JUNG WHO NAM

jungwhonam@gmail.com

EDUCATION

2014 – Aug 2022 (expected) **Ph.D., Computer Science** **University of Minnesota** – **Minneapolis, MN**
- Advisor: Daniel F. Keefe
- Specializations: Data Visualization, Mixed Reality, Data Storytelling

2012 – 2014 **M.S., Computer Science** **University of Minnesota** – **Minneapolis, MN**
- Specializations: Computer Graphics, Mixed Reality

2008 – 2012 **B.S., Computer Science** **University of Minnesota** – **Minneapolis, MN**
- Specializations: Computer Graphics, User Interfaces

SKILLS

Programming Languages: C#, Java, C++, HLSL/Cg, JavaScript, CSS, HTML, PHP, TypeScript

Development Tools: Unity3D, OpenGL, Processing, Three.js, D3.js, Google MediaPipe, OpenCV

Interaction Platforms: HTC Vive, Oculus Rift, Google Cardboard, Kinect, OptiTrack

Software: Blender, Photoshop, Illustrator, Shotcut (an open-source video editing software)

RESEARCH EXPERIENCE

2019 – Nov 2021 (in replacement of mandatory army service) **Researcher** **Gwangju Institute of Science and Technology** – **Gwangju, S. Korea**
Korea Culture and Technology Institute (KCTI)
- Developed an interactive authoring tool capturing a live dance performance.
- Designed and developed a gesture-based installation for museums to present their archived heritage data to visitors, which was showcased at the Asia Culture Center during 2020 Art Culture Week

2014 – Present **Research Assistant** **University of Minnesota** – **Minneapolis, MN**
Interactive Visualization Lab (IVLab)
- Focuses on building novel interactive systems for experts in scientific, medical, and cultural heritage fields to analyze and present their data.
- Collaboration with **the Center for Spirituality and Healing**: Developed a mobile virtual reality application to practice mindfulness techniques to mitigate lower-back pains.
- Collaboration with **the US National Forest Services**: Developed mobile & desktop virtual reality applications to tour and analyze data-driven forests in the U.S.
- Collaboration with **the Medical Device Center**: Developed prototypes for using 3D printed props for interacting with medical data.
- Developed Unity3D plugins for using 3DUI techniques in different display devices, e.g., a 4-wall CAVE, TUIO multi-touch table, 3D TVs.

Summer 2018 **Research Intern** **INRIA – Scalay, France**
Analysis and Visualization Lab (AVIZ)

- Investigated ways to leverage storytelling and lightweight communication between devices for science collaboration.
- Designed and implemented interactive techniques for creating lightweight data-driven presentations from exploratory data visualization software.
- Developed platform-specific applications to exchange and collaborate around the created presentations in different devices, e.g., in PC, Mobile, Web.

2011 – 2014 **Programmer** **University of Minnesota** – **Minneapolis, MN**
Center for Magnetic Resonance Research (CMRR)

- Developed a Photoshop-like JAVA application to assist pathologists with assembling scanned tissue images into a complete organ and annotating cancer boundaries.
- Integrated Java3D to view drawn cancer boundaries in 3D and implemented corresponding interaction functionalities.

TEACHING EXPERIENCE

Spring 2018 **Teaching Assistant** **University of Minnesota** – **Minneapolis, MN**
Course: CSCI 4611 Programming Interactive Computer Graphics and Games

- Provided feedback and guidance to students on their in-class projects.

Spring 2015 **Teaching Assistant** **University of Minnesota** – **Minneapolis, MN**
Course: CSCI 5609 Visualization

- Developed new student projects for junior-level visualization class.
- Provided feedback and guidance to students on their in-class projects.

PUBLICATIONS

- **Jung Who Nam**, Krista McCullough, Joshua Tveite, Maria M. Espinosa, Charles H. Perry, Barry T. Wilson, Daniel F. Keefe. "Worlds-in-Wedges: Combining WIMs and Portals to Support Comparative Immersive Visualization of Forestry Data". IEEE VR, Mar 2019. https://www.youtube.com/watch?v=okRE3JHs4SE
- Ethan Leng, Jonathan C Henriksen, Anthony E Rizzardi, Jin Jin, **Jung Who Nam**, Benjamin M Brassuer, Andrew D Johnson, Nicholas P Reder, Joseph S Koopmeiners, Stephen C Schmechel, Gregory J Metzger, "Signature maps for automatic identification of prostate cancer from colorimetric analysis of H&E-and IHC-stained histopathological specimens". Nature Scientific Reports, May 2019
- **Jung Who Nam** & Daniel F. Keefe. "Spatial Correlation: An Interactive Display of Virtual Gesture Sculpture". IEEE VIS Arts Program, 2014, also appeared in Leonardo Journal, Feb 2017
- Hamza Farooq, Junqian Xu, **Jung Who Nam**, Daniel F. Keefe, Essa Yacoub, Tryphon Georgiou & Christophe Lenglet. "Microstructure Imaging of Crossing (MIX) White Matter Fibers from diffusion MRI". Nature Scientific Reports, Dec 2016
- Metzger, G. J., Kalavagunta, C., Spilseth, B., Bolan, P. J., Li, X., Hutter, D., **Nam, J.**, Johnson, A. D., Henricksen, J. C., Moench, L., Konety, B., Warlick, C. A., Schmechel, S. C. & Koopmeiners, J. S. "Detection of Prostate Cancer: Quantitative Multiparametric MR Imaging Models Developed Using Registered Correlative Histopathology". Radiology, June 2016

POSTERS

- **(Best Poster Award) Jung Who Nam**, Charles H. Perry, Barry T. Wilson, Daniel F. Keefe, “Linked View Visualization Using Clipboard-Style Mobile VR: Application to Communicating Forestry Data”. IEEE VIS, 2019
  https://www.youtube.com/watch?v=vhv6tA6IIUk
- Narae Park, Yohan Hong, Hyunjeong Pak, **Jung Who Nam**, Kyoungsu Kim, Junbom Pyo, Kyungwon Gil, Kyoobin Lee, "Effects of Age and Motivation for Visiting on AR Museum Experiences”. VRST, 2019
- Marcos Molina, Jason A. Grafft, Jon Chaika, **Jung Who Nam**, Matthew Quast, Co Duong, Alex Otto, Nicolas Newman, Robert Acton, Mojca Konia, “Increasing Survival of Health Care Personnel during an Active Shooter Attack: Establishing Face Validity of an Interactive Simulation Training as a Better Teaching Modality”. American College of Surgeons (ACS) conference, 2017
- Daniel F. Keefe, Gert Bronfort, Roni Evans, Alex Haley, Joseph Jolton, Francis J. Keefe, Lana Yarosh, Anna Tarberko, **Jung Who Nam**, Linda Hanson, Haiwei Ma. “VR for Health: Patient-Specific Virtual Reality Environments for Mindfulness-Based Healing”. University of Minnesota’s Institute for Engineering in Medicine (IEM) Workshop 2016
- **Jung Who Nam**, Chaitanya Kalavagunta, Stephen C. Dankbar, Johnathan Henricksen, Stephen C. Schmechel, Gregory J. Metzger. “JPStitch 2.0: a Software for Volumetric Reconstruction and Analysis of Digitized Pathology”. Donald Gleason Conference 2013