PROF. ADITI MAJUMDER

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AREAS OF INTERESTS

Projection Based Augmented Reality (or Spatially Augmented Reality), Computer Visiion, VR/AR, Human Computer Interaction, Visualization, Computer Graphics, Image Processing, Human Perception

EXPERIENCE

Professor (2003-Present)
Department of Computer Science, University of California, Irvine (UCI), CA

Founder and CTO (2017-Present)
Summit Technology Laboratory (STL), Irvine, CA

IEEE Senior Member (2014 - Present)

Expert Legal Consultant (02/2023 - 04/2023)
IMS Legal Strategies, Pensacola, FL

Expert Consultant (2009-2010)
Disney Imagineering, Glendale, CA

Expert Consultant (2011)
Cubic Technologies, Orlando, FL

Expert Consulting Researcher (2016 - 2017)
Army Research Laoratories (ARL), Aberdeen Proving Ground, MD

Expert Consultant (2012)
Allosphere, UC Santa Barbara, CA

Expert Consultant (2005-2008)
Ostendo Technologies, Carlsbad, CA

Director (2010 - Present)
Visualization Laboratory, California Institue for Information Technology and Telecommunications (Calit2), UCI, CA

Director (2018 - Present)
Institute of Virtual Environments and Computer Games, UCI, CA

Graduate Student Research Fellow (2001-2003)
Mathematics and Computer Science Division, Argonne National Laboratory, Argonne, IL

Givens Associate (Summer 2001)
Mathematics and Computer Science Division, Argonne National Laboratory, Argonne, IL

Graduate Student Fellow (Summer 1999)
Bell Laboratories, Holmdel, NJ

EDUCATION

University of North Carolina at Chapel Hill
PhD in Computer Science (1996- 2003).
Thesis: *A Practical Framework to Achieve Perceptually Seamless Multi-Projector Displays*

Jadavpur University, Calcutta, India
B.E in Computer Science and Engineering (1992-1996)
Silver Medalist in the Engineering for Overall Academic Performance in Junior and Senior Years (1994-1996)
Gold Medalist in the Engineering for Overall Academic Performance in Freshman and Sophomore Years (1992-1994)

AWARDS

A16. *Leading Entrepreneur of the Year Nominee*, UCI Applied Innovation, 2022.
A15. *Entrepreneur of the Year Nominee*, UCI Applied Innovation, 2020.
A14. *Best Paper Award*, June 2015, 3DTV Conference
A13. *IEEE Service Award* , 2013
A12. *nVidia Academic Partner Award*, 2011.

A11. *CUDA Teaching Center* recognition for ICS from nVidia, 2011
A10. *Midcareer Research Award*, 2011, School of Information and Computer Science (ICS), UCI.
A9. *Best Paper Award*, June, 2010, IEEE/ACM Workshop on Projector Camera Systems.
A8. *Best Paper Award*, March, 2010, IEEE Virtual Reality.
A7. *Faculty Research Incentive Award*, 2009, ICS, UCI.
A6. *Runner Up for Best Paper Award*, October, 2009, IEEE Visualization.
A5. *NSF CAREER Award*, 2009.
A4. *Young Scientist of the Year*, 2002, Argonne National Laboratory.
A3. *Wallace Givens Fellow*, Summer 2001, Argonne National Laboratory.
A2. *Link Fellow*, 2000 – 2001.
A1. *Jagadish Bose National Science Talent Scholar (JBNSTS)*, India, 1992 – 1996.

PUBLICATIONS - 99 PAPERS, 10 PATENTS

Book

B2. Aditi Majumder and M. Gopi, "Introduction to Visual Computing: Core Concepts in Computer Vision, Graphics and Image Processing", CRC Press, February 2018.
B1. Aditi Majumder, Michael S. Brown, " Practical Multi-Projector Display Design", A. K. Peters, August, 2007.

Book Chapters

E2. Aditi Majumder, "Ubiquitous Displays", *Distributed Video Sensor Networks, Edited By B. Bhanu, C.V. Ravishankar, A. K. Roy Chowdhury, H. Aghajan, D. Terzopolous, 2011.*
E1. Aditi Majumder, "Computer Graphics Optique: Optical Superposition of Projected Computer Graphics", *Energy Simulation-Training, Ocean Engineering and Instrumentation, Research Papers of Link Foundation Fellows, Volume 2, Brian J. Thompson (Ed.), 2002*.

Refereed Journal Articles

J34. Mahdi A. Tehrani, Mohammad Twaha Ibrahim, Gopi Meenakshisundaram, Aditi Majumder, "3D Gamut Morphing for Non-Rectangular Multi-Projector Displays", *IEEE Transactions on Visualization and Computer Graphics, 2023*.
J33. Mohammad Twaha Ibrahim, Gopi Meenakshisundaram, Aditi Majumder "Deformable Projection Mapping of Deformable Stretchablen Materials Using Boundary Tracking", *Computer and Graphics, 2021*
J32. Mahdi Abbaspour Tehrani, M. Gopi, Aditi Majumder "Automated Projector Calibration and Registration for Arbitrarily Shaped Multi-Projector Systems", *IEEE Transactions on Visualization and Computer Graphics, 2019.*
J31. Yuqi Li, Aditi Majumder, Hao Zhang, M. Gopi, "Optimized Multi-Spectral Filter Array Based Imaging of Natural Scenes", *Sensors 18(4): 2018, pp. 1172*.
J30. Yuqi Li, Aditi Majumder, M. Gopi, Chong Wang, Jieyu Zhao, "Practical Radiometric Compensation for Projection Display on Textured Surfaces using a Multidimensional Model", *Computer Graphics Forum 37(2), 2018, pp. 365-375*.
J29. Min Lin, Aditi Majamder, "Study on Directional Eye Movements in Non-frontal Face Images for Eye-controlled Interaction", *Journal of the Society for Information Display, 2016*.
J28. Ke Li, Bo Yan, Jun Li, Aditi Majumder " Seam Carving Based Aesthetic Enhancements for Photos", *Signal Processing: Image Communications, 39(C), November 2015, pp. 509-516.*
J27. Yuqi Li, Aditi Majumder, Dongming Lu, M. Gopi, "Content-Independent Multi-Spectral Display Using Superimposed Projections", *Computer Graphics Forum, 34(2), May 2015, pp. 337-348*.
J26. Duy Qoc-Lai, Behzad Sajadi, Shan Jiang, Aditi Majumder, M. Gopi, "A Distributed Memory Hierarchy and Data Management for Interactive Scene Navigation and Modification on Tiled Display Walls", *IEEE Transactions on Visualization and Computer Graphics, 21(6), June, 2015, pp.714-729*.
J25. JoAnn Kuchera-Morin, Matthew Wright, Graham Wakefield, Charlie Roberts, Dennis Adderton, Behzad Sajadi, Tobias Hollerer, Aditi Majumder, "Immersive Full-Surround Multi-User System Design", *Computers and Graphics, vol. 40, pp. 10-21, 2014*
J24. Kiarash Amiri, Shih-Hsien Yang, Fadi Kurdahi, Magda El Zarki, Aditi Majumder, "Mobile Collaborative Video", *IEEE Transactions on Circuits and Systems for Video Technology, 2014*.
J23. Aditi Majumder, Behzad Sajadi, "Large Area Displays: The Changing Face of Visualization" *IEEE Computer, 46(5), May, 2013, pp. 26-33* **[Invited]**.
J22. Behzad Sajadi, Aditi Majumder, Manuel Menezes De Oliveira Neto, Rosalia G. Schneider, Ramesh Raskar, "Using Patterns to Encode Color Information in Dichromats", *IEEE Transactions in Visualization and Computer Graphics, 19(1), January 2013, pp. 118-129*.
J21. Behzad Sajadi, M. Gopi, Aditi Majumder, "Edge-Guided Resolution Enhancement in Projectors Via Optical Pixel Sharing", *ACM Transactions on Graphics, 31(4), article 79, 2012*.
J20. Dan Aliaga, Yu Hong Yeung, Alvin J. Law, Behzad Sajadi, Aditi Majumder, "Fast High-Resolution Appearance Editing Using Superimposed Projections", *ACM Transactions on Graphics, 31(2), article 13, 2012*
J19. Koel Das, Aditi Majumder, Monica Siegenthaler, Hans Keirstead, M. Gopi, "Automated Cell Classification and Visualization for Analyzing Remyelination Therapy", *The Visual Computer, 27(12), pp. 1055-1069, 2011*
J18. Behzad Sajadi, Aditi Majumder, "Auto-Calibration of Multi-Projector CAVE-like Immersive Environments", *IEEE Transactions on Visualization and Computer Graphics, 18(3), pp. 381-393, 2011*
J17. Alvin J. Law, Daniel Aliaga, Behzad Sajadi, Aditi Majumder, Zygmut Pizlo, "Perceptually Based Appearance Modification for Complaint Appearance Editing", *Computer Graphics Forum, 30(8), pp. 2288-2300, 2011.*

J16. Behzad Sajadi, Aditi Majumder, Kazuhiro Hiwada, Atsuto Maki, Ramesh Raskar, "Switchable Primaries Using Shiftable Layers of Color Filter Arrays", *ACM Transactions on Graphics, 30(4), article 65, 2011.*

J15. Behzad Sajadi, Aditi Majumder, "Automatic Registration of Multi-Projector Domes Using a Single Uncalibrated Camera", *Computer Graphics Forum, 30(3), pp. 1161-1170, 2011*.

J14. Behzad Sajadi, Aditi Majumder, "Auto-Calibrating Tiled Projectors On Piecewise Smooth Vertically Extruded Surfaces", *IEEE Transactions on Visualization and Computer Graphics, 17(9), pp. 1209-1222, 2011.*

J13. Pablo Roman, Maxim Lazarov, Aditi Majumder, "A Scalable Distributed Paradigm for Multi-User Interaction with Tiled Rear Projection Display Walls", *IEEE Transactions on Visualization and Computer Graphics, 16 (6), pp. 1623-1632, 2010*.

J12. Alvin J. Law, Daniel Aliaga, Aditi Majumder, "Projector Placement Planning for High Quality Visualizations on Real World Colored Objects", *IEEE Transactions on Visualization and Computer. Graphics, 16(6), 2010, pp. 1633-1641*..

J11. Behzad Sajadi, Aditi Majumder, "Scalable Multi-View Registration for Multi-Projector Displays on Vertically Extruded Surfaces", *Computer Graphics Forum, 29(3), pp.1063-1072, 2010*.

J10. Behzad Sajadi, Aditi Majumder, "Markerless View-Independent Registration of Multiple Distorted Projectors on Extruded Surfaces Using Uncalibrated Camera", *IEEE Transactions on Visualization and Computer Graphics, 15(6), pp. 1307-1316, 2009*. **Runner Up for Best Paper Award**.

J9. Behzad Sajadi, Maxim Lazarov, M. Gopi, Aditi Majumder, "Color Seamlessness in Multi-Projector Displays Using Constrained Gamut Morphing", *IEEE Transactions on Visualization and Computer Graphics, 15(6), pp. 1317-1326, 2009*.

J8. Aditi Majumder, Ezekiel Bhasker, Ray Juang, "Advances towards high-resolution pack-and-go displays: A survey", *Journal for the Society of Information Display (JSID), Special Issue for Selected papers from SID Symposium, 16(3), pp. 481-491, 2007*.

J7. Ezekiel Bhasker, Ray Juang, Aditi Majumder, "Registration Techniques for Using Imperfect and Partially Calibrated Devices in Planar Multi-Projector Displays", *IEEE Transactions on Visualization and Computer Graphics (TVCG), 13(6), pp. 1368-1375, 2007*.

J6. Aditi Majumder, Sandra Irani, "Perception Based Contrast Enhancement of Images, *ACM Transactions on Applied Perception, Vol. 4, No. 3, Article 17, November 2007* .

J5. Ezekiel Bhasker, Pinaki Sinha, Aditi Majumder, "Asynchronous Distributed Calibration for Scalable and Reconfigurable Multi-Projector Displays", *IEEE Transactions on Visualization and Computer Graphics, 12(5), pp 1101-1108, 2006*.

J4. Aditi Majumder, M. Gopi, "Modeling Color Properties of Tiled Displays", *Computer Graphics Forum, Vol. 24, No. 2, pp 149-163, June, 2005*.

J3. Michael Brown, Aditi Majumder, Ruigang Yang, "Camera Based Calibration Techniques for Seamless Multi-Projector Displays", *IEEE Transactions on Visualization and Computer Graphics, Vol. 11, No. 2, pp 193-206, March-April, 2005*

J2. Aditi Majumder, Rick Stevens, "Perceptual Photometric Seamlessness in Projection-Based Tiled Displays", *ACM Transactions on Graphics, Vol. 24, No. 1, pp 118-139, January 2005.*

J1. Aditi Majumder, Rick Stevens, "Color Non-Uniformity in Projection Based Displays: Analysis and Solutions", *IEEE Transactions on Visualization and Computer Graphics, Vol. 10, No. 2, pp 177-188, March-April, 2004.*

Refereed Conference Articles

C51. Muhammad Twaha Ibrahim, Gopi Meenakshisundaram, Aditi Majumder, "Self Calibrating Dynamic Projection Mapping System for Dynamic Deformable Surfaces with Jitter Control and Occlusion Handling", *International Symposium on Mixed and Augmented Reality(ISMAR), 2023* [32% acceptance].

C50. Sangyun Byun, Muhammad Twaha Ibrahim, Lohrasab Sayadi, Raj Vyas, Gopi Meenakshisundaram, Aditi Majumder, "Automated Landmark Detection for AR Based Craniofacial Surgical Assistance System", *AIVR 2022 Proceedings in Springer-Verlag Series on Smart Innovation, System andTechnologies (SIST), 2023.* [23% acceptance]

C49. Muhammad Twaha Ibrahim, M. Gopi and Aditi Majumder, "Projector-Camera Calibration on Dynamic, Deformable Surfaces", *IEEE Virtual Reality, March 2023*.

C48. Muhammad Twaha Ibrahim, M. Gopi, Raj Vyas, Lohrasb R. Sayadi and Aditi Majumder, "Projector Illuminated Precise Stencils on Surgical Sites, *IEEE Virtual Reality, March 2023.*

C47. Sarvesh Thakur, Meghana K. Urs, Muhammad Twaha Ibrahim, Alexander Sidenko, Aditi Majumder, "Ambient Light Tolerant Laser-Pen Based Interaction with Curved Multi-Projector Displays", *HCI International, June 2022*.

C46. Mohammad Twaha Ibrahim, Gopi Meenakshisundaram, Aditi Majumder "Deformable Projection Mapping of Deformable Stretchable Materials", ACM Virtual Reality Software and Technology June 2020.

C45. Mehdi Rahimzadeh, Hung Nguyen, Ardalan Amiri Sani, Fadi Kurdahi, Aditi Majumder, "Rectangular Stable Power-Aware Mobile Projection on Planar Surfaces", *ACM Siggraph Conference on Virtual Reality Continuum and its Application, Dec 2016*.

C44. Mahdi Abbaspour Tehrani, M. Gopi, Aditi Majumder, "Auto-Calibration of Multi-Projector Systems on Arbitrary shapes", *IEEE Applied Imagery and Pattern Recognition Workshop, Oct 2016*.

C43. Yuqi Li, Hao Zhang, M. Gopi, Aditi Majumder, "Computational Spectral Capture and Display", *IEEE Applied Imagery and Pattern Recognition Workshop: Imaging and Artificial Intelligence: Intersection and Synergy, Oct 2016.*

C42. Hung Nguyen, Fadi Kurdahi, Aditi Majumder, "Resource Aggregation for Collaborative Video from Multiple Projector enabled Mobile Devices", *ACM/IEEE Symposium on Embedded Systems and Real Time Multimedia, 2016.*

C41. Mahdi Abbaspour Tehrani, M. Gopi, Aditi Majumder, "Correcting Perceived Perspective Distortions Using Object Specific Planar Transformations", *International Conference on Computational Photography", 2016.*
C40. Behzad Sajadi, Mahdi Abbaspour Tehrani, Mehdi Rahimzadeh, Aditi Majumder, "High Resolution Lighting of 3D Reliefs Using a Network of Projectors and Cameras", *IEEE 3DTV Conference, 2015*, **Best Paper Award**
C39. Duy Qoc-Lai, Aditi Majumder, " Interactive Display Conglomeration on the Wall", *IEEE Virtual Reality Workshop on Everyday Virtual Reality:Rethinking Virtual Reality for Home and Office Environments (WEVR), 2015*.
C38. Kyle Cutler, Zachary DeStefano, Soroush M. Zarandi, Thomas D. O'Sullivan, Albert E. Cerussi, Gopi Meenakshisundaram, Aditi Majumder, Seung-ha Lee, Bruce J. Tromberg, "Real-time Mapping and Tracking of Optical Properties in Deep Tissue", *SPIE Photonics, Optical Tomography and Spectroscopy of Tissue XI, Feb 2015, paper 9319-58*.
C37. Mahdi Abbaspour Tehrani, Aditi Majumder, M. Gopi, "Undistorting Foreground Objects in Wide Angle Images", *International Symposium on Multimedia, 2013*.
C36. Il-Seok Oh, Jinseon Lee, Aditi Majumder, "Multi-scale Image Segmentation Using MSER", *Computer Analysis of Images and Patterns (CAIP), pp. 201-208, August 2013* .
C35. Behzad Sajadi, Duy-Quoc Lai, Alexander Iher, M. Gopi, Aditi Majumder, "Image Enhancement in Projectors Via Optical Pixel Shift and Overlay", *International Conference on Computational Photography (ICCP), pp. 1-10, April 2013* [25% acceptance].
C34. Sangwon Chen, M. Gopi, Aditi Majumder, "HD-GraphViz: Highly Distributed Graph Visualization on Tiled Displays", *Indian Conference on Vision, Graphics and Image Processing (ICVGIP), , article 43, Dec 2012.*
C33. Kiarash Amiri, Shih-Hsien Yang, Fadi Kurdahi, Magda El Zarki, Aditi Majumder, "Collaborative Video Playback on a Federation of Tiled Mobile Projectors enabled by Visual Feedback",*ACM Multimedia Systems, pp. 113-118, 2012*
C32. Kiarash Amiri, Shih-Hsien Yang, Fadi Kurdahi, Magda El-Zarki, Aditi Majumder, Camera Based Video Synchronization for a Federation of Mobile Projectors, *IEEE/ACM Workshop on Projector Camera Systems, pp. 44-51, June 2011*.
C31. Koel Das, Monica Siegenthaler, Aditi Majumder, Hans Keirstead, M. Gopi, "Automated Analysis of Remyelination Therapy for Spinal Cord Injury", *International Conference on Computer Vision, Graphics and Image Processing, pp. 314-321, December 2010* [27% acceptance].
C30. Behzad Sajadi, Aditi Majumder, "Automatic Registration of Multiple Projectors on Swept Surfaces", *ACM Virtual Reality and Software Technology, Hong Kong, pp. 159-166, November 2010*.
C29. Behzad Sajadi, Maxim Lazarov, Aditi Majumder, "ADICT: Accurate Direct and Inverse Color Transformation", *European Conference on Computer Vision (ECCV), Crete, Greece, Lecture Notes on Computer Science, vol. 6314, pp. 72-86, September 2010*.
C28. Aditi Majumder, Robert G. Brown, Hussein S. El-Ghoroury, "Display Gamut Reshaping for Color Emulation and Balancing", *IEEE/ACM Workshop on Projector-Camera Systems, San Francisco, pp. 17-24, June, 2010*, **Best Paper Award**
C27. Maxim Lazarov, Aditi Majumder, "Device-Independent Representation of Photometric Properties of a Camera", *IEEE/ACM Workshop on Projector-Camera Systems, San Francisco, pp. 41-48, June 2010*
C26. Behzad Sajadi, Aditi Majumder, "Auto-Calibration of Cylindrical Multi-Projector Systems", *Proceedings of IEEE Virtual Reality, Waltham, MA, March 2010, pp. 155-162*, **Best Paper Award.**
C25. Maxim Lazarov, Hamed Pirsiavash, Behzad Sajadi, Uddipan Mukherjee, Aditi Majumder, "Data Handling Displays", *IEEE/ACM Workshop on Projector Camera Systems, Miami, FL, pp. 24-30, June 2009.*
C24. Behzad Sajadi, Aditi Majumder, "P-35:Maintaining Color Consistency Across Non-Linear Devices," *SID Symposium Digest of Technical Papers, 40(1), pp. 1220-1222, San Antonio, TX, May 2009*.
C23. Hamed Pirsiavash, Vivek Singh, Aditi Majumder, Ramesh Jain, "Shared Visualization Spaces for Environment to Environment Communication", *Workshop on Media Arts, Science, and Technology (MAST), Santa Barbara, CA, Jan 2009*.
C22. Ezekiel Bhasker, Ray Juang, Aditi Majumder, "Advances Towards Next Generation Flexible Multi-Projector Displays", *ACM Siggraph Workshop on Emerging Display Technologies, San Diego, article 11, August, 2007.*
C21. Ezekiel Bhasker, Aditi Majumder, "Geometric Modeling and Calibration of Planar Multi-Projector Displays Using Rational Bezier Patches", *IEEE CVPR Workshop on Projector Camera Systems pp. 1-8, Minneapolis, MN, June 2007*.
C20. Ray Juang, Aditi Majumder, "Photometric Self-Calibration of a Projector-Camera System", *IEEE CVPR Workshop on Projector Camera Systems, pp. 1-8, Minneapolis, MN, June 2007*.
C19. Ezekiel Bhasker, Aditi Majumder, " Self Calibrating Tiled Displays", *SID Symposium Digest of Technical Papers, 38(1), pp. 23-26, Long Beach, May, 2007*.
C18. Pinaki Sinha, Ezekiel Bhasker, Aditi Majumder, "Mobile Display Via Distributed Networked Projector-Camera Systems", *IEEE CVPR Workshop on Projector Camera Systems, New York City, NY, June 2006.*
C17. Aditi Majumder, Sandra Irani "Contrast Enhancement of Images Using Human Contrast Sensitivity" *ACM Symposium on Applied Perception in Graphics and Visualization, pp 69-76, Boston, July 2006*
C16. Aditi Majumder, "Luminance Management for Seamless Multi-Projector Displays", *SID Symposium Digest of Technical Papers, Volume 36, Issue 1, pages 1506-1509, Boston, May 2005*.
C15. Kartic Subr, Aditi Majumder, Sandra Irani, "Greedy Algorithm for Local Contrast Enhancement of Images", *International Conference on Image Analysis and Processing (ICIAP), pp 171-179, Cagliari, Italy, Sep 2005*.
C13. Aditi Majumder, "Is Spatial Super-Resolution Feasible with Multiple Overlapping Projectors?", *Proceedings of*

IEEE International Conference on Audio, Speech and Signal Processing (ICASSP), Vol. 4, pp 209-212, PA, 2005.

C12. Aditi Majumder, "Camera Based Evaluation of Photometric Compensation Methods on Multi-Projector Displays ", *Proceedings of IEEE International Conference on Image Processing, pp 3527-3530, Singapore, 2004.*

C11. Michael S. Brown, Aditi Majumder, Ruigang Yang, "Camera Based Calibration Techniques for Seamless Multi-Projector Displays ", *Applications of Computer Vision Workshop, Proceedings of European Conference of Computer Vision, 2004.*

C10. Aditi Majumder, David Jones, Matthew McCrory, Michael E Papka, Rick Stevens, "Using a Camera to Capture and Correct Spatial Photometric Variation in Multi-Projector Displays", *IEEE International Workshop on Projector-Camera Systems,* 2003.

C9. Andrew Raij, Gennette Gill, Aditi Majumder, Herman Towles, Henry Fuchs, "PixelFlex2: A Comprehensive, Automatic, Casually-Aligned Multi-Projector Display" *IEEE International Workshop on Projector-Camera Systems*, 2003.

C8. Aditi Majumder and Rick Stevens, "Photometrically Continuous Imagery in Reconfigurable Large Area Displays", *3rd Annual High Information Content Display System Symposium,* 2003.

2002

C7. Aditi Majumder and Rick Stevens, "LAM: Luminance Attenuation Map for Photometric Uniformity Across Projection Based Displays", *ACM Virtual Reality Software and Technology, pp 147-154,* 2002

C6. Justin Binns, Gennette Gill, Mark Hereld, David Jones, Ivan Judson, Ti Leggett, Aditi Majumder, Matthew McCroy, Michael E. Papka, and Rick Stevens, "Applying Geometry and Color Correction to Tiled Display Walls", *IEEE Visualization,* 2002.

C5. Aditi Majumder, "Properties of Color Variation Across Multi-Projector Display", *SID Eurodisplay Digest, pp 807-810, Nice, France, July,* 2002.

C4. Aditi Majumder and M. Gopi, "Real Time Charcoal Rendering Using Contrast Enhancement Operators", *Symposium of Non Photorealistic Animation and Rendering, pp 59-66, Annecy, France, June*, 2002

C3. Aditi Majumder and Greg Welch, "Computer Graphics Optique: Optical Superposition of Projected Computer Graphics", *Eurographics Workshop on Virtual Environments/ Immersive Projection Technology, Stuttgart, Germany, May* 2001.

C2. Aditi Majumder, Zhu He, Herman Towles and Greg Welch, "Achieving Color Uniformity Across Multi-Projector Displays", *IEEE Visualization, pp 117-124, Salt Lake City, October,* 2000.

C1. Aditi Majumder, M. Gopi, Brent W. Seales and Henry Fuchs, "Geometric Stitching for Real-Time Panoramic Image Generation Using Texture Maps", *ACM Multimedia, pp 169-178, Orlando, October,* 1999

Patents/Artifacts

P11. Bruce J. Tromberg, Kyle Cutler, Chris Van Wagenen, Seung-ha Lee, Thomas O'Sullivan, Gopi Meenakshisundaram, Aditi Majumder, Albert Cerussi, "Motion Tracking Apparatus and Method", US Patent **11,160,470**, Nov 2021.

P10. Aditi Majumder, Kiarash Amiri, Shih-Hsien Yang, Magda El Zarki, Fadi Kurdahi, "Video frame synchronization for a federation of projectors using camera feedback", US Patent **9,218,061**, Dec 2015.

P9. Behzad Sajadi, Aditi Majumder, M. Gopi, "A Projector with Enhanced Resolution Via Optical Pixel Sharing", US Patent **9,183,771**, Nov 2015.

P8. Behzad Sajadi, Aditi Majumder, "Markerless Geometric Registration Of Multiple Projectors (With Or Without Distortions) On Cylindrical And Other Extruded Surfaces Using An Uncalibrated Camera", US Patent **9,195,121**, Nov 2015.

P7. Aditi Majumder, M. Gopi, Behzad Sajadi, "Color Seamlessness in Tiled Displays", US Patent **9,052,584**, June 2015.

P6. Behzad Sajadi, Aditi Majumder, "Augmented Reality Using Projector Camera Enabled Devices" US Patent **9,064,312**, June 2015.

P5. Aditi Majumder, "Scalable distributed/cooperative/collaborative paradigm for multi-user interaction with projection-based display walls", US Patent **8,872,799**, Oct, 2015.

P4. Hussein El-Ghoroury, Aditi Majumder, Robert G. Brown, " Hierarchical multicolor primaries temporal multiplexing system", US Patent **8,098,265**, Jan 2012.

P3. Aditi Majumder, Ezekiel Bhasker and Pinaki Sinha, "Apparatus and Method for Self Calibrating Multi-Projector Displays Via Plug and Play Projectors", US Patent **7,942,530**, May 2011.

P2. Aditi Majumder and Rick Stevens, "Method to Smooth Photometric Variation Across Multi-Projector Displays", US Patent **7,038,727**, May 2006.

P1. Aditi Majumder and Rick Stevens, "Optimal Luminance Smoothing to Achieve Color Seamlessness in Tiled Displays", Software artifact, Copyright June 10, 2005 (ANL software report ANL-SF-02-053)

Referred Demonstrations

D4. Muhammad Twaha Ibrahim and Aditi Majumder, "Spatially Augmented Reality on Non-rigid Dynamic Surfaces", *IEEE Virtual Reality, March 2023.*

D3. Aditi Majumder, Duy Quoc-Lai, Mahdi Abbaspour Tehrani, "A Multi-Projector Display System of Arbitrary Shape, Size and Resolution", *Emerging Technologies, ACM Siggraph, 2015.*

D2. Kiarash Amiri, Shih-Hsien Yang, Magda El-Zarki, Fadi Kurdahi, Aditi Majumder, "Camera-based Video Synchronization for a Federation of Mobile Projectors", *IEEE International Conference on Multimedia and Expo, 2011.*

D1. Jakub Segen, Aditi Majumder, Senthil Kumar and Joshua Gluckman, "Virtual Music and Dance Controlled by the Gestures of a Human Conductor", *Emerging Technologies, ACM SIGGRAPH* 1999.

Tutorials

T7. Aditi Majumder and Muhammad Twaha Ibrahim, "Towards Building Automated Non-Rigid Spatially Augmented Reality, *IEEE Virtual Reality, March 2023.*

T6. *Course Organizer:* Aditi Majumder and Behzad Sajadi, Buidling your own Projection Based VR Display System, *IEEE Virtual Reality, March 2010*.

T5. *Lecturer:* Aditi Majumder, Projectors for Graphics, ACM SIGGRAPH, 2008, (Course Organizer: Ramesh Raskar, Oliver Bimber)

T4. *Course Organizer:* Aditi Majumder and Michael S. Brown, Camera-Based Vision Techniques to Build Large-Area Multi-Projector Displays, *IEEE International Conference on Computer Vision and Pattern Recognition, June 2005*.

T3. *Course Organizer:* Aditi Majumder and Michael S. Brown, Camera-Based Techniques for Building Large-Area Multi-Projector Displays, *ECCV (European Conference on Computer Vision), May 2004.*

T2. *Course Organizer:* Aditi Majumder and Michael S. Brown, Building Large Area Displays, *Eurographics, Sep 2003*.

T1. *Course Organizer:* Aditi Majumder and Michael S. Brown, Large-Scale Displays for the Masses: Techniques for Building Affordable and Flexible Multi-Projector Displays, *ACM SIGGRAPH, July 2003*

Technical Reports

R3. Ray Juang, Maxim Lazarov, Aditi Majumder, "Efficient Estimation and Device-Independent Representation of Photometric Properties of a Projector-Camera Pair", *Technical Repor.t, UCI, 08-11, 2008.*

R2. Behzad Sajadi, Aditi Majumder, "Smoothing Spatial Chrominance Variation Across Tiled Displays", *Technical Report UCI, 08-04, 2008*

R1. Aditi Majumder, Robert Brown, Hussein El Ghoroury "Display Gamut Reshaping for Color Emulation and Balancing", *Technical Report UCI 08-04, 2008*

GRANTS AND CONTRACTS - $5.225M

DoD

G14. Immersive Dome Visualization of Real-Time 3D Space Data for Space Domain Operations and Training, *SpaceWERX*, **$1,250,000**, Feb 2024 - Nov 2025.

G13. Adaptive Projected Display on Dynamic Surface, *AFWERX*, **$1,250,000**, June 2022-Feb 2024.

G12. The Panalytics POD, *AFWERX*, **$800,000**, Jan 2022 - Apr 2023.

G11. The Decision POD, *AFWERX*, **$1,925,000**. June 2020 - Dec 2021.

G10. Hardware and Software Framework for Real-time Large-Scale Data Analytics, *Army Research Laboratories (ARL)*, **$360,000**, June 2016- Jun 2019.

NSF

G9. REAQTIVE - Resource Aggregation and Quality Tradeoffs for Integration of Video projector Ensembles, *EAGER in Cyber-Physical Systems (CPS)*, **$100,000**, Sep 2010- Sep 2011,

G8. Ubiquitous Displays Via a Distributed Framework, *CAREER*, **$637,000**, Sep 2009 - June 2013.

G7. Analysis of Solution Space for Achieving Ubiquitous Pixels, *SGER*, **$70,000**, Sep 2007 - June 2008.

UCI

G6. Multi-Investigator Seed Grant, *CORCLR*, **$10,000**, 2014-2015.

G5. Travel Grants, *CORCLR*, **$11,200**, 2006-2008, 2014-2015.

nVidia

G4. Donations for CUDA Teaching Center Facility at UCI, **$26,000**, 2011.

G3. GPU Donation, **$16,000**, 2011.

Canon

G2. Projector and Camera Donation, **$11,600**, 2009.

Epson

G1. Projector Donation, **$9,000**, 2008.

PRESENTATIONS - 5 KEYNOTES, 26 INVITED PRESENTATIONS

Keynotes

K31. International Conference on Advances in Computing, Communications and Informatics, *Mangalore, India*, Sep 2017

K30. ACM SIGGRAPH International Conference on Virtual-Reality Continuum and its Applications in Industry, *Zhuhai, China*, Dec 2016

K29. International Symposium on Multimedia, *Anaheim, California*, Dec 2013.

K28. Brazilian Symposium on Virtual Reality, *Rio de Janerio, Brazil*, May 2012.

K27. International Symposium on Visual Computing, *Las Vegas, USA*, Dec 2010.

Invited Speaker

K30. ACM Invited Distinguished Speaker Series, *Tyagarajar College of Engineering, Madurai, India*, Sep 2017.

K29. ACM Invited Distinguished Speaker Series, *Indian Institute of Information Technology and Management, Trivandrum, India*, Sep 2017.

K26. Panelist, The Future of Projector-Camera Systems, IEEE International Workshop on Projector Camera Systems (PROCAMS), *Marina Del Ray, CA*, 2008

K25. VR/AR for Internet of Things, Internet of Things, 2025, *Tel Aviv, Israel*, November, 2015

K24. Johannes Kepler University, Department of Computer Science, *Linz, Austria*, May 2010.

K23. Army Research Laboratories, *Adelphi and Aberdeen Proving Ground, MD*, Sep, 2016

K22. Mathematics and Computer Science Division, *Argonne National Laboratory, IL*, April 2015.

K21. Google, *Mountain View, CA*, Oct 2011.

K20. HP Research, *Palo Alto, CA*, Oct 2011.

K19. nVidia, *Santa Clara, CA*, October 2011.

K18. IEEE Chapter, *San Diego, CA*, Nov 2010.

K17. Qualcomm, *San Diego, CA*, Nov 2010.
K16. National University of Singapore, Computer Science Department, *Singapore*, Sep 2009
K15. University of California – Los Angeles, Department of Computer Science, *Los Angeles, CA*,Oct 2008
K14. Rochester Institute of Technology, Center for Imaging Science, *Rochester, NY*, Sep 2008
K13. Yale University, Computer Science Department, *New Haven, CT*, Sep 2008
K12. University of Utah, Scientific Computing and Imaging Institute, *Salt Lake City, UT*, Sep 2008
K11. University of California, Davis, SciDAC Institute for Ultrascale Visualization, *Davis, CA*,un 2008
K10. Northwestern University, EECS Department, *Evanston, IL*, May 2008
K9. University of Maryland at College Park, Computer Science Dept, *College Park, MD*, May 2008
K8. Purdue University, Computer Science Dept, *West Lafayette, IN*, May, 2008
K7. Jadavpur University, *Kolkata, India*, Dec 27, 2007.
K6. MIT Media Labs, *Cambridge, MA*, May 27, 2005.
K5. Mitsubishi Electric Research Laboratory (MERL), *Cambridge, MA*, May 27, 2005.
K4. MICS Seminar at Department of Energy (DOE), *Washington DC*, Feb 25, 2004
K3. University of Maryland at College Park, Computer Science Dept, *College Park, MD*, October 2003.
K2. Surgical Simulation Center, *Washington DC*, October 2003.
K1. Indian Institute of Technology (IIT), *Kharagpur, India*, October, 2003.

OTHER PROFESSIONAL ACTIVITIES

Chairing

Chair for Conferences, IEEE Visualization and Graphics Technical Committee, 2018-2020.
Honorary Program Chair, ACM SIGGRAPH International Conference on Virtual-Reality Continuum and its Applications in Industry, 2016.
Program Co-Chair, ACM Virtual Reality Software and Technology, Edinburgh, UK, November, 2014.
Program Co-Chair, VISTech: Workshop on Visualization Infrastructure Systems and Technology, SuperComputing, 2013 and 2014.
General Co-Chair, IEEE Virtual Reality (VR), Orange County, 2012.
Program Co-Chair, IEEE Virtual Reality (VR), Singapore, March, 2011.
Program Chair, IEEE/ACM Workshop on Projector Camera Systems (PROCAMS), Miami, June 2009.
General Co-Chair, ACM Virtual Reality Software and Technology (VRST), Irvine, November 2007.
Program Co-Chair, IEEE CVPR Workshop on Projector Camera Systems (PROCAMS), San Diego, June, 2005.
Session Chair, IEEE CVPR Workshop on Projector Camera Systems (PROCAMS),June, 2007.
Session Chair, IEEE CVPR Workshop on Projector Camera Systems (PROCAMS),June, 2006.

Editorship

Associate Editor, Computer and Graphics, 2014 - 2016.
Associate Editor, IEEE Computer Graphics and Applications, 2014 - Present.
Guest Editor, Special Issue of IEEE Computer Graphics and Applications on Best Papers from ACM Virtual Reality Software and Technology, 2014.
Guest Editor, Special Section of Computer and Graphics on Advanced Displays, 2013.
Guest Editor, Special Issue of IEEE Transactions on Visualization and Computer Graphics on Best Papers from IEEE Virtual Reality, 18(7), 2012.

Press Releases

Tactical Pivot: Summit Technology Laboratory (STL), Calit2 Interface Magazine, Spring 2022.
StartUp Success: Summit Technology Laboratory (STL), Calit2 Interface Magazine, Spring 2021.
Entrepreneurial Spirit: Face Forward, Calit2 Interface Magazine, Fall 2017.
Face of Calit2, Calit2 Interface Magazine, Spring 2016.
A Wave of Hand, Calit2 Interface Magazine, Spring 2012.
Attendance Up at IEEE Computer Society VR Conference, IEEE Computer Society News, 13 March, 2012.
Visualizing the Future, ACM Tech News, 13 Oct, 2011.
Visualizing the Future, Feature Panorama on UCI main website, October 2011.
CAREER Grant to Fund Ubiquitous Displays, Calit2 Newsroom, October 2009.
Coming Together At The Seams: Picture Perfect Projection, Calit2 Interface Magazine, Winter 2007.