JINWOOK KIM

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Research Interest

Human-Computer Interaction

- Virtual / Augmented Reality (VR/AR)
- Spatial Interaction (Exploration, Manipulation, Multisensory Integration, Telepresence)

Cognitive Perception & Bio-sensor

- EEG (Event-related potential (ERP)), Eye tracking, Behavioral Analysis
- Brain-Computer Interface: Steady state visual evoked potential (SSVEP)

Research Goal: Augment human performance, perception, and immersive experience by using multimodal I/O in VR & AR

EDUCATION			
Ph.D.	KAIST, Graduate School of Culture Technology Thesis: Tailoring and Blending Functions on Natural Input based Hybrid Interaction for Enhanced Practicality in Controller-Free Extended Reality Environment Advisor: Visual Cognition Lab, Prof. Jeongmi Lee	2021-25	
M.S.	KAIST, Graduate School of Culture Technology Thesis: Multisensory Pseudo-Haptic Feedback for Weight Perception of Virtual Objects Advisor: Visual Cognition Lab, Prof. Jeongmi Lee	2019-21	
B.S.	Chungnam National University, Computer Science & Engineering Global SW Track member / CNU Eng. Student of the Year (Dean award)	2014-18	
SELECTEI) AWARDS & SCHOLARSHIP		
KAIST Jang Young Sil Program Postdoctoral Researcher Track (50M Won)		2025.04	
Young-Han Kim Global Leader Scholarship KAIST Scholarship (4M Won)		2024.07	
IEEE Virtual Reality 2024 Conference Best Paper Award		2024.03	
ACM CHI Play Student Game Design Competition Audience Choice Award		2022.11	
NCSO NC-K	DFT Ph.D. Scholarship AIST Scholarship (10M Won)	2021.06	

NEXON Idea Challenge 1st Award	2017.08		
2016 5th China SW Cup 2 nd Prize	2016.08		
2016 Microsoft Imagine Cup TOP 7 – Semi Finalist	2016.03		
PROFESSIONAL EXPERIENCE			
 XI Research Group, Aarhus University, Denmark Visiting Researcher (Advisor: Prof. Ken Pfeuffer) Conducted a study about designing and evaluating a novel generation. 	2024.04 to 2024.07 aze-based interaction		
(Gaze + Pinch) technique in XR	,		
ibs Center for Cognition & Sociality, Daejeon, Korea Research Assistant	2020.01 to 2022.12		
• Learned basic EEG data analysis and conducted ERP experiment (e.g., P3, SSVEP) in virtual reality using dry electrodes			
• Conducted an experiment that probe an effect of multisenso sickness with behavioral and EEG data analysis (e.g., Decod	ry vection on VR motion ling, MVPA)		
ZER01NE, Seoul, Korea Researcher/Creator	2021.05 to 2022.12		
 Creator supported program funded by HYUNDAI Motors Developed Automatic Sonata (Future Mobility UX, 2021) and Holobot (XR Telepresence robot, 2022) and exhibit at ZER01NE Day 2021 (<i>link</i>) and 2022 (<i>link</i>) 			
Companoid Labs, Suwon, Korea Researcher	2018.06 to 2018.12		
 Develop a social robot (Petbe) and published paper at HRI2 Analyzed 'Doctor Diary' application user data for UX redes 	020 sign		
Study abroad			
Purdue University, USA CNU Global SW Capstone Project	2017.01 to 2017.02		
 Conducted research about 'Group Membership and Authentication' (Intel) Attend 'Design & Innovation', 'Data mining & Machine Learning' lecture 			
Lakehead University, Canada CNU Global Talent Program (Exchange Student)	2016.09 to 2016.12		
Northern Arizona University, USA CNU Honors Program (Short-term visiting student)	2016.01		

Peer-reviewed Conference & Journal Papers

[1] **Kim, J.,** Park, S., Zhou, Q., Gonzalez-Franco, M., Lee, J., & Pfeuffer, K. (2025). PinchCatcher: Enabling Multi-selection for Gaze+Pinch. In *Proceedings of the 2025 CHI conference on human factors in computing systems* (pp. 1-16).

[2] Lee, C.*, **Kim, J.*,** Yi, H., & Lee, W. (2024, May) Viewer2Explorer: Designing a Map Interface for Spatial Navigation in Linear 360 Exhibition Video. In *Proceedings of the 2024 CHI conference on human factors in computing systems* (pp. 1-15).

[3] Jung, S., **Kim, J.,** & Lee, J. (2024). The Differential Effects of Multisensory Attentional Cues on Task Performance in VR Depending on the Level of Cognitive Load and Cognitive Capacity. *IEEE Transactions on Visualization and Computer Graphics.* **(Best Paper Award @ IEEE VR2024)**

[4] Jang, H.*, **Kim, J.*,** & Lee, J., (2024). Effects of Congruent Multisensory Feedback on the Perception and Performance of Virtual Reality Hand-Retargeted Interaction. *IEEE Access*.

[5] Lee, S., **Kim, J.**, Lee, J., (2023). Effects of Reward Schedule and Avatar Visibility on Joint Agency During VR Collaboration Task. *IEEE Transactions on Visualization and Computer Graphics*. (Nominated for Best Journal Paper @ ISMAR2023)

[6] Kim, D., Kim, S., Shin, J. E., Yoon, B., **Kim, J.**, Lee, J., & Woo, W. (2023). The effects of spatial configuration on relative translation gain thresholds in redirected walking. *Virtual Reality*, 27(2), 1233-1250.

[7] **Kim, J.,** Kim, D., Jang, H., & Lee, J. (2022). Exploration of the Virtual Reality Teleportation Methods using Hand-tracking, Eye-tracking, and EEG. *International Journal of Human-Computer Interaction*, 1-14.

[8] **Kim, J.,** Kim, S., & Lee, J. (2022). The Effect of Multisensory Pseudo-Haptic Feedback on Perception of Virtual Weight. *IEEE Access*, *10*, 5129-5140.

[9] Kim, D., **Kim, J.,** Shin, J. E., Yoon, B., Lee, J., & Woo, W. (2022, March). Effects of virtual room size and objects on relative translation gain thresholds in redirected walking. In *2022 IEEE conference on virtual reality and 3D user interfaces (VR)* (pp. 379-388). IEEE.

[10] **Kim, J.*,** Hwang, E.*, Shin, H., Gil, Y. H., & Lee, J. (2021). Top-down, bottom-up, and historydriven processing of multisensory attentional cues in intellectual disability: An experimental study in virtual reality. *PLOS One*, *16*(12), e0261298.

Extended Abstracts, Posters, and Demo

[1] **Kim, J.,** Kim, T., & Lee, J. (2024, May). VR-SSVEPeripheral: Designing Virtual Reality Friendly SSVEP Stimuli using Peripheral Vision Area for Immersive and Comfortable Experience. In *Extended Abstracts of the 2024 CHI Conference on Human Factors in Computing Systems* (pp. 1-7).

[2] **Kim, J.** (2024, March). [DC] Exploring and Designing VR Locomotion Method based on Biosignal for Hands-free Context and its Improvement. In *2024 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW)* IEEE.

[3] **Kim, J.,** Lee, J., Kim, Y. J., & Lee, J. (2023, October). Influence of Cross-Modal Correspondence between Auditory and Visual Stimuli on Vection Perception in Virtual Reality.

In 2023 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct) (pp. 604-608). IEEE Computer Society.

[4] Lee, J., **Kim, J.**, & Lee, J. (2023, October). Comparison of Virtual Reality Teleportation Targeting Method Performance depending on the Teleport Distance. In *2023 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct)* (pp. 742-745). IEEE Computer Society.

[5] Seo, K., Vanichvoranun, N., Kim, Y., Jung, K., **Kim, J.**, Kim, H., & Yoon, S. H. (2023, October). GoGoHand+: Designing Haptic Feedback to Enhance the GoGoHand Interaction Technique. In *2023 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct)* (pp. 736-741). IEEE Computer Society.

[6] **Kim, J.***, Kim, D.*, Kim, B., Kim, H., & Lee, J. (2023, March). Holobot: Hologram based extended reality telepresence robot. In *Companion of the 2023 ACM/IEEE International Conference on Human-Robot Interaction* (pp. 60-64).

[7] **Kim, J.,** Koh,S., Kang,S., Jang, H., Lee, J., Nam, J., & Doh, Y.Y., (2022). Seung-ee and Kkaebi: A Cross-platform Game between Virtual Reality and Mobile. In *ACM CHI PLAY 2022 Interactivity*. (*Audience Choice Award*)

[8] **Kim, J.,** & Lee, J. (2021, March). The Effect of the Virtual Object Size on Weight Perception Augmented with Pseudo-Haptic Feedback. In *2021 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW)* (pp. 575-576). IEEE.

[9] **Kim, J.,** Baek, K., & Jang, J. (2020, March). Petbe: Projecting a real being onto a social robot using contextual data for a pet monitoring method. In *Companion of the 2020 ACM/IEEE International Conference on Human-Robot Interaction* (pp. 290-292).

[10] **Kim, J.**, Han.Y., Lee.S.H., Yoo, J., Song, J. (2018). Public IoT Service System using SNS Chatbot Application. In *HCI Korea Conference* 631-633.

[11] Lee, S., **Kim, J.**, Han, Y., Lee, S., Kim, J., (2016). IoT Public Washing Machine Management System using Smart Meter. Proceedings of the Korean Information Science Society Conference,171-173.

TECHNIQUES AND SKILLS

Programming: Java, C/C++, Unity C#, Python, HTML, Pytorch

IoT Applications: Sensors, Arduino & Raspberry Pi, Flask (REST API), Communication

EEG Data Acquisition & Analysis: Cognionics (EEG Quick-30), Emotiv, NextMind, MNE, SPSS, MATLAB (EEGLAB, ERPLAB)

ACADEMIC SERVICES

Invited Talks & Lecture

- Psychological Experiment Implementation with Unity 3D, CNU, 2024.02~03
- CSE333 Intro to Human-Computer Interaction, UNIST, 2023.06.01

Review

- International Journal of Human-Computer Interaction
- IEEE Access
- EuroHaptics 24
- ACM CSCW 24
- ACM IMWUT 25
- ACM CHI 23, 24, 25
- IEEE VR 24, 25
- IEEE VRST 24
- IEEE ISMAR 23, 24
- ACM CHI LBW 20, 22, 24
- ACM/IEEE HRI 20, 23 LBW

Special Recognitions for Outstanding Reviews

- CHI 2025
- ISMAR 2024 (Highly useful)

Conference Contribution

- ACM CHI LBW 2025 (Program Committee)
- ACM ETRA 2025 (Student Volunteer)
- ACM TEI 2021 (Student Volunteer)

Mentoring

- Naver Connect Foundation (Python, C, Data Analysis)
- KAIST Gifted Youth Camp (Block Programming, Unity Basic)
- MODU Lab LG ML/AI bootcamp
- 2020 Young-In Upcycling Hack-A-Thon Mentor
- 2021 ARKO Art Center ART TALK Program Mentor

Supervision Students

- Sangmin Park (MSc, KAIST, w/ Prof. Jeongmi Lee) 2024-25
- Jihyeon Lee (MSc & PhD, KAIST, w/ Prof. Jeongmi Lee) 2022-25
- Sihyun Jeong (MSc & PhD, KAIST, w/ Prof. Jeongmi Lee) 2022-24
- Seungun Lee (MSc, KAIST, w/ Prof. Jeongmi Lee)
- Hyunyoung Jang (MSc, KAIST, w/ Prof. Jeongmi Lee) 2021-22

Teaching material Produce @KAIST Cyber Talented Center

- Unity Game Programming with LEGO Course
- Unity Basic Programming with C# Course
- Unity Advance C# Game Development Programming Course

Article (Magazine, etc)

• J.Kim, [Paper Review] Increasing the sense of immersion in extended reality: A sensory augmentation system, Dongascience, 2023.10

2022-23