interactive Vehicular Applications*.

AWARDS

- Honorable Mention** Sep 2023
AutomotiveUI 2023
- ERICA Software-Up Makeathon 4th prize** Feb 2019
Hanyang University

SCHOLARSHIPS

- GIST Scholarship (Government supported)** Mar 2024 – Present
4 years, Full funding, doctoral degree
- GIST Scholarship (Government supported)** Mar 2022 – Feb 2024
2 years, Full funding, master’s degree
- Scholarship of Academic Excellence** Spring 2020
Hanyang University ERICA

TEACHING EXPERIENCE

Teaching Assistant

- RT5301/AI6316/FE5403 *Human-Computer Interaction* Spring 2023, Spring 2025
- RT5302/AI6317/CT5301/FE5404 *RM in HCI* Fall 2024

Guest Lectures

- “Human–Vehicle Interaction: Investigating Communication Strategies Between Automated Vehicles and Road Users,” *Human–Computer Interaction* Spring 2025
- “Working with Human Subjects,” *RM in HCI* Fall 2024

ACADEMIC SERVICE

Organizing Committee

- Organizer**
Ubicomp/IWSC 2024 Workshop on *Interpretable, Inclusive, and Immersive Interaction for Ubiquitous AI-infused Physical Systems*

- **Reviewer**

Special Recognitions for Outstanding Reviews

CHI 2025, CHI 2025 LBW, IMWUT 2025, AutomotiveUI 2025

Conferences

CHI 2025, DIS 2025, AutomotiveUI 2024, 2025

Journals

IMWUT 2025

Posters

CHI 2025 LBW

LANGUAGES

- **Korean** (Native)
- **English** (Advanced working proficiency / TOEIC 875, TOEIC SPEAKING 150)