Jung Who Nam — Ph.D. in Computer Science

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Interactive computer graphics researcher with 10 years of experience in:

- Developing XR applications for various display settings, including HMD VR, CAVE VR, and cluster-driven wall displays.
- Creating 3D interactive applications for data analysis and presentation in geospatial, medical, and cultural heritage domains.
- Collaborating on interdisciplinary projects, working with scientists and industry partners to define and meet requirements.

Relevant Experience

2024.10-Present — **Assistant professor** — Kunsan National University – Gunsan, South Korea

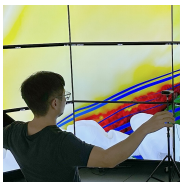
- Teaching undergraduate courses in Unity and object-oriented programming.
- Advising students on capstone projects and career development.

Unity | C# | Java

2022-2024 (1 yrs 10 mos) — **Postdoctoral Researcher** — University of Texas – Austin, TX

- Upgraded an open-source ray tracing application by integrating VR features, enabling immersive exploration and gesture-based navigation.

C++ | CMake | OpenMP | Docker | Intel OSPRay | Microsoft Kinect | Cluster-driven Displays | Python | Open3D

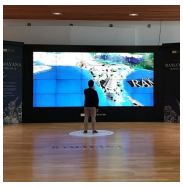


- **J. W. Nam**, G. D. Abram, F. Samsel, and P. A. Navrátil, "Immersive ospray: Enabling vr experiences with ospray," in *2023 ACM conference on practice and experience in advanced research computing (PEARC)*, 2023, p. 226–230. doi: 10.1145/3569951.3597579

2019-2021 (2 yrs 6 mos) — **Research Engineer** — Gwangju Institute of Science and Technology – Gwangju, S. Korea

- Developed interactive museum installations in collaboration with graphic designers and curators.
- Designed gesture-based interaction techniques for exploring archived data.

Unity | C# | Microsoft Kinect | Large Format Displays



- "The Road of Hyecho." Interactive installation at Gwangju Cultural Foundation, S. Korea, Dec. 2021. News
- "The Road of Ramayana." Interactive installation at Asia Culture Center, S. Korea, December 2020. YouTube News News
- 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

2014-2019 (4 yrs 9 mos) — **Research Assistant** — University of Minnesota – Minneapolis, MN

- Designed and developed 3D interactive tools to assist scientists with data analysis and presentation.
- Collaborated with teams from the U.S. National Forest Services and the Medical Device Center.

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

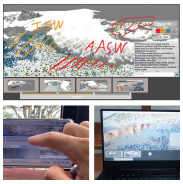
- **J. W. Nam**, K. McCullough, J. Tveite, M. M. Espinosa, C. H. Perry, B. T. Wilson, and D. F. Keefe, "Worlds-in-wedges: Combining worlds-in-miniature and portals to support comparative immersive visualization of forestry data," in *2019 IEEE conference on virtual reality and 3D user interfaces (VR)*, 2019, pp. 747–755. doi: 10.1109/VR.2019.8797871
  YouTube Presentation IEEE VR
- **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
- **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

Summer 2018
(3 mos)

Research Intern — INRIA – Saclay, France

• Developed frameworks for data storytelling and collaboration across different devices (web, mobile, PC).

Unity | C# | PHP | MySQL



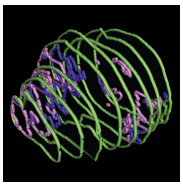
› **J. W. Nam**, T. Isenberg, and D. F. Keefe, "V-mail: 3d-enabled correspondence about spatial data on (almost) all your devices," *IEEE Transactions on Visualization and Computer Graphics*, vol. 30, no. 4, pp. 1853–1867, 2024. doi: 10.1109/TVCG.2022.3229017
YouTube

2011-2014
(3 yrs 3 mos)

Programmer — University of Minnesota – Minneapolis, MN

• Developed a Java-based image processing application for assembling scanned pathology images and annotating cancer boundaries.

Java | Java3D



› E. Leng, J. C. Henriksen, A. E. Rizzardi, J. Jin, **J. W. Nam**, B. M. Brassuer, A. D. Johnson, N. P. Reder, J. S. Koopmeiners, S. C. Schmechel *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

› G. J. Metzger, C. Kalavagunta, B. Spilseth, P. J. Bolan, X. Li, D. Hutter, **J. W. Nam**, A. D. Johnson, J. C. Henriksen, L. Moench *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

Conference 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.

Education

2014-2022 — **Ph.D., Computer Science** — University of Minnesota – Minneapolis, MN
- Advisor: Daniel F. Keefe
- 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

Skills & Certifications

Programming Languages	Advanced - C# Intermediate - C++, Python
Development Tools	Advanced - Unity, Git Intermediate - CMake, OpenMP, Docker, Visual Studio Code
3D Tracking Systems	OptiTrack, Microsoft Kinect, Leap Motion
Display Technologies	HMD VR, CAVE VR, Projection-based AR, Cluster-driven Wall Displays