

GEONSUN LEE

+1(240) 610-3544 ◊ College Park, MD ◊ gsunlee@cs.umd.edu

Website: cs.umd.edu/~gsunlee LinkedIn: geonsun-lee ◊ Google Scholar: DZb60K0AAAAJ

RESEARCH INTEREST

Human-Computer Interaction, Computer-Supported Cooperative Work,
Virtual Reality, Augmented Reality, Mixed Reality, Social VR/XR, Human-Centered AI

EDUCATION

University of Maryland College Park, MD, USA
· **Ph.D. in Computer Science** (*Advisor: Dinesh Manocha*) Sep 2020 - Present
· (Expected Graduation May 2025)
Korea University Seoul, South Korea
· **M.E. in Computer Science and Engineering** (*Advisor: JungHyun Han*) Mar 2018 - Feb 2020
· **Bachelor of Business Administration** Graduated with Honors Mar 2014 - Feb 2018
B.E in Computer Science and Engineering

WORK EXPERIENCE

Dolby Sunnyvale, CA, USA
ATG Imaging Research Intern (Mentor: **DaeYeol Lee**) Jun 2023 - Aug 2023
· Devised a novel multi-modal attention guidance method to support turn-taking in social VR group conversations.
Meta Reality Labs Toronto, ON, Canada
Research Scientist Intern (Mentor: **Michael Glueck, Rorik Henrikson**) Sep 2022 - Apr 2023
· Implemented interfaces tailored to collaborator needs for enhanced workspace-awareness in VR.
Adobe Research (*Remote*) San Jose, CA, USA
Research Intern (Mentor: **Jennifer Healey**) May 2022 - Aug 2022
· Worked on developing a novel interactive document viewer interface for multi-user VR Learning systems.
Adobe Research (*Remote*) San Jose, CA, USA
Research Intern (Mentor: **Jennifer Healey**) May 2021 - Aug 2021
· Investigated and developed gaze-based interaction tools to enhance users' reading experience in VR.

PUBLICATIONS

- [p.10] **Geonsun Lee**, Yuran Ding, Jun Nishida, Dinesh Manocha, Rueofei Du. “Interactive Integration of Presenters and Slides Using LLM/VLMs for Online Presentations”, Under Submission, 2024.
- [p.9] **Geonsun Lee**, Yue Yang, Jennifer Healey, Dinesh Manocha. “Augmenting Context-Aware Transcriptions for Re-Engaging in Immersive VR Meetings”, Under Submission, 2024.
- [p.8] **Geonsun Lee**, Dae Yeol Lee, Guan-ming Su, Dinesh Manocha. ““May I Speak?”: Multi-modal Attention Guidance in Social VR Group Conversations”, In *IEEE Transactions on Visualization and Computer Graphics (TVCG)*, IEEE, 2024. [\[link\]](#)
- [p.7] **Geonsun Lee**, Jennifer Healey, Dinesh Manocha. “DocuBits: VR Document Decomposition for Procedural Task Completion”, In *2024 IEEE Conference on Virtual Reality and 3D User Interfaces (VR)*. IEEE, 2024. [\[link\]](#)
- [p.6] **Geonsun Lee**, Jennifer Healey, Dinesh Manocha. “VRDoc: Gaze-based Interactions for VR Reading Experience.” In *2022 International Symposium on Mixed and Augmented Reality (ISMAR)*. IEEE, 2022. [\[link\]](#)
- [p.5] **Geonsun Lee**, HyeongYeop Kang, Jongmin Lee and JungHyun Han. “A User Study on View-sharing Techniques for One-to-Many Mixed Reality Collaborations.” In *2020 IEEE Conference on Virtual Reality and 3D User Interfaces (VR)*. IEEE, 2020. [\[link\]](#) (**Best Conference Paper Nominee**)
- [p.4] HyeongYeop Kang, **Geonsun Lee**, and JungHyun Han. “Obstacle Detection and Alert System for Smartphone AR Users.” In *25th ACM Symposium on Virtual Reality Software and Technology*, p. 2. ACM, 2019. [\[link\]](#)

- [p.3] HyeongYeop Kang, **Geonsun Lee**, and JungHyun Han. “Visual Manipulation for Underwater Drag Force Perception in Immersive Virtual Environments.” In *2019 IEEE Conference on Virtual Reality and 3D User Interfaces (VR)*, pp. 38-46. IEEE, 2019. [\[link\]](#) (**Best Conference Paper Nominee**)
- [p.2] HyeongYeop Kang, **Geonsun Lee**, Dae Seok Kang, Ohuna Kwon, Jun Yeup Cho, Ho-Jung Choi, and JungHvun Han. “Jumping Further: Forward Jumps in a Gravity-reduced Immersive Virtual Environment.” In *2019 IEEE Conference on Virtual Reality and 3D User Interfaces (VR)*, pp. 699-707. IEEE, 2019. [\[link\]](#) (**Best Conference Paper Nominee**)
- [p.1] HyeongYeop Kang, **Geonsun Lee**, Seongsu Kwon, Ohung Kwon, Seongpil Kim, and JungHyun Han. “Flotation Simulation in a Cable-driven Virtual Environment—A Study with Parasailing.” In Proceedings of *the 2018 CHI Conference on Human Factors in Computing Systems*, p. 632. ACM, 2018. [\[link\]](#)

EXTENDED ABSTRACT

- [e.1] HyeongYeop Kang, **Geonsun Lee**, and JungHyun Han. “SafeAR: AR Alert System Assisting Obstacle Avoidance for Pedestrians.” In *2019 IEEE International Symposium on Mixed and Augmented Reality Adjunct (ISMAR-Adjunct)*, IEEE, 2019 (**Poster Presenter**)

HONOR & AWARDS

WiGRAPH’s Rising Stars in Computer Graphics 2024	2024- 2025
Dean’s Fellowship, University of Maryland, College Park (USD 2,500)	Fall 2020
Best Conference Paper Nominee (IEEE VR 2020)	March 2020
Best Conference Paper Nominee (IEEE VR 2019) ×2	March 2019
Veritas Program Scholarship, Korea University (KRW 1,000,000)	Fall 2017
Creative Challenger Scholarship, Korea University (KRW 1,500,000)	Fall 2016

RESEARCH EXPERIENCE

GAMMA Lab, University of Maryland College Park, MD, USA
Research Assistant (Advisor: **Dinesh Manocha**) Sep 2020 - Present

- Currently working on developing interactions to facilitate the social aspect of VR/MR. Ongoing projects include: Using Generative AI for avatar shader generation in social VR to enable expressive communications between VR users and creating a multi-user AR meeting system for context-aware meeting summaries using LLM.
- Developed a set of gaze-based interactions, using HTC Vive Pro Eye, alongside object manipulation methods and investigated its effect on users’ reading performance, perception of system usability, and workload.

Interactive 3D Media Lab, Korea University Seoul, South Korea
Research Assistant (Advisor: **JungHyun Han**) Mar 2018 - Feb 2020

- Built an MR system with HoloLens and Vive for one-to-many remote collaboration, comparing view-sharing techniques for effective user instructions.
- Developed an Android app using Google AR Core and Unity to detect obstacles and alert AR game players.
- Created a pseudo-haptic VR system for natural underwater movement, implementing avatar movement based on drag force equations.

Undergraduate Researcher (Advisor: **JungHyun Han**) Apr 2017 - Feb 2018

- Investigated human cognition manipulation in multi-modal VR, collaborating with KITECH for user flotation simulation.
- Designed and conducted user studies to validate vertical visual gains for virtual parasailing.

TECHNICAL SKILLS

Programming C/C++, C#, Python, HTML/CSS/JavaScript, Java
Software&Tools Unity3D, Blender, Unreal, Maya, SPSS, L^AT_EX