Jung Who **Nam** — Ph.D. in Computer Science

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Summary

Assistant Professor of Computer Science at Kunsan National University specializing in HCI, XR, and Immersive Analytics. I focus on engineering novel 3D user interfaces that empower domain experts to navigate and present complex scientific datasets. My research is published in premier venues, including IEEE TVCG and IEEE VR. I aim to bridge high-performance systems with human-centric design to build the next generation of intelligent, immersive productivity tools.

Education

2014-2022 | **Ph.D., Computer Science** — University of Minnesota – Minneapolis, MN
- Advisor: Prof. Daniel F. Keefe
- Committee: Dr. Tobias Isenberg, Prof. Lana Yarosh, Prof. Evan Suma Rosenberg
- Dissertation title: *Everyday Scientific Visualization: Making 3D Visualization Techniques Accessible for Day-To-Day Team-Science for Collaboration and Analysis*
- Specializations: Data visualization, virtual reality

2012-2018 | **M.S., Computer Science** — University of Minnesota – Minneapolis, MN
- Specializations: Computer graphics, virtual reality

2008-2012 | **B.S., Computer Science** — University of Minnesota – Minneapolis, MN
- Specializations: Computer graphics, user interfaces

Relevant Experience

2024-Present (1yr 4 mos) | **Assistant Professor** — Kunsan National University – South Korea
- Department of Computer Science and Information Engineering

Computer Graphics | Game Engine Programming | Object Oriented Programming

2022-2024 (1 yr 10 mo) | **Postdoctoral Researcher** — University of Texas – Austin, TX
- Texas Advanced Computing Center. Advisor: Dr. Paul Navratil
- Upgraded Intel's raytracing application to facilitate immersive virtual reality experiences
- Extended its core rendering engine to display a coherent virtual environment on tiled display walls
- Developed interaction techniques for gesture-based scene navigation and object manipulation

C++ | CMake | MPI | Docker | Intel OSPRay | Microsoft Kinect | Large Tiled Displays | Python | Open3D

2019-2021 (2 yrs 6 mos) | **Research Engineer** — Gwangju Institute of Science and Technology – Gwangju, S. Korea
- Korea Culture Technology Institute. Advisor: Prof. Moongu Jeon
- Collaborated with external teams to design interactive installations for history museums
- Developed visualization and interaction techniques for use by museum visitors to explore museums' archived data using gesture-based interaction

Unity | C# | Microsoft Kinect | Large Format Displays

2014-2019 (4 yrs 9 mos) | **Research Assistant** — University of Minnesota – Minneapolis, MN
- Department of Computer Science and Engineering. Advisor: Prof. Daniel F. Keefe
- Created interactive systems to assist scientists with analyzing and presenting their data
- Collaborated on three multi-disciplinary projects involving teams at the U.S. National Forest Services, the Center for Spirituality and Healing, and the Medical Device Center

Unity | C# | OptiTrack | MS Kinect | HMD VR | CAVE VR | Mobile VR | Projection-based AR | Processing | 3D Printing

Summer 2018 (3 mos) | **Research Intern** — INRIA – Saclay, France

- Aviz. Advisor: Dr. Tobias Isenberg
- Investigated ways of leveraging storytelling and lightweight communication for science collaboration
- Developed frameworks for creating data stories and collaborating around exchanged stories in different device settings, e.g., in browsers, phones, and desktop settings

Unity | C# | PHP | MySQL | JavaScript | CSS | HTML

2011-2014 (3 yrs 3 mos) | **Programmer** — University of Minnesota – Minneapolis, MN

- Center for Magnetic Resonance Research. Advisor: Prof. Greg Metzger
- Worked with pathologists to develop a Photoshop-like Java application for assembling scanned tissue images into a complete organ and annotating cancer boundaries for further data analysis
- Integrated Java3D to view and interact with drawn cancer boundaries in 3D and implemented corresponding interaction functionalities

Java | Java3D

Publications

2024 **J. W. Nam**, T. Isenberg, and D. F. Keefe, "V-mail: 3d-enabled correspondence about spatial data on (almost) all your devices," *IEEE Transactions on Visualization and Computer Graphics*, vol. 30, no. 4, pp. 1853–1867, 2024. doi: 10.1109/TVCG.2022.3229017
YouTube Presentation IEEE VIS

2023 **J. W. Nam**, G. D. Abram, F. Samsel, and P. A. Navrátil, "Immersive ospray: Enabling vr experiences with ospray," in *2023 ACM conference on practice and experience in advanced research computing (PEARC)*, 2023, p. 226–230. doi: 10.1145/3569951.3597579

2022 D. F. Keefe, B. Herman, **J. W. Nam**, D. T. Orban, and S. Johnson, "Hybrid data constructs: Interacting with biomedical data in augmented spaces," in *Making Data: The Creative Practice of Materialising Digital Information*. London: Bloomsbury, 2022, ch. 11, pp. 169–182. doi: 10.5040/9781350133266.ch-011

2019 **J. W. Nam** et al., "Worlds-in-wedges: Combining worlds-in-miniature and portals to support comparative immersive visualization of forestry data," in *2019 IEEE conference on virtual reality and 3D user interfaces (VR)*, 2019, pp. 747–755. doi: 10.1109/VR.2019.8797871
YouTube Presentation IEEE VR

E. L. et al., "Signature maps for automatic identification of prostate cancer from colorimetric analysis of h&e-and ihc-stained histopathological specimens," *Nature Scientific Reports*, vol. 9, no. 6992, 2019. doi: 10.1038/s41598-019-43486-y

Poster - **J. W. Nam**, C. H. Perry, B. T. Wilson, and D. F. Keefe, "Linked view visualization using clipboard-style mobile vr: Application to communicating forestry data," IEEE VIS Posters, 2019
YouTube SciVis Best Poster Award

Poster - N. Park, Y. Hong, H. Park, **J. W. Nam**, K. Kim, J. Pyo, K. Gil, and K. Lee, "Effects of age and motivation for visiting on ar museum experiences," ACM VRST Posters, 2019. doi: 10.1145/3359996.3364711

2017 **J. W. Nam** and D. F. Keefe, "Spatial correlation: An interactive display of virtual gesture sculpture," *Leonardo*, vol. 50, no. 1, pp. 94–95, 2017. doi: 10.1162/LEON_a_01226
YouTube

2016 H. Farooq, J. Xu, **J. W. Nam**, D. F. Keefe, E. Yacoub, T. Georgiou, and C. Lenglet, "Microstructure imaging of crossing (mix) white matter fibers from diffusion mri," *Nature Scientific Reports*, vol. 6, no. 38927, 2016. doi: 10.1038/srep38927

G. J. M. et al., "Detection of prostate cancer: quantitative multiparametric mr imaging models developed using registered correlative histopathology," *Radiology*, vol. 279, no. 3, pp. 805–816, 2016. doi: 10.1148/radiol.2015151089

Public Exhibitions

December 2021 Developer, "The Road of Hyecho." Interactive installation at Gwangju Cultural Foundation. S. Korea.
News
Unity | C# | Microsoft Kinect | Projection Wall

December 2020 Developer, "The Road of Ramayana." Interactive installation at Asia Culture Center. Gwangju, S. Korea.
YouTube News News
Unity | C# | Microsoft Kinect | Large Format Display

November 2014 Developer, "Spatial Correlation: An Interactive Display of Virtual Gesture Sculpture." Interactive installation at IEEE VIS 2014 Arts Program. Paris, France.
YouTube Publication
Processing | Java | GLSL | Microsoft Kinect V1

Presentations

October 2024 Presenting author, "V-Mail: 3D-Enabled Correspondence About Spatial Data on (Almost) All Your Devices " Paper talk at IEEE VIS. Virtual.

July 2023 Presenting author, "Immersive OSPRay: Enabling VR experiences with OSPRay." Paper talk at ACM PEARC. Portland, Oregon, USA.

March 2019 Presenting author, "Worlds-in-Wedges: Combining Worlds-in-Miniature and Portals to Support Comparative Immersive Visualization of Forestry Data." Paper talk at IEEE VR. Osaka, Japan.

Professional Services

Panelist The Future of AI that Communicates with Humans, Hwangryong Humanities Talk Concert, 2025.10.31

Reviewer ISMAR(2024), TVCG (2024, 2023), VR (2022), DESRIST (2018), Leonardo (2016)

Guest Editor Frontiers in Virtual Reality (The Convergence of XR, Digital Twins, and AI in Medicine), 2026 - Present

Awards

October 2019 SciVis Best Poster Award, "Linked View Visualization Using Clipboard-Style Mobile VR: Application to Communicating Forestry Data.", Poster track at IEEE VIS 2019. Vancouver, British Columbia, Canada.