Seung-Woo Nam

PhD Candidate

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Personal Profile

I am a PhD candidate at OEQELAB, Seoul National University. I was formerly supervised by the late Prof. Byoungho Lee and currently supervised by Prof. Yoonchan Jeong. Prior to this, I received my BS degree in Electrical and Computer Engineering from Seoul National University. My research area includes holography, AR/VR, computational displays, visual perception, and metasurfaces.

Education

09/2019 – Present	**Ph.D.** Electrical and Computer Engineering, Seoul National University, Korea. Advisor: Byoungho Lee, Yoonchan Jeong
03/2015 – 08/2019	**B.S.** Electrical and Computer Engineering, Seoul National University, Korea.
03/2012 – 02/2015	Gyeonggi Science High School for the Gifted, Korea.

Work Experience

06/2023 – 12/2023	**Research Scientist Intern**, Meta Reality Labs, Washington, USA

Publications

First Author (∗ Denotes equal contribution)

[7] S. Lee*, **S.-W. Nam***, K. Rio, R. Landig, H.-H. Cheng, L. Lu, and B. Silverstein, “Perceptual Evaluation of Steered Retinal Projection,” ACM ***SIGGRAPH 2024*** Conference Proceedings

[6] D. Kim*, **S.-W. Nam***, S. Choi*, J.-M. Seo, G. Wetzstein, and Y. Jeong, “Holographic Parallax Improves 3D Perceptual Realism,” ACM Transactions on Graphics ***(SIGGRAPH 2024)***

[5] **S.-W. Nam***, Y. Kim*, D. Kim, and Y. Jeong, “Depolarized Holography with Polarization-multiplexing Metasurface,” ACM Transactions on Graphics ***(SIGGRAPH ASIA 2023)***

[4] D. Kim*, **S.-W. Nam***, B. Lee, J.-M. Seo, and B. Lee, “Accommodative holography: improving accommodation response for perceptually realistic holographic displays,” ACM Transactions on Graphics ***(SIGGRAPH 2022)***

[3] **S.-W. Nam**, D. Kim, and B, Lee, “Accelerating a spatially varying aberration correction of holographic displays with low-rank approximation,” Optics Letters, 2022 ***(Editor’s pick)***

[2] D. Kim*, **S.-W. Nam***, K. Bang, B. Lee, S. Lee, Y. Jeong, J.-M. Seo, and B. Lee, “Vision-correcting holographic display: evaluation of aberration correcting hologram,” Biomedical Optics Express, 2021

[1] **S.-W. Nam**, S. Moon, B. Lee, D. Kim, S. Lee, C.-K. Lee, and B. Lee, "Aberration-corrected full-color holographic augmented reality near-eye display using a Pancharatnam-Berry phase lens," Optics Express, 2020.

Co-Author

[9] C. Chen, **S-W. Nam**, D. Kim, J. Lee, Y. Jeong, and B. Lee, “Ultrahigh-fidelity full-color holographic display via color-aware optimization,” PhotoniX, 2024

[8] S. Lee, **S.-W. Nam**, J. Lee, Y. Jeong, and B, Lee, “HoloSR: deep learning-based super-resolution for real-time high-resolution computer-generated holograms,” Optics Express, 2024.

[7] D. Lee, K. Bang, **S.-W. Nam**, B. Lee, D. Kim, and B. Lee, “Expanding energy envelope in holographic display via mutually coherent multi-directional illumination,” Scientific Reports, 2022.

[6] D. Yoo, **S. -W. Nam**, Y. Jo, S. Moon, C. -K. Lee, and B. Lee, "Learning-based compensation of spatially varying aberrations for holographic display [Invited]," Journal of the Optical Society of America A, 2022.

[5] D. Yoo, Y. Jo, **S.-W. Nam**, C. Chen, and B. Lee, "Optimization of computer-generated holograms featuring phase randomness control," Optics Letters, 2021.

[4] S. Lee*, D. Kim*, **S.-W. Nam**, B. Lee, J. Cho, and B. Lee, "Light source optimization for partially coherent holographic displays with consideration of speckle contrast, resolution, and depth of field," Scientific Reports, 2020.

[3] S. Lee, D. Kim, **S.-W. Nam**, and B. Lee, "Speckle reduced holographic displays usi.ng tomographic synthesis," Optics Letters, 2020

[2] S. Moon, **S.-W. Nam**, Y. Jeong, C.-K. Lee, H.-S. Lee, and B. Lee, "Compact augmented reality combiner using Pancharatnam-Berry phase lens," IEEE Photonics Technology Letters, 2020.

[1] S. Moon, C.-K. Lee, **S.-W. Nam**, C. Jang, G.-Y. Lee, W. Seo, G. Sung, H.-S. Lee, and B. Lee, "Augmented reality near-eye display using Pancharatnam-Berry phase lenses," Scientific Reports, 2019.

Honors and Awards

2020 – 2024	Korea Foundation for Advanced Studies (KFAS) Graduate Study Scholarship
2023	Silver prize, Samsung Display Industry-University Cooperation Paper Award 2023
2020	Best Poster Paper Awards, The 20th International Meeting on Information Display
2015 – 2018	National Science and Engineering Undergraduate Scholarship

Services

Reviewer	ACM Transactions on Graphics, IEEE ISMAR, Optics Letters, ETRI Journal

Reference

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