Seokhwan Yang

M.S. Student
Graduate School of Metaverse, KAIST
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Education

Korea Advanced Institute of Science and Technology (KAIST)
M.S. in Metaverse
Sep. 2024 – Present
Advisor: Prof. Woontack Woo

Chung-Ang University
B.S. in Computer Science and Engineering, *Cum Laude*
Mar. 2019 – Aug. 2024

Research Experience

M.S. Student Researcher, UVR Lab, KAIST, Republic of Korea
Sep. 2024 – Present
Conducting research on VR/AR avatars and real-time facial expression control.
Developing photorealistic Gaussian-based avatar rendering and control pipelines.

Undergraduate Research Intern, UVR Lab, KAIST, Republic of Korea
Jan. 2024 – Feb. 2024
Explored methods to map HMD-occluded facial expressions to a parametric face model.

Undergraduate Research Intern, VEAI Lab, Chung-Ang University, Republic of Korea
Jul. 2023 – Dec. 2023
Performed a comparative study of IK methods for upper-body avatar pose estimation in VR.

Undergraduate Research Intern, VR Lab, Chung-Ang University, Republic of Korea
Jul. 2022 – Aug. 2022
Extended a VR ski simulator to a snowboarding scenario using plantar pressure sensors.

Publications

International

OFERA: Blendshape-driven 3D Gaussian Control for Occluded Facial Expression to Realistic Avatars in VR
Seokhwan Yang, Boram Yoon, Seoyoung Kang, Hail Song, Woontack Woo
IEEE Transactions on Visualization and Computer Graphics (TVCG), 2026.
(Presented at IEEE VR 2026)

Streamlined Facial Data Collection based on Utterance and Emotional Data for Human-to-Avatar Reconstruction
Seoyoung Kang, **Seokhwan Yang**, Hail Song, Boram Yoon, Jinwook Kim, Kangsoo Kim, Woontack Woo
IEEE Transactions on Visualization and Computer Graphics (TVCG), 2026.
(Presented at IEEE VR 2026)

VRGaussianAvatar: Integrating 3D Gaussian Avatars into VR
Hail Song, Boram Yoon, **Seokhwan Yang**, Seoyoung Kang, Woontack Woo
IEEE Transactions on Visualization and Computer Graphics (TVCG), 2026.
(Presented at IEEE VR 2026)

HMD-only Controllable 3D Gaussian Avatars in VR: Face and Full-body Demonstration
Seokhwan Yang, Hail Song, Woontack Woo
IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW), Demo, 2026.

Fast Texture Transfer for XR Avatars via Barycentric UV Conversion
Hail Song, **Seokhwan Yang**, Woontack Woo
IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct), Poster, 2025.

Domestic

Speech-to-3D: Personalized 3D Scene Rendering based on User Speech Recognition
Suji Kang, **Seokhwan Yang**, Seok-Young Kim, Woontack Woo
Korea Computer Congress (KCC), 2025.

VR Headset User's Facial Expression Tracking and Mesh Model Representation for Photo-realistic Head Avatar Generation
Seokhwan Yang, Hyungwoo Jin, Woontack Woo
Korea Software Congress (KSC), 2024.
Best Paper Award

Comparison Study on IK Methods for VR Upper-body Avatar Generation
Seokhwan Yang, Kyoungju Park
HCI Korea, 2024.

Academic Activities

Demo Exhibitor
IEEE International Symposium on Mixed and Augmented Reality (ISMAR) 2025
National R&D Project Booth (OpenXR)

Projects

Professional AI Talent Development Program for Multimodal AI Agents
Graduate Researcher
Supported by the Institute of Information & Communications Technology Planning & Evaluation (IITP)
Grant by the Ministry of Science and ICT(MSIT), Republic of Korea
Sep. 2025 – Present

Development of Open XR platform for high immersive collaboration
Graduate Researcher
Supported by the National Research Council of Science & Technology (NST)
Grant by the Ministry of Science and ICT(MSIT), Republic of Korea
Sep. 2024 – Present