

Anjul Patney

Senior Manager, AI for Gaming Research, NVIDIA

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Summary

Applied Research leader in the area of AI for computer graphics and gaming. I have invented and productized several ground-breaking technologies for real-time graphics (co-developed DLSS 4 and DLSS for Nintendo Switch 2, Project G-Assist, RTX HDR, RTX Dynamic Vibrance, DLSS 1), perceptual metrics for image quality (FovVideoVDP), foveated rendering for VR, and VR redirected walking. I am open to speaking about leadership positions in these or related areas.

Education

2007–2013 **PhD/MS in Electrical and Computer Engineering**
University of California, Davis

2003–2007 **Bachelor of Technology in Electrical Engineering**
Indian Institute of Technology Delhi

Experience

2023– **Senior Manager, AI for Gaming, NVIDIA** *Redmond, WA*

- Leading applied research in AI for Gaming at NVIDIA
- Inventing and prototyping novel AI methods to improve future video games
- Co-developed Project G-Assist, DLSS 4 Super Resolution, and DLSS for Nintendo Switch 2

2021–2023 **Principal Research Scientist, NVIDIA** *Redmond, WA*

- Research in the area of visual perception, machine learning for computer graphics and e-sports
- Co-invented RTX HDR and RTX Dynamic Vibrance real-time AI filters for video games

2019–2021 **Research Scientist, Facebook Reality Labs** *Redmond, WA*

- Leading research to build power-efficient and perceptually-optimized neural image reconstruction for future mobile AR/VR experiences
- Leading academic collaborations to develop perceptual image- and video-quality metrics
- Co-invented FovVideoVDP, a perceptual image-quality metric

2015–2019 **Senior Research Scientist, NVIDIA** *Redmond, WA*

- Conducted research in using neural networks to improve image quality as well as performance of real-time computer graphics
- Co-invented DLSS: a real-time neural supersampling technique for interactive applications; and core member of team responsible for deploying it into multiple AAA video game titles
- Invented approaches for using visual perception to accelerate virtual-reality rendering and to improve efficiency of redirected walking
- Participated in the computer graphics academic community through publications, demos, courses, and conference leadership

2013–2015 **Research Scientist, NVIDIA** *Redmond, WA*

- Built algorithmic and architectural solutions for real-time object-space shading in next-generation GPUs
- Involved in deployment of research projects into hardware and software products

2007–2013 **Graduate Student Researcher, University of California** *Davis, CA*

- Proposed Piko, an abstraction to help design flexible, efficient and portable graphics systems
 - Designed algorithms to accelerate cinematic-quality computer graphics using GPU Computing
 - Designed GPU algorithms for high-performance software caching, parallel task management and Poisson-disk sampling
- 2010 **Summer Intern, NVIDIA Research** Santa Clara, CA
- Developed a novel architecture for programmable polygon rasterization in future GPUs
- 2009 **Summer Intern, NVIDIA Research** Santa Clara, CA
- Working with Chief Scientist Bill Dally, proposed compiler-assisted optimizations to avoid bank conflicts in large register files
- 2008 **Graduate Technical Intern, Intel** Santa Clara, CA
- Designed and deployed tools for performance evaluation of Intel Larrabee Architecture
- 2006 **Summer Intern, NVIDIA** Bangalore, India
- Developed verification and FPGA test tools for a Media and Communications Processor

Publications

- 2025 Niall L. Williams, Anatolii Evdokimov, Budmonde Duinkharjav, Anjul Patney, Qi Sun, Jae-Hyun Jung, Ruth Rosenholtz, "Detection of artifacts in clean and corrupted video pairs is influenced by artifact type and presentation modality," *Journal of Vision* 2025;25(9):2256
- 2023 Budmonde Duinkharjav, Benjamin Liang, Anjul Patney, Rachel Brown, Qi Sun, "The Shortest Route Is Not Always the Fastest: Probability-Modeled Stereoscopic Eye Movement Completion Time in VR," *ACM Transactions on Graphics* 42(6) (Proceedings of ACM SIGGRAPH Asia 2023)
- 2023 Yazhou Xing, Amrita Mazumdar, Anjul Patney, Chao Liu, Hongxu Yin, Qifeng Chen, Jan Kautz, Iuri Frosio "Online Overexposed Pixels Hallucination in Videos with Adaptive Reference Frame Selection," arXiv:2308.15462
- 2023 Rahul Singh, Muhammad Huzaifa, Jeffrey Liu, Anjul Patney, Hashim Sharif, Yifan Zhao, Sarita Adve, "Power, Performance, and Image Quality Tradeoffs in Foveated Rendering," *IEEE Conference on Virtual Reality*
- 2022 **(Best Paper award)** Budmonde Duinkharjav, Praneeth Chakravarthula, Rachel Brown, Anjul Patney, Qi Sun, "Image Features Influence Reaction Time: A Learned Probabilistic Perceptual Model for Saccade Latency," *ACM Transactions on Graphics (SIGGRAPH)*
- 2022 (Invited Paper) Qi Sun, Budmonde Duinkharjav, Anjul Patney, "Modeling and Optimizing Human-in-the-Loop Visual Perception Using Immersive Displays: A Review," *SID Symposium Digest of Technical Papers*
- 2022 Meixu Chen, Todd Goodall, Anjul Patney, Alan C. Bovik, "Learning to compress videos without computing motion," *Signal Processing: Image Communication*
- 2021 Yize Jin, Todd Goodall, Anjul Patney, Richard Webb, Alan C. Bovik, "A foveated video quality assessment model using space-variant natural scene statistics," *IEEE International Conference on Image Processing*
- 2021 Yize Jin, Anjul Patney, Alan C. Bovik, "Evaluating Foveated Video Quality Using Entropic Differencing," *Picture Coding Symposium*
- 2021 Meixu Chen, Todd Goodall, Anjul Patney, Alan C. Bovik, "MOVI-Codec: Deep Video Compression without Motion," *Picture Coding Symposium*
- 2021 (arXiv Preprint) Yize Jin, Anjul Patney, Richard Webb, Alan C. Bovik, "FOVQA: Blind Foveated Video Quality Assessment," arXiv:2106.13328
- 2021 Gyorgy Denes, Anjul Patney, Gizem Rufo, Alexandre Chapiro, Anton Kaplanyan, Romain Bachy, Tr-

- isha Lian, Rafal Mantiuk, "*FovDots: Foveated rendering dataset*," Dataset to accompany the FovVideoVDP paper
- 2021 Rafał K. Mantiuk, Gyorgy Denes, Alexandre Chapiro, Anton Kaplanyan, Gizem Rufo, Romain Bachy, Trisha Lian, and Anjul Patney, "*FovVideoVDP: A Visible Difference Predictor for Wide Field-of-view Video*," ACM Transactions on Graphics (SIGGRAPH)
- 2021 Yize Jin, Meixu Chen, Todd Goodall, Anjul Patney, and Alan C. Bovik, "*Subjective and Objective Quality Assessment of 2D and 3D Foveated Video Compression in Virtual Reality*," IEEE Transactions on Image Processing
- 2020 Weili Nie, Tero Karras, Animesh Garg, Shoubhik Debnath, Anjul Patney, Ankit B. Patel and Anima Anandkumar, "*Semi-Supervised StyleGAN for Disentanglement Learning*," International Conference in Machine Learning (ICML)
My contribution was the Falcor3D dataset
- 2020 Jon Hasselgren, Jacob Munkberg, Marco Salvi, Anjul Patney and Aaron Lefohn, "*Neural Temporal Adaptive Sampling and Denoising*," Computer Graphics Forum (Eurographics)
- 2020 (Book Chapter) Gordon Wetzstein, Anjul Patney, and Qi Sun, "*State of the Art in Perceptual VR Displays*," Real VR – Immersive Digital Reality: How to Import the Real World into Head-Mounted Immersive Displays (Lecture Notes in Computer Science)
- 2020 (Book Chapter) Qi Sun, Anjul Patney, and Frank Steinicke, "*Redirected Walking in VR*," Real VR – Immersive Digital Reality: How to Import the Real World into Head-Mounted Immersive Displays (Lecture Notes in Computer Science)
- 2019 (Technical Report) Marcus A. Magnor and Alexander Sorkine-Hornung, "*Real VR - Importing the Real World into Immersive VR and Optimizing the Perceptual Experience of Head-Mounted Displays*," Dagstuhl Seminar 19272
- 2018 Anjul Patney and Aaron Lefohn, "*Detecting Aliasing Artifacts in Image Sequences Using Deep Neural Networks*," High-Performance Graphics
- 2018 Qi Sun, Anjul Patney, Li-Yi Wei, Omer Shapira, Jingwan Lu, Paul Asente, Suwen Zhu, Morgan McGuire, David Luebke and Arie Kaufman, "*Towards Virtual Reality Infinite Walking: Dynamic Saccadic Redirection*," ACM Transactions on Graphics (SIGGRAPH)
- 2018 Scott A. Mitchell, Mohamed S. Ebeida, Muhammad A. Awad, Chonhyon Park, Anjul Patney, Ahmad A. Rushdi, Laura P. Swiler, Dinesh Manocha and Li-Yi Wei, "*Spoke-Darts for High-Dimensional Blue Noise Sampling*," ACM Transactions on Graphics
- 2017 **(Best Paper award)** Rachel Albert, Joohwan Kim, Anjul Patney and David Luebke, "*Latency Requirements for Foveated Rendering in Virtual Reality*," ACM Transactions on Applied Perception (Symposium on Applied Perception)
- 2017 **(Best Paper award)** Christoph Schied, Anton Kaplanyan, Chris Wyman, Anjul Patney, Chakravarty R. Alla Chaitanya, John Burgess, Shiqiu Liu, Carsten Dachsbacher, Aaron Lefohn, and Marco Salvi "*Spatiotemporal Variance-Guided Filtering: Real-Time Reconstruction for Path-Traced Global Illumination*," High-Performance Graphics
- 2016 Anjul Patney, Marco Salvi, Joohwan Kim, Anton Kaplanyan, Chris Wyman, Nir Benty, David Luebke, and Aaron Lefohn, "*Towards Foveated Rendering for Gaze-Tracked Virtual Reality*," ACM Transactions on Graphics (SIGGRAPH Asia)
- 2016 **(Best Paper award)** Anton Kaplanyan, Stephen Hill, Anjul Patney, and Aaron Lefohn, "*Filtering Distributions of Normals for Shading Antialiasing*," High-Performance Graphics
- 2015 Anjul Patney, Stanley Tzeng, Kerry A. Seitz, Jr., and John D. Owens, "*Piko: A Framework for Authoring Programmable Graphics Pipelines*," ACM Transactions on Graphics (SIGGRAPH)

- 2014 (Book Chapter) Mohamed S. Ebeida, Scott A. Mitchell, Anjul Patney, Andrew A. Davidson, Stanley Tzeng, Muhammad A. Awad, Ahmed H. Mahmoud, and John D. Owens, "*Exercises in High-Dimensional Sampling: Maximal Poisson-disk Sampling and k-d Darts*," Topological and Statistical Methods for Complex Data – Tackling Large-Scale, High-Dimensional, and Multivariate Data Sets
- 2014 Mohamed S. Ebeida, Anjul Patney, Scott A. Mitchell, Keith R. Dalbey, Andrew A. Davidson, and John D. Owens, "*k-d Darts: Sampling by k-Dimensional Flat Searches*," ACM Transactions on Graphics
- 2013 Anjul Patney, "*Programmable Graphics Pipelines*," Ph.D. Dissertation, University of California at Davis
- 2012 Stanley Tzeng, Anjul Patney, Andrew A. Davidson, Mohamed S. Ebeida, Scott A. Mitchell, and John D. Owens, "*High-Quality Parallel Depth-of-Field Using Line Samples*," High-Performance Graphics
- 2012 Mohamed S. Ebeida, Scott A. Mitchell, Anjul Patney, Andrew Davidson, and John D. Owens, "*A Simple Algorithm for Maximal Poisson-Disk Sampling in High Dimensions*," Computer Graphics Forum (Eurographics)
- 2011 Mohamed S. Ebeida, Anjul Patney, Scott A. Mitchell, Andrew Davidson, Patrick M. Knupp and John D. Owens, "*Efficient Maximal Poisson-Disk Sampling*," ACM Transactions on Graphics (SIGGRAPH)
- 2010 Anjul Patney, Stanley Tzeng and John D. Owens, "*Fragment-Parallel Composite and Filter*," Computer Graphics Forum, (Eurographics Symposium on Rendering)
- 2010 **(HPG Test-of-time award)** Stanley Tzeng, Anjul Patney, and John D. Owens, "*Task Management for Irregular-Parallel Workloads on the GPU*," High-Performance Graphics
- 2010 Mohamed S. Ebeida, Anjul Patney, John D. Owens, and Eric Mestreau, "*Isotropic Conforming Refinement of Quadrilateral and Hexahedral Meshes using Two-Refinement Templates*," International Journal for Numerical Methods in Engineering
- 2009 Anjul Patney, Mohamed S. Ebeida and John D. Owens, "*Parallel View-Dependent Tessellation of Catmull-Clark Subdivision Surfaces*," High-Performance Graphics
- 2008 Anjul Patney and John D. Owens, "*Real-Time Reyes-Style Adaptive Surface Subdivision*," ACM Transactions on Graphics (SIGGRAPH Asia)
- 2008 B. V. N. Silpa, Anjul Patney, Tushar Krishna, Preeti Ranjan Panda, and G. S. Visweswaran, "*Texture Filter Memory – A Power-Efficient and Scalable Texture Memory Architecture for Mobile Graphics Processors*," IEEE/ACM International Conference on Computer-Aided Design
- 2008 Mark Silberstein, Assaf Schuster, Dan Geiger, Anjul Patney, and John D. Owens, "*Efficient Computation of Sum-Products on GPUs Through Software-Managed Cache*," ACM International Conference on Supercomputing

Fellowships and Awards

- 2019 2010 Test-of-time Award, High-Performance Graphics
- 2017 Best Paper Award, Symposium on Applied Perception
- 2017 Wolfgang Straßer Best Paper Award, High-Performance Graphics
- 2016 Laval Virtual Award, SIGGRAPH 2016 Emerging Technologies
- 2016 Wolfgang Straßer Best Paper Award, High-Performance Graphics
- 2014 Honorable mention, Zuhair A. Munir Award for best doctoral dissertation, UC Davis
- 2011 Intel Ph.D. Fellowship
- 2009, 2010 NVIDIA Research Fellowship

Patents

Granted

- 2025 *Remastering Lower Dynamic Range Content for Higher Dynamic Range Displays*
Shaveen Kumar, Anjul Patney, Eric Xu, Anton Moor
United States Patent 12,423,787
- 2024 *Remastering Lower Dynamic Range Content for Higher Dynamic Range Displays*
Shaveen Kumar, Anjul Patney, Eric Xu, Anton Moor
United States Patent 12,002,189
- 2024 *Neural network system with temporal feedback for denoising of rendered sequences*
Carl Jacob Munkberg, Jon Niklas Theodor Hasselgren, Anjul Patney, Marco Salvi, Aaron Eliot Lefohn,
Donald Lee Brittain
United States Patent 11,861,811
- 2023 *Detecting visual artifacts in image sequences using a neural network model*
Anjul Patney, Aaron Eliot Lefohn
United States Patent 11,836,597
- 2023 *Adaptive sampling of images*
Anjul Patney, Anton S. Kaplanyan, Todd Goodall
United States Patent 11,645,761
- 2023 *Processing stereo images with a machine-learning model*
Anjul Patney, Anton S. Kaplanyan, Todd Goodall
United States Patent 11,644,685
- 2023 *Neural network system with temporal feedback for denoising of rendered sequences*
Carl Jacob Munkberg, Jon Niklas Theodor Hasselgren, Anjul Patney, Marco Salvi, Aaron Eliot Lefohn,
Donald Lee Brittain
United States Patent 11,557,022
- 2022 *Neural network system with temporal feedback for adaptive sampling and denoising of rendered sequences*
Carl Jacob Munkberg, Jon Niklas Theodor Hasselgren, Anjul Patney, Marco Salvi, Aaron Eliot Lefohn,
Donald Lee Brittain
United States Patent 11,475,542
- 2022 *Efficient motion-compensated spatiotemporal sampling*
Anjul Patney, Jamorn Sriwasansak, Todd Goodall, Anton S. Kaplanyan
United States Patent 11,430,085
- 2022 *Blue Noise Mask for Video Sampling*
Todd Goodall, Anton S. Kaplanyan, Anjul Patney, Jamorn Sriwasansak, Thomas Sebastian Leimkuh-
ler
United States Patent 11,386,532
- 2022 *Calibrated sensitivity model approximating the eye*
Todd Goodall, Anjul Patney, Trisha Lian, Romain Bachy, Gizem Rufo
United States Patent 11,354,575
- 2021 *Saccadic redirection for virtual reality locomotion*
Qi Sun, Anjul Patney, Omer Shapira, Morgan McGuire, Aaron Eliot Lefohn, David Patrick Luebke
United States Patent 10,922,876
- 2020 *Performing spatiotemporal filtering*
Christoph H. Schied, Marco Salvi, Anton S. Kaplanyan, Aaron Eliot Lefohn, John Matthew Burgess,
Anjul Patney, Christopher Ryan Wyman
United States Patent 10,600,167
- 2020 *Path planning for virtual reality locomotion*

- Qi Sun, Anjul Patney, Omer Shapira, Morgan McGuire, Aaron Eliot Lefohn, David Patrick Luebke
United States Patent 10,573,071
- 2020 *Saccadic redirection for virtual reality locomotion*
Qi Sun, Anjul Patney, Omer Shapira, Morgan McGuire, Aaron Eliot Lefohn, David Patrick Luebke
United States Patent 10,573,061
- 2019 *Perceptually-based foveated rendering using a contrast-enhancing filter*
Anjul Patney, Marco Salvi, Joohwan Kim, Anton S. Kaplanyan, Christopher Ryan Wyman, Nir Benty,
David Patrick Luebke, Aaron Eliot Lefohn
United States Patent 10,438,400
- 2019 *Method for data reuse and applications to spatio-temporal supersampling and de-noising*
Marco Salvi, Anjul Patney, Aaron Eliot Lefohn
United States Patent 10,362,289
- 2018 *Method for data reuse and applications to spatio-temporal supersampling and de-noising*
Marco Salvi, Anjul Patney, Aaron Eliot Lefohn
United States Patent 10,116,916
- 2018 *Frustum tests for sub-pixel shadows*
Christopher Ryan Wyman, Aaron Eliot Lefohn, Anjul Patney
United States Patent 10,055,883
- 2017 *System, method, and computer program product for shading using a dynamic object-space grid*
Anjul Patney, Eric B. Enderton, Eric B. Lum, Marco Salvi, Christopher Ryan Wyman, Yubo Zhang,
Yong He, G. Evan Hart JR., Kayvon Fatahalian, Yury Uralsky, Henry Packard Moreton, and Aaron
Eliot Lefohn
United States Patent 9,754,407
- 2017 *System, method, and computer program product for performing object-space shading*
Anjul Patney, Eric B. Enderton, Eric B. Lum, Marco Salvi, Christopher Ryan Wyman, Yubo Zhang,
Yong He, G. Evan Hart JR., Kayvon Fatahalian, Yury Uralsky, Henry Packard Moreton, and Aaron
Eliot Lefohn
United States Patent 9,747,718
- 2014 *Coverage Caching*
Michael C. Shebanow and Anjul Patney
United States Patent 8,860,742
- 2014 *Conflict-Free Register Allocation*
Anjul Patney and William J. Dally
United States Patent 8,832,671
- 2013 *Conflict-free register allocation using a multi-bank register file with input operand alignment*
Anjul Patney and William J. Dally
United States Patent 8,555,035

Pending

- 2025 *Model-based processing to reduce reaction times for content streaming systems and applications*
Anjul Patney, Amrita Mazumdar, Andrew Ian Russell, Kumaresan Gnanasekaran, Seth Schneider,
Rachel Brown, Roland Tarrazo, Shishir Goyal, Ankan Banerjee, Jason Mawdsley, Ariel Juan Bernal,
Guillermo Siman
United States Patent Application 18/800,563
- 2023 *Temporally stable data reconstruction with an external recurrent neural network*

Marco Salvi, Anjul Patney, Aaron Eliot Lefohn, Donald Lee Brittain
United States Patent Application 18/225,674

2020 *Attribute-aware image generation using neural networks*

Weili Nie, Tero Tapani Karras, Animesh Garg, Shoubhik Debnath, Anjul Patney, Anima Anandkumar

United States Patent Application 16/925,085

2020 *Microtraining for iterative few-shot refinement of a neural network*

Anjul Patney, Brandon Lee Rowlett, Yinghao Xu, Andrew Leighton Edelsten, Aaron Eliot Lefohn

United States Patent Application 16/818,266

Talks, Courses & Demos

2021 *Visual Perception and Pixels*

Anjul Patney

- Guest Lecture at the NYU Tandon School of Engineering, Brooklyn, New York

2021 *Peripheral Perception and Pixels*

Anjul Patney

- Invited talk at the VECG Seminar at University College London, London, UK (virtual)

2019 *Towards Deep Real-time Rendering for Mixed Reality*

Anjul Patney

- Invited talk at Dagstuhl Seminar 19272 (Real VR - Importing the Real World into Immersive VR and Optimizing the Perceptual Experience of Head-Mounted Displays), Dagstuhl, Germany

2019 *Truly Next-Gen: Adding Deep Learning to Games & Graphics*

Andrew Edelsten, Paula Jukarainen, Anjul Patney

- Talk at GDC 2019, San Francisco, CA

2018 *Towards Virtual Reality Infinite Walking: Dynamic Saccadic Redirection*

- Demo and Talk at GTC 2018, San Jose, CA

2018 *Applications of Vision Science to Virtual and Augmented Reality*

Anjul Patney, Femke van Beek, Joohwan Kim, Robert Konrad, Frank Steinicke, and Martin S. Banks

- ACM SIGGRAPH 2018 Course, Vancouver, Canada

2017 *Applications of Visual Perception to Virtual Reality Rendering*

Anjul Patney, Marina Zannoli, George-Alex Koulieris, Joohwan Kim, Gordon Wetzstein, Frank Steinicke

- ACM SIGGRAPH 2017 Course, Los Angeles, CA

2017 *Perceptual Insights into Foveated Virtual Reality*

- Demo and Talk at GTC 2017, San Jose, CA
- Recap at SIGGRAPH 2017, Los Angeles, CA

2017 *Perceptually-Based Foveated Virtual Reality*

Anjul Patney, Joohwan Kim, Marco Salvi, Anton Kaplanyan, Chris Wyman, Nir Benty, Aaron Lefohn, David Luebke

- Demo at Laval Virtual 2017, Laval, France
- Demo at ACM SIGGRAPH 2016 Emerging Technologies, Anaheim, CA

2009 *Real-Time Reyes: Analysis of a Programmable Rendering Pipeline*

- Invited talk at Crytek Academy, Frankfurt, Germany

2008 *Real-Time Reyes: Programmable Pipelines and Research Challenges*

- Course Talk at SIGGRAPH Asia 2008, Singapore

- 2008 *Real-Time Reyes-Style Adaptive Surface Subdivision*
- Microsoft Research, Redmond, WA
 - Invited talk at Berkeley Graphics Lunch, UC Berkeley, CA

Academic Activities

Chair Appointments

- 2022 Program Co-Chair and Student Competition Co-Chair, High-Performance Graphics
- 2018 Associate Editor, Proceedings of the ACM on Computer Graphics and Interactive Techniques
- 2018 Paper Co-Chair, ACM/Eurographics High Performance Graphics
- 2017 General Co-Chair, ACM/Eurographics High Performance Graphics
- 2016 Publicity Chair and *Simulation* Session Chair, I3D Symposium
- 2015–2016 Publicity Chair, ACM/Eurographics High Performance Graphics

Program / Paper / Award Committee Memberships

- 2022–2024 IEEE VR Significant New Researcher Award Committee
- 2022 Eurographics Symposium on Rendering
- 2020–2021 Pacific Graphics Paper Committee
- 2020 ACM Symposium on Eye Tracking Research and Applications Paper Committee
- 2016–2025 ACM/Eurographics High Performance Graphics Paper Committee
- 2019–2020 I3D Symposium Paper Committee

Dissertation Committee Memberships

- 2015 Srinath R., M.S. in CSE, IIIT, Hyderabad, India

Technical Paper Reviewing

- 2026 WACV
- 2025 SIGGRAPH, SIGGRAPH Asia, High Performance Graphics, SPIGM @ NeurIPS
- 2024 SIGGRAPH, SIGGRAPH Asia, High Performance Graphics
- 2023 SIGGRAPH, Eurographics, IEEE VR, Computer Graphics Forum
- 2022 SIGGRAPH, SIGGRAPH Asia, Eurographics Symposium on Rendering, Pacific Graphics, User Interface Software and Technology, International Symposium on Mixed and Augmented Reality, ICLR Workshop on Deep Generative Models for Highly Structured Data
- 2021 SIGGRAPH Asia, ACM Transaction on Graphics, Computer Graphics Forum, Pacific Graphics, High Performance Graphics, I3D Symposium
- 2020 SIGGRAPH, SIGGRAPH Asia, ACM Transaction on Graphics, Computer Graphics Forum, IEEE VR, Pacific Graphics, High Performance Graphics, I3D Symposium, ACM Symposium on Eye Tracking Research and Applications, NeurIPS SVRHM Workshop
- 2019 SIGGRAPH, SIGGRAPH Asia, IEEE VR, Eurographics, I3D Symposium
- 2018 SIGGRAPH, SIGGRAPH Asia, CHI, IEEE VR, I3D Symposium, PACM-IMWUT, ACM TACO
- 2017 SIGGRAPH, SIGGRAPH Asia, I3D Symposium
- 2016 SIGGRAPH, Computer Graphics Forum, Eurographics, I3D Symposium
- 2015 Journal of Parallel and Distributed Computing (JPDC), High Performance Graphics
- 2014 SIGGRAPH, High Performance Graphics, Pacific Graphics
- 2013 ACM Transactions on Graphics

- 2012 SIGGRAPH, SIGGRAPH Asia, and IEEE Transactions on Visualization and Computer Graphics
- 2011 SIGGRAPH Asia, and Eurographics Parallel Graphics and Visualization
- 2010 High Performance Graphics, SIGGRAPH Asia, and ACM Transaction on Graphics
- 2009 SIGGRAPH and Eurographics

Personal Projects

- 2014 **Ahkoncha** tinyurl.com/ahk-vid
Independent video game built for the Microsoft Kinect for Windows controller; Awarded second prize at the Microsoft Kinect v2 hackathon (Seattle), and first prize in the Microsoft "Ready, Set, NUI" contest

Teaching

- 2008 **EECS70: Assembly Language**
Teaching Assistant under Prof. Kent Wilken
University of California, Davis

Technical Skills

Languages

C/C++, Python, CUDA, HLSL/GLSL, HTML/CSS, \LaTeX

Computer Graphics

DirectX, OpenGL, Unity3D, Unreal Engine

Machine Learning

Pytorch, Keras, TensorFlow