# HyunA Seo

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## Research Interests

**eXtended Reality Systems, Context-aware Computing, Pervasive XR Agents**

I design novel eXtended Reality (XR) interactions and systems that frictionlessly blend the physical and virtual worlds. To realize everyday XR beyond spatiotemporal constraints, my research focuses on optimally modeling user context and gradually bridging the gap between physical and virtual interactions. Recently, I have been expanding the notion of virtuality to include multimodal agents, aiming to seamlessly integrate them into users' everyday tasks with careful consideration of users' capabilities.

## Education

**Seoul National University** Mar. 2021 - Present
M.S./Ph.D. student in Computer Science and Engineering
*Advisor: Youngki Lee*

**Hanyang University** Mar. 2016 - Feb. 2021
B.S. in Computer Science an Engineering

## Publications: Conference Papers

**EmoShortcuts: Emotionally Expressive Body Augmentation for Social Mixed Reality Avatar**
HyunA Seo, Youngki Lee, Rajesh Balan, Thivya Kandappu
*ACM UIST 2025: ACM Symposium on User Interface Software and Technology*

**GradualReality: Enhancing Physical Object Interaction in Virtual Reality via Interaction State-Aware Blending**
HyunA Seo, Juheon Yi, Rajesh Balan, Youngki Lee
*ACM UIST 2024: ACM Symposium on User Interface Software and Technology*

## Publications: Posters and Workshop Papers

**AI-Mediated Augmented Emotion Expression of Avatar for Social Mixed Reality**
HyunA Seo, Youngki Lee
*ACM CHI 2025 Workshop: Everyday AR through AI-in-the-Loop*

**LIVE: Life-Immersive Virtual Environment with Physical Interaction-Aware Adaptive Blending**
HyunA Seo, Juheon Yi, Youngki Lee
*ACM MobiSys 2022 Poster: ACM International Conference on Mobile Systems, Applications, and Services*

## Patents

**Method and Apparatus for Supporting Interaction Between Virtual Environments and the Real World**
US 18/932,857 | KR 10-2024-0077055 | EPO 24211098.9 | JP 2024-201312

## Awards

**Special Recognitions for Outstanding Reviews**

2025: ACM CHI, ACM DIS

**ACM CHI Korea Local Chapter Outstanding Presentation** Feb. 2025

## Grants

**Google Conference Scholarship** *for* ACM UIST 2024

**MobiSys Student Travel Grant** *for* ACM MobiSys 2022

**Academic Achievement Scholarship, Hanyang University** Spring 2019

## Academic Service

**Program Committee**

2026: ACM IUI

**External Reviewer**

2026: ACM CHI, ACM IUI, ACM IMWUT, IEEE VRST, IEEE PerCom

2025: ACM CHI, ACM IMWUT, ACM DIS, ACM C&C

**Session Chair**

2025: ACM CHI

**Others**

2026: ACM UIST Student Volunteer

## Research Experience

**Human-Centered Computer Systems Lab,** Seoul, Korea Mar. 2021 - Present
MS/Ph.D. student @ Seoul National University
Advisor: Youngki Lee
*Research on context-aware adaptive systems to support better eXtended Reality interactions*

**Singapore Management University,** Singapore Sep. 2024 - Apr. 2025
Visiting research student
Advisor: Thivya Kandappu, Rajesh Balan
*Research on emotion-aware virtual avatar gesture manipulation for social interaction in eXtended Reality*

**Human-Centered Computer Systems Lab,** Seoul, Korea Jul. 2020 - Mar. 2021
Research Intern @ Seoul National University
Advisor: Youngki Lee
*Research on transforming the appearance of real-world object into seamless virtual objects*

**Visual Intelligence Lab,** Seoul, Korea Apri. 2020 - Jul. 2020
Research Intern @ Hanyang University
Advisor: Tae Hyun Kim
*Research on image super resolution*

## Teaching Experience

**Teaching Assistant**, Samsung X Seoul National University — Apr. 2024
Samsung Data Science Course: Machine Learning (Prof: Youngki Lee)

**Teaching Assistant**, LG X Seoul National University — Feb. 2024
LG Data Science Course: Machine Learning (Prof: Youngki Lee)

**Teaching Assistant**, Seoul National University — Fall 2022
Computer Programming (Prof: Youngki Lee) *over 150 students

**Head Teaching Assistant**, Seoul National University — Fall 2021
Computer Programming (Prof: Youngki Lee) *over 150 students

## Invited Talks

Interactive Intelligent Systems Laboratory, University of Tokyo (Host: Koji Yatani) — Apr. 2025

HCI Korea Conference (Host: ACM CHI Korea Local Chapter) — Feb. 2025

## Skills

**Programming Languages:** C, C++, C#, Python, Java, JavaScript
**Frameworks & Tools:** Unity, Android, iOS, Git, Docker
**Language:** English (fluent), Korean (native)