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VISION | Innovation Anywhere, Opportunities Everywhere

A global leader in science, technology, innovation, and engineering, with more than three decades of experience in higher education and government. Designed and built knowledge enterprises to advance research, innovation, academic programs, strategic partnerships, entrepreneurship, and global engagement for economic development, national security, and societal progress.

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WORK EXPERIENCE

Current Position

University Professor of Technology and Innovation, Foundation Chair in Computing and Augmented Intelligence, Arizona State University, Tempe, AZ
May 2025 – Present.

- Designing an AI Agentic Enterprise to advance knowledge and learning for global good.
- Senior Advisor to ASU President on Global Strategy.

Higher Education is the crown-jewel of our nation. Talent and ideas are democratized but, unfortunately, opportunities are not. I am therefore deeply committed to making opportunities available to all. I am passionate about inspiring students by being an example of curiosity, hard work ethic, and a commitment to learning, excellence, and impact. I have always enjoyed mentoring and empowering students, faculty, and leaders to be successful in their career journeys. As a servant-leader, I have endeavored to give back to students, faculty, community, and our nation for the opportunities that have been accorded to me throughout my career.

Immediate Past Position

Director, National Science Foundation, Alexandria, VA
June 2020 – April 2025.

It has been a privilege to lead NSF over the past five years to help advance an outstanding institution into the future. We worked to enrich the mission of NSF at speed and scale, ensuring access and inclusion of all talent and ideas across rural and urban regions, the broad socioeconomic demographic, and the rich diversity of the country. We do this through a mindset of strong partnerships with universities, community colleges, K-12 systems, federal and state agencies, industry, philanthropy, community, and international partners. NSF is increasingly seen as a model agency worldwide.

- A computer scientist, engineer, and the 15th director of the U.S. National Science Foundation (NSF).
- Nominated to this position by the President of the United States in 2019 and unanimously confirmed by the U.S. Senate on June 18, 2020, for a six-year term.

- The mission of the National Science Foundation (NSF) is to inspire talent, foster breakthroughs and innovations that strengthen our economy, national security, and global competitiveness.
- NSF is a $9.5 billion independent federal agency and the only government agency charged with advancing all fields of scientific discovery, technological innovation, and STEM education.
- NSF has helped unleash fundamental discoveries and innovations over the past 75 years. (*https://www.nsf.gov/*)
    - 268 Nobel Laureates have had their careers supported by NSF.
    - In an average year, NSF funds ~12,000 competitive awards for research, education and training, supports ~2,000 colleges, universities and other institutions, supports ~318,000 researchers, entrepreneurs, students, and teachers.
    - Large companies like Qualcomm and Google have had early investments by NSF.
    - Start-ups and SME's like Talus Bioscience, a Seattle Biotech company have had early investments by NSF leading to Venture investments. (*https://www.geekwire.com/2024/seattle-biotech-startup-secures-11-2m-to-make-drugs-for-undruggable-disease-targets/*).

Key Contributions

- Implemented the following strategic priorities to advance the agency into the future:
    - **Strengthening Established NSF** – through investments that expand the frontiers of knowledge and discovery.
    - **Inspiring the Missing Millions** – using capacity building and interventions that enhance and broaden participation.
    - **Accelerating Technology and Innovation** – through cross-cutting partnerships and programs.
- Founded and built a new Directorate for Technology, Innovation, and Partnerships (TIP - the first new Directorate at NSF in 31 years) to deliver *"Innovation Everywhere for Everyone"* by accelerating the translation of science and technology for economic progress, national security, and societal impact. Launched several new programs including the Regional Innovation Engines (RIE) to expand the geography of place-based innovation. (*https://tableau.external.nsf.gov/views/NSFEnginesPortfolio/Overview?%3Aembed=y&%3AisGuestRedirectFromVizportal=y*).

- Built a culture of interdisciplinarity as well as cross-disciplinary programs by promoting strong partnership between the directorates: mathematical and physical sciences (MPS), social, behavioral and economic sciences (SBE), geosciences (GEO), biosciences (BIO), education (STEM EDU), engineering (ENG), technology (TIP), and computing (CISE).

- Engaged closely with the leadership of Association of American Universities (AAU), Association of Public and Land Grant Universities (APLU), Historically Black Colleges and Universities (HBCUs), Hispanic Serving Institutions (HSIs), and Tribal Colleges and Universities (TCUs) to advance opportunities for all institutions.

- Founded and built novel programs such as GRANTED (Growing Research Access for Nationally Transformative Equity and Diversity) to broaden participation in research and education "*Learning Everywhere for Everyone*" (*https://new.nsf.gov/funding/initiatives/broadening-participation/granted*). A recent project invested by the GRANTED program has resulted in a national resource to democratize research funding opportunities, which can be found at *https://researchdevelopmentconsultants.emory.edu/resources/index.html*

- Rapidly expanded partnerships and launched several collaborative programs with various federal agencies, such as NASA, NIH, NIST, NOAA, National Endowment for the Arts, National Endowment for the Humanities, DARPA, USDA, DOE, and DoEd.

- Built highly impactful programs like Artificial Intelligence Institutes across the U.S. (27 Institutes over the last three years totaling $540M) in partnership with federal agencies, states, cities, NGO's, industry, and philanthropy - $320M invested by NSF and $220M from partners. (*https://nsf-gov-resources.nsf.gov/2023-08/AI_Research_Institutes_Map_2023_0.pdf*).

- Founded Global Research Centers program focused on solving Global Grand Challenges partnering with like-minded nations (*https://new.nsf.gov/funding/opportunities/gc-global-centers*). An example is the recent announcement of the second round of six NSF global centers focused on Bioeconomy for a total of $82M. This involves partnership with the U.S. National Endowment for the Humanities and S&T agencies from five other countries (Canada, UK, Finland, Japan, and Korea).

- NSF is responsible for large research facilities around the globe, and the management of the operations of the U.S. Antarctic Program (USAP). These facilities include the large telescopes in Chile and Hawaii, Arctic summit station, National Ecological Observation Network (NEON), Research Vessels, and High-performance Computing Facilities. We

have established an agency-wide process for the successful design, development, construction, and operation of these facilities.

- Established a strategic budget process over the past four years at the agency with a "Start-Stop-Continue/Evolve" approach that has now become part of the vibrant culture of short and long-term budget and program planning at NSF.

- Built an outstanding and diverse Executive Leadership team (60% are women and 40% are people of color). Hired 75% of the leaders due to the combination of replacing short-term intergovernmental personnel act (IPA) leaders that serve NSF from academia, retirements, and establishment of the new TIP directorate and offices (ex. Office of Diversity and Inclusion) *https://nsf-gov-resources.nsf.gov/2023-08/NSF_Org_Chart.pdf*

- Handled several complex legacy issues at NSF and built a robust framework to ensure sustainable solutions to help advance the agency into the future.

- Established new structures to streamline the operations at NSF and address specific expectations of Congress: (i) Chief Management Officer, (ii) Chief Research Security, Strategy and Policy Officer, (iii) Chief Diversity and Inclusion Officer, and (iv) Chief Officer for Research Facilities.

- NSF has been consistently recognized over the past three years as being among the top 10 (mid-sized agencies) "Best Places to work in the Federal Government" by the Partnership for Public Service Annual Rankings and maintains a strong collaboration with the AFGE 3403 Union partners.

- Worked closely with the Biden-Harris Administration and the bipartisan leadership of Congress on the landmark CHIPS and Science Act. For example, joined President Biden for the Intel Plant groundbreaking in Ohio as part of CHIPS implementation (Video: *https://www.youtube.com/watch?v=gjcVoaRnIjo* - Time stamp 5:30-5:40).

- Several outreach and media presence activities to promote S&T and NSF with presentations (*https://www.yahoo.com/news/panchanathan-talks-national-science-foundations-080003292.html*), interviews (*https://www.csis.org/events/forging-americas-tech-future-need-national-computing-strategy*), podcasts (*https://share.transistor.fm/s/4cf2aafb*), and conversations such as fireside chats.

- Evolved a culture of agility and responsiveness—for example, President Biden issued an Executive Order tasking NSF to lead and launch a pilot National AI Research Resource

(NAIRR) to democratize AI access. Within 90 days of the executive order, we brought together 13 federal agencies and 26 private partners to launch this resource, exceeding $80M to support over 100 projects across the U.S. This has become the precursor for the CREATE AI Act and AI for Education Act introduced in Congress and passed by the Senate Commerce Committee for building a full scale NAIRR and AI Education.

- Provided several testimonies to Senate and House committees to advance NSF priorities and budget (*https://www.commerce.senate.gov/2023/10/chips-and-science-implementation-and-oversight*). Built strong bipartisan support for NSF. Traveled around the country with Congressional delegations to visit institutions, launch centers and projects, as well as engage with faculty, researchers, students, industry, entrepreneurs, and communities.

- Traveled with several Senators and House Members across the United States to engage, listen, and showcase the amazing work of NSF and Higher Education Enterprises.

Positions at Arizona State University (ASU)

Executive Vice President, ASU Knowledge Enterprise and **Chief Research and Innovation Officer,** 2016–2020. *Responsible for advancing research, entrepreneurship, innovation, clinical partnerships, corporate engagement, strategic partnerships, global collaborations, and economic development.*

Senior Vice President, ASU Knowledge Enterprise and **Chief Research and Innovation Officer,** 2011–2015.

Foundation Chair Professor, Computing and Informatics, 2009–present and **Professor (Tenured)**, Computer Science and Engineering, School of Computing and Augmented Intelligence, 1997–present.

Founding Director, Center for Cognitive Ubiquitous Computing (*CUbiC*), 2001–2020. (*https://cubic.asu.edu/*), Machine Learning and AI Researcher. Built a Research Center focused on the discovery, design, and development of technologies for empowering individuals with a range of disabilities.

University Chief Research Officer, Office of Knowledge Enterprise Development (OKED), 2010–2011.

Operational Leader, Health Outcomes @ ASU Initiative (now known as Health Solutions), Office of the Provost, 2009–2011.

Deputy Vice President, Office of Knowledge Enterprise Development (OKED), 2009–2010.

Founding Director, School of Computing and Informatics, 2006–2008.

Affiliate Professor, School of Electrical, Computer and Energy Engineering, 2000–2010.

Founding Director, Institute for Computing & Information Sciences and Engineering (InCISE), 2003–2009.

Founding Director, Department of Biomedical Informatics (BMI), 2005–2007.

Chair, Department of Computer Science and Engineering, 2002–2006.

Associate Director, School of Arts, Media and Engineering Program, 2002–2006.

Co-Founder and President, MotionEase, Inc., 2004–2009.

Co-Founder, RehabDev LLC., 2014–2018.

Key Contributions: Faculty

- Started as an Associate Professor (Tenured) in the Department of Computer Science and Engineering and taught several undergraduate and graduate courses with consistently high teaching evaluations. Specific feedback by students included “deeply cares about students and their learning.”

- Built a strong research program in the areas of human-centered multimedia computing, machine learning for multimedia, haptic user interfaces, assistive and rehabilitative technologies, face/gait analysis and recognition, medical image processing, media processor designs, and ubiquitous computing environments for enhancing quality of life for individuals with disabilities. Published over 480 refereed journal and conference papers, 2 books, 24 book chapters, and 6 patents. Secured competitive funding (close to $110M) from federal agencies, industry, state, and philanthropy.

- Mentored several middle and high school students, undergraduate research students (28), Master’s students (72), doctoral advisees (31) and post-doctoral researchers (24), all of whom are successful in industry, academia, and as entrepreneurs across the globe.

- Founded the Center for Cognitive Ubiquitous Computing (CUbiC) to design and build technologies to empower and enrich the lives of individuals with a range of abilities. Details can be found at the CUbiC website (*https://cubic.asu.edu/*) and the featured TEDx talk (*https://www.youtube.com/watch?v=BtuzWo6KcI8*).

- The efforts of students, researchers, and faculty at CUbiC were recognized through many awards, including the Microsoft Imagine World Cup (won twice by the visually impaired student David Hayden), Governor’s Innovator of the Year in Academic Award, Best Paper awards, Best Doctoral Thesis and Master’s Thesis awards, Outstanding Mentor of the University award, Professional Society awards, and extensive media coverage. Most importantly, CUbiC students with disabilities are leading successful lives and are an example to many.

Key Contributions: Chair/School Director/Institute Director

- Developed a strategic vision for the Department of Computer Science and Engineering that focused on student retention and success, teaching and research excellence of faculty, and an environment for success of staff. We designed programs and curricula that inspired and motivated students, engaged with high schools and community colleges to find pathways for students of various backgrounds, partnered with industry, and incubated entrepreneurial programs for students and faculty.

- Founded the School of Computing and Informatics (now the School of Computing and Augmented Intelligence (SCAI): *https://scai.engineering.asu.edu/*) that further strengthened the Computer Science and Computer Engineering programs as well as incubated an Informatics program that provided opportunities for students of different backgrounds to "immigrate" into the computing area through minors and concentrations. Recruited several junior and senior faculty in interdisciplinary Informatics.

- Appointed by the Governor of Arizona to the Arizona Medical Education and Research (ACMER) commission to design and build a new campus of the University of Arizona College of Medicine in partnership with ASU. Actively participated in the process of: (i) accreditation of the school with LCME, (ii) recruitment of the founding Dean, (iii) design of the Informatics and longitudinal project components, and (iv) recruitment of the early cohorts of students.

- Founded a new Biomedical Informatics Department in SCI in partnership with the Mayo Clinic. This has since moved into the new College of Health Solutions (*https://chs.asu.edu/degree-programs/biomedical-informatics*). Recruited early leaders and faculty from premier institutions like Harvard, Stanford, and Yale, built the curriculum, and deployed the graduate and doctoral programs.

- Founded the university-wide Institute for Computing, Information Sciences, and Engineering (InCISE) and launched interdisciplinary research centers focused on the convergence of computing and informatics with humanities, arts, social sciences, and business.

- Co-founded the School of Arts, Media, and Engineering and recruited faculty (*https://artsmediaengineering.asu.edu/*). Collaborated with Media Arts, Dance, and Theater faculty to design research projects and secured external funding for infrastructure.

Key Contributions: Chief Research and Innovation Officer/SVP/EVP Knowledge Enterprise

- As EVP of Knowledge Enterprise, worked closely with the President, EVP of Academic Enterprise (Provost), and EVP of Budget and Planning. This core leadership team was responsible for all aspects of the University Strategy and Execution, including planning of academic programs, budget, student recruitment and retention, infrastructure and facilities, leadership, athletics, campuses development, Board of Regents engagement, and strategic partnerships.
- Worked closely with Faculty, Chairs, and Deans to build a robust research enterprise infrastructure that served faculty, students, and leaders by identifying opportunities, helping to write strong proposals, pre-reviewing proposals, alleviating administrative burdens, and helping to build external partnerships to express their ideas in the most competitive form. ASU's research enterprise grew exponentially, with the annual expenditures quadrupling and placing ASU among the fastest growing top research institutions in the U.S.
- Worked with ASU President and advanced university-wide initiatives such as:
    - Biodesign Institute (*https://biodesign.asu.edu/*),
    - Humanities Institute (*https://humanitiesinstitute.asu.edu/*),
    - Global Futures Laboratory (*https://globalfutures.asu.edu/*),
    - Institute for Social Sciences Research (*https://issr.asu.edu/*),
    - Herberger Institute for the Design and the Arts (*https://herbergerinstitute.asu.edu/*),
    - Global Institute of Sustainability (*https://sustainability-innovation.asu.edu/*),
    - Global Security Initiative (*https://globalsecurity.asu.edu/*).
- Launched several research buildings and facilities to advance the discovery aspirations of faculty and students across campus.
- Launched undergraduate student experiences that empower students to express their talent, ideas, and entrepreneurial mindset. An example is the Luminosity Lab at ASU (*https://theluminositylab.com/*), a student-led innovation environment embodying a new paradigm of college-based R&D dedicated to providing cutting-edge solutions for global challenges. The projects engaged students from various disciplines and campuses.
- Worked closely with ASU President and the ASU Foundation on fundraising activities for the University. This included developing strong relationships with alumni, donors, and prospects, as well as participating in annual alumni and fundraising events.
- As ASU Knowledge Enterprise leader, was responsible for building clinical collaborations with Banner Health, Mayo Clinic, Dignity Health, Honor Health, Barrow Neurological Institute, and Maricopa County Health System (currently Valleywise).

- Responsible for the relationship with the 22 tribal nations in Arizona to advance collaborative research programs with a mindset of respect and responsibility.
- Worked with ASU President to launch innovation programs and campuses across Metropolitan Phoenix area that has garnered the status of the *Most Innovative University in the U.S. for 11 years in a row by the U.S. News and World Report*.
- Worked closely with mayors, city councils, and the State of Arizona to advance successful innovation campuses across the Metropolitan Phoenix region. These are vibrant campuses with several entrepreneurial ventures, SMEs, and large companies that co-locate with ASU research centers around thematic topics, involving ASU students and faculty. Worked with developers to help build out the campuses to evolve a vibrant economic development ecosystem in Arizona. Examples include:
    - ASU Research Park, Tempe, AZ (*https://asuresearchpark.com/*)
    - Novus Innovation Corridor, Tempe, AZ (*https://www.novusasu.com/*)
    - SkySong Innovation campus, Scottsdale, AZ (*https://SkySong.com/*)
    - Phoenix Bioscience Core, Downtown Phoenix, AZ (*https://phoenixbiosciencecore.com/*)
    - Discovery Oasis in partnership with Mayo Clinic, North Phoenix, AZ (*https://discoveryoasis.com/*)
    - Chandler Innovation Center, Chandler, AZ (*https://universityaffairs.asu.edu/asu-learning-and-innovation-centers/asu-chandler-innovation-center*)
    - Mesa Innovation Center, Downtown Mesa, AZ (*https://entrepreneurship.asu.edu/spaces/the-studios-at-mesa-city-center/*)
    - Innovation Hub @ Polytechnic School, Mesa, AZ (*https://poly.engineering.asu.edu/innovation-hub/#:~:text=What%20is%20the%20Innovation%20Hub,Workshops%20and%20workspaces*)
    - ASU West Valley Innovation Zone, Glendale, AZ (*https://economicdevelopment.asu.edu/innovation-zone/asu-west-valley-innovation-zone/#:~:text=and%20guest%20artists.-,Benefits,Thunderbird%20Academy*).
- Launched SkySong Innovations, ASU's exclusive intellectual property management company, to ensure rapid and wide dissemination of faculty and student discoveries into the marketplace (*https://SkySonginnovations.com/*).
- Served as the Senior Science and Technology Advisor to the Governor of Arizona and worked closely with the Arizona Commerce Authority to expand existing companies and attract new companies to Arizona. A few examples are: TSMC (*https://www.tsmc.com/static/abouttsmcaz/index.htm*), Lucid Motors (*https://lucidmotors.com/*), Waymo (*https://waymo.com/waymo-one-phoenix/*), and Benchmark (*https://www.bench.com/phoenix-arizona*).

Additional Past Positions

Associate Professor (Tenured), Department of Electrical and Computer Engineering, University of Ottawa, 1994–1997. (*Joined as an Assistant Professor in 1989 and promoted to Associate Professor with tenure in 1994.)*

Co-Director, Multimedia Communications Research Laboratory, University of Ottawa, 1992-1997, *built the early versions of PACS Radiology Systems.*

Founding Director, Visual Computing and Communications Laboratory, University of Ottawa, 1990–1997.

Co-Leader, Federal Center of Excellence – Canadian Institute for Telecommunications Research, 1994-1997.

Co-Leader, Provincial Center of Excellence –Telecommunications Research Institute of Ontario (TRIO), 1993-1997.

Member, Standards Council of Canada Committee for International Multimedia Standards, JBIG/JPEG/ MPEG/MHEG Standards, 1995-1997.

Visiting Professor, Department of Computer Science and Engineering, University of New South Wales, Sydney, Australia, 1998–2000.

Adjunct Professor, Sri Sathya Sai Institute for Higher Learning, India, 1999–2020.

Data Communication Engineer, Intelsoft, Madras, India, 1986.

EDUCATION

Ph.D. – Electrical and Computer Engineering, University of Ottawa, Ottawa, Canada, 1989.

M.Tech. – Electrical Engineering, Indian Institute of Technology (IIT)*, Madras, India, 1986.

B.E. – Electronics and Communication Engineering, Indian Institute of Science (IISc.)*, Bangalore, India, 1984.

B.Sc. – Physics, University of Madras, Madras, India, 1981.

** Competed as a student athlete (cricket) at IISc. and IIT.*

APPOINTMENTS

Co-Chair, The US-India Higher Education Leadership Council of the US-India Strategic Partnership Forum, 2025-Present.

- *https://usispf.org/*

Chair, Canada Foundation for Innovation, 2025 Innovation Fund Special Multidisciplinary Assessment Committee, June-December, 2025.

- *https://www.innovation.ca/apply-manage-awards/funding-opportunities/innovation-fund*

Member, Board of Directors, National Academy of Inventors (NAI), 2015–Present.

Co-Chair, National Advisory Council on Innovation and Entrepreneurship (NACIE), 2022-2025.

- *Advisory to the Secretary of Commerce on Advancing Innovation, Entrepreneurship, Workforce Development, Economic Development and Global Competitiveness.*
- *https://www.eda.gov/strategic-initiatives/national-advisory-council-on-innovation-and-entrepreneurship*

Member, White House CHIPS Implementation Steering Council, 2021-2025.

- *https://www.whitehouse.gov/briefing-room/statements-releases/2022/10/07/readout-of-the-first-meeting-of-the-chips-implementation-steering-council/*

Member, White House Gender Policy Council, 2021-2025.

- *https://www.whitehouse.gov/briefing-room/presidential-actions/2021/03/08/executive-order-on-establishment-of-the-white-house-gender-policy-council/*

Co-Vice Chair, Council on Inclusive Innovation, 2021-2025.

- *https://www.uspto.gov/initiatives/equity/ci2/members*

Chair, Interagency Arctic Research Policy Committee (IARPC), 2020-2025.

- *https://www.iarpccollaborations.org/about.html*

Member, National Science Board (NSB), appointed by the U.S. President, 2014-2020.
Advisory to the President and Congress on Science Policy as well as oversight of the National Science Foundation (NSF).

- Member as NSF Director 2020-2025.
- Member, Committee on External Engagement, 2018–2020.
- Member, Committee on National S&E Policy, 2018–2020.
- Chair, NSB Retreat Planning Committee, 2019.
- Chair, Committee on Strategy, 2016-2018.

Senior Advisor to Governor of Arizona for Science & Technology, 2018–2020.

Member, Advanced Technology Advisory Board, NIST, Department of Commerce, 2018– 2020.

Vice President of Membership and Strategic Initiatives, National Academy of Inventors (NAI), 2017–2020.

Member, Board of Directors, Canada Foundation for Innovation (CFI), 2013-2020.

Chair, Council on Research (CoR), Association of Public and Land-Grant Universities (APLU), 2016–2018.

Co-Chair, Extreme Innovation Task Force, Global Federation of Competitiveness Councils (GFCC), 2017–2020.

Member, Board of Directors, Oak Ridge Associated Universities (ORAU), 2017–2020.

Co-Chair, APLU National Task Force on Managing University Intellectual Property, 2016–2018.

Member, AZ Secretary of State Technology, Transparency and Commerce Council, 2010–2018.

Member, ASU Enterprise Partners, ASURE Board, 2014–2020.

Member, National Advisory Council on Innovation and Entrepreneurship (NACIE), appointed by U.S. Secretary of Commerce, 2014–2016.

Member, ASU Enterprise Partners, SkySong Innovations Board, 2010–2020.

Vice President, Teotihuacan Holdings, LLC., 2014.

Vice President, Global University Associates, LLC., 2014.

Member, ASU Research Park Board, 2001–2020.

Member, ASU Leadership Committee/Council/Working Group, 2011–2020.

- President's Enterprise Planning & Budget Committee (annual operating budget ~ $4 billion)
- President's Executive Committee (Executive Vice-Presidents and Senior Vice- Presidents)
- University Council
- University Management Committee
- President's Working Group on Information Technology
- President's Working Group on Carbon Neutrality
- President's Working Group on Global Engagement
- President's Working Group on Medical Collaboration
- Mayo-ASU Collaboration Steering Committee

Member, Board of Trustees, Thunderbird School of Global Management, 2013–2020.

Member, ASU Foundation Trustees Solutions Committee, 2013–2020.

Member, Arizona Alzheimer's Research Center Board of Directors, 2010–2020.

Member, Arizona Bioscience Roadmap Steering Committee, 2010–2020.

Member, Design Team for the New Campus of the University of Arizona, College of Medicine Phoenix, in partnership with Arizona State University, 2004–2007.

Member, U First Capital, University Advisory Board, 2016–2020.

Member, Future Tense (Slate Magazine) Advisory Board, 2016–2020.

Member, IEEE Multimedia Magazine Advisory Board, 2009–2020.

Member, National Academy of Inventors (NAI) Editorial Board, 2014–2020.

Member, Gilbert Mayor's Advisory Council, 2018–2020.

Member, Translational Genomics Research Institute (TGen) Board of Governors, 2012–2013.

Member, Health Research Alliance Arizona Steering Committee, 2007–2008.

Chair, Intel-ASU-Motorola Embedded System Research Committee, 2001–2002.

HONORS and AWARDS

Padma Shri Award, One of the Highest Civilian Awards conferred by the President of India, Republic of India, May 2025.

Honorary Doctorate of Science, University of Connecticut, May 2025.

Honorary Doctorate of Science, Seattle University, June 2024.

Honorary Doctorate of Science, University of Ottawa, June 2024.

Honorary Doctorate of Science, University of Maryland, Baltimore County, May 2024.

Honorary Doctorate of Science, Northeastern University, May 2024.

Honorary Doctorate of Humane Letters, Virginia Commonwealth University, December 2023.

Honorary Doctorate of Science, University of Vermont, May 2023.

Honorary Doctorate of Science, Worcester Polytechnic Institute, 2022.

Honorary Doctorate of Science, Vellore Institute of Technology (VIT), India, August 2022.

Honorary Doctorate of Science, SRM University, AP- Andhra Pradesh, India, December 2021.

Honorary Doctorate of Science, Sri Sathya Sai Institute of Higher Learning, India, August 2021.

Distinguished Career Award, Washington Academy of Sciences 2022, *Computer Science and Policy*.

Distinguished Career Award, Institute of Electrical and Electronic Engineers(IEEE)-USA, 2022.

Distinguished Alumnus Award, Indian Institute of Science, Bangalore, India.

Distinguished Alumnus Award, Indian Institute of Technology, Madras, India.

Distinguished Alumnus Award, University of Ottawa, Canada.

Member, National Academy of Engineering (NAE).

Fellow, National Academy of Inventors (NAI).

Fellow, Canadian Academy of Engineering (CAE).

Member, Virginia Academy of Science, Engineering, and Medicine (VASEM).

Fellow, Association for Computing Machinery (ACM).

Fellow, American Association for the Advancement of Science (AAAS).

Fellow, Institute of Electrical and Electronics Engineers (IEEE).

Fellow, Society for Photo–Optical Instrumentation Engineers (SPIE).

Editor-In-Chief, IEEE Multimedia Magazine.

Governor's Innovator of the Year in Academia Award, Governor's Celebration of Innovation Awards, *Information Technology Centric Assistive and Rehabilitative Environments (iCARE) for individuals who are blind and visually impaired*, Center for Cognitive Ubiquitous Computing.

National Academy of Inventors Presidential Fellow Award, National Academy of Inventors, June 2025.

IEEE TCMC Service Award, IEEE Technical Community on Multimedia Computing (TCMC),2022.

Research Development Champion Award, National Organization of Research Development Professionals (NORDP), USA, 2021.

Outstanding Leadership and Professional Service Award, Institute of Electrical and Electronics Engineers (IEEE), Phoenix, February 2017.

COO of the Year, Phoenix Business Journal C-Suite Awards, 2017.

Microsoft Imagine Cup, *Winner of Touch & Tablet Accessibility Award for iCARE Note-Taker Project*, World Finals, 2010.

Microsoft Imagine Cup, *Winner of Software Design Category* (winner in U.S., runner-up in world finals) for iCARE Note-Taker Project, 2010.

Tamil American Pioneer (TAP) Award, Computing and Informatics, Federation of Tamil Sangams of North America (FeTNA), 2015.

Outstanding Doctoral Mentor Award, Arizona State University, *in recognition of commitment to doctoral education and professional preparation of students*, October 2014.

Best Doctoral Thesis Award, Ph.D. student Mrs. Rita Chattopadhyay in the School of Computing, Informatics and Decision System Engineering, Arizona State University.

Best Graduate Thesis Award, Master's Thesis student Mr. Eric Chan, Toronto, Canadian Advanced Technology Association (CATA).

Best Department Article Award, IEEE MultiMedia Magazine, *Person-Centered Multimedia Computing: A New Paradigm Inspired by Assistive and Rehabilitative Applications*.

Best Paper Award, *Configurable Haptic Training System for Laparoscopy*, Medicine Meets Virtual Reality 16 Conference.

Best Paper Award, *Gesture-Based Hand Movement Analysis and Haptic Feedback for Surgical Training,* Medicine Meets Virtual Reality 14 Conference.

Best Demo Award, *A Multimodal Gamified Platform for Real-time User Feedback in Sports Performance*, 24th ACM International Conference on Multimedia.

ASU Leadership Award, *Outstanding Service and Contributions to the ASU Department of Computer Science and Engineering and the School of Computing and Informatics*.

Academic Collaboration Award, *Outstanding contributions to improving the lives of individuals with disabilities through the iCARE Project*, ASU Disability Resources for Students.

Member, U.S.-India Business Council (USIBC) Team, *President Obama's Executive Mission to India to advance research and economic development collaborations*.

Member, Arizona Governor Strategic Mission to Canada to advance academic & industry collaborations.

Member, Governor of Arizona e-Health Steering Committee.

Arizona Business Leader, Manufacturing and Technology Research Leader, AZ Business Leaders.

Honoree, Arizona Technology Enterprises (AzTE), Inventor Recognition.

KEY SPEAKING ENGAGEMENTS
2020 – PRESENT

During tenure at the National Science Foundation

Commencement Addresses

- University of Connecticut, May 2025
  - Video: *https://www.youtube.com/watch?v=hyKWm8Klo_Y*
- Seattle University, Seattle, June 2024.
  - Video: *https://www.youtube.com/watch?v=IkVPPlwkBYE*
- University of Ottawa, Ottawa, Canada, June 2024.
  - Video: *https://www.youtube.com/watch?v=ctgnRChNafw*
- University of Maryland Baltimore County, Maryland, May 2024.
  - Video: *https://www.youtube.com/watch?v=Qho07cJWflc*
- Northeastern University, Boston, May 2024.
  - Video: *https://www.youtube.com/watch?v=BdNjb8qidCc*
- Virginia Commonwealth University, Richmond, Virginia, December 2023.
  - Video: *https://www.youtube.com/watch?v=--jbTvavlRY*
- University of Vermont, Burlington, Vermont, May 2023.
  - Video: *https://www.youtube.com/watch?v=_KP_44tc9WM*
- Vellore Institute of Technology, Vellore, India, August 2022.
- Worcester Polytechnic Institute, May 2022.
- SRM University, Chennai, India, August 2021.

Keynote Speaker/Distinguished Lecturer

- Arizona State University Partnership for Economic Innovation, November 2025.
- The University of Ottawa, Alex Trebek Distinguished Lecture Series, November 2025.
- Arizona State University College of Health Solutions National Diagnostics Summit 2025, October 2025.
- Times Higher Education (THE) World Academic Summit, October 2025.
- 84th Council of Scientific and Industrial Research (CSIR) Foundation Day Celebrations 2025, September 2025.
- EPSCoR Annual Conference, Omaha, NE, Keynote, October 2024.
- Carnegie Mellon University, Presidential Lecture Series, October 2024.
- White House Celebration of the 40th Anniversary of the Passage of the Arctic Research and Policy Act, September 2024.
- OSTP Arctic Policy Research Act 40th Anniversary, September 2024.

- American Association for the Advancement of Science (AAAS) Golden Goose Awards Luncheon, September 2024.
- American Association for the Advancement of Science (AAAS) 150th Anniversary Gala, September 2024.
- Artificial Intelligence Education Event, Congressional Showcase, September 2024.
- 2024 Quantum World Congress, September 2024.
- Oregon State University, President's Lecture, August 2024.
- University of Oregon, President's Lecture, August 2024.
- U.S-Singapore Critical and Emerging Technologies Dialogue, August 2024.
- Innovative Capital Summit Reception, July 2024.
- Commerce/NSF Capital Convening for Tech Hubs and NSF Engines event, July 2024.
- "AI Aspirations" Conference hosted the White House Office of Science and Technology Policy (OSTP), June 2024.
- US-India Initiative on Critical and Emerging Technologies (iCET) remarks, June 2024.
- National Academy of Inventors Annual Conference, recorded video remarks, June 2024.
- Foundation for India and Indian Diaspora Studies (FIIDS) US-India Summit, June 2024.
- New Hampshire Business Day Luncheon, June 2024.
- Association of Public and Land Grant Universities (APLU) Council of Presidents Meeting, Keynote, June 2024.
- Indian Diaspora Impact Report Launch, June 2024.
- U.S.-India Partnership Summit, Keynote, June 2024.
- AI Expo for National Competitiveness keynote, May 2024.
- OSTP "Opportunities at the AI Research Frontier," May 2024.
- AI Robotics Hill Showcase, April 2024.
- Quantum Hill Showcase, April 2024.
- Purdue Presidential Lecture, April 2024.
- Arctic Encounters Symposium, Keynote, April 2024.
- 2024 Joint Financial Management Improvement Program Conference, April 2024
- National Semiconductor Technology Center (NSTC) Consortium, February 2024.
- Umagine Conference, Keynote, February 2024.
- US Chamber of Commerce/US-India Business Council Board Meeting, February 2024.
- NSF Research Innovation Engines Award Announcement w/ First Lady of the United States Dr. Jill Biden, Winston-Salem, North Carolina, January 2024.
- IIT2024 Global Conference, Keynote, January 2024.
- Metros + Universities Task Force Meeting remarks, January 2024.
- University of California Santa Barbara Campus Lecture, November 2023.
- National AI Research Resource (NAIRR) Pilot Resource Provider Convening, Nov. 2023.
- University of Ottawa Researcher Showcase & Address, Canadian Science Policy Conference (CSPC), November 2023.
- Director's Townhall, University of California Santa Barbara, Keynote, October 2023.
- University Townhall, University of Minnesota, October 2023.

- Future Leaders in Public Service (FLIPS) Internship Program: 2023 Fall Kick-off, Keynote, September 2023.
- "Transformational Progress in AI Research," AI Institutes Event on Capitol Hill, September 2023.
- New York University and the Korea Advanced Institute of Science and Technology joint event, Digital Vision Forum, September 2023.
- State University of New York (SUNY) system D.C. Days Research Forum, Sept. 2023.
- EXP Center Grand Opening event, Northeastern University, Boston, MA, Sept. 2023.
- SUNY Research Forum, September 2023.
- NYU/Korea Advanced Institute of Science & Technology (KAIST), Keynote, Sept. 2023.
- FCC-NSF AI Workshop, July 2023.
- President's Council of Advisors on Science and Technology (PCAST) Working Group, July 2023.
- National Academy of Inventors Annual Conference, June 2023.
- UCAR Board of Trustees Annual Meeting, June 2023.
- Coastlines and People Awardees Conference on May 2023.
- UCAR Board of Trustees Meeting, May 2023.
- 11th Annual Meeting of the Global Research Council (GRC), The Hague, May 2023.
- American Council on Education: Presidents and Chancellors Caucus, April 2023.
- University of Missouri Presidential lecture w/Senator Eric Schmitt, April 2023.
- Global Research-Intensive Universities Network (GRIUN) Annual Meeting, April 2023.
- American Council on Education, April 2023.
- University of Missouri, President's Distinguished Lecture, April 2023.
- Electrical and Computer Engineering Department Heads Association, March 2023.
- Imagine Solutions Conference, Naples, Florida, March 2023.
- University of Australia Higher Education Conference, Canberra, February 2023.
- Group of Eight Australia (Go8) Progressing the Leading Edge of Research Security Practice in Research Intensive Universities Forum, Canberra, February 2023.
- APLU Annual Meeting, November 2022
- World Academic Summit, October 2022.
- Government-University-Industry Research Roundtable (GUIRR) Meeting, October 2022.
- Boston Science Museum, October 2022.
- Rice University, Distinguished Civic Scientist Lecture, October 2022.
- Science Diplomats Club Breakfast, September 2022.
- University of Southern California Information Sciences Institute, August 2022.
- India Institute of Technology Delhi, August 2022.
- Dr. M.A. Govind Rau Founder Memorial Lecture, Indian Institute of Science Bangalore, August 2022.
- Council on Competitiveness, July 2022.
- National Initiative for Cybersecurity Education (NICE) Conference, June 2022.
- Hudson Forum, Keynote and Panel discussion, May 2022.
- American Educational Research Association, April 2022.

- National Day of Glass, April 2022.
- "Reinvigorating Science and Technology for the Future of U.S. Innovations," SXSW 2022, March 2022.
- "Missing Millions," Association of Public and Land-Grant Universities (APLU), Council of 1980s, February 2022.
- Association of International Administrators Conference, February 2022.
- Quantum Information Science (QIS) Education Event, February 2022.
- Quantum Information Science (QIS) Education Event, February 2022.
- NSF Leadership/R1 HSI Consortium Mini Retreat, January 2022.
- Annual Meeting of the Federation of Associations in Behavioral and Brain Sciences (FABBS), December 2021.
- Board of Directors of the Federation of American Societies for Experimental Biology (FASEB), December 2021.
- AGU Townhall, "Arctic Research Plan 2022-2026: Supporting Arctic Research Collaborations for the Next Five Years," December 2021.
- Convocation Ceremony and Honorary Doctorate, SRM University, December 2021.
- UK Campaign for Science and Engineering (CaSE) Annual Distinguished Lecture, December 2021.
- "2022 and Beyond: The Future and Discovery and Innovation," Smart Systems Research and Innovation at Ohio State Roundtable, November 2021.
- 2021 Naval Academy Science and Engineering Conference (NASEC), Opening Address November 2021.
- National Academy of Inventors 10th Anniversary Annual Meeting, November 2021.
- 2021 Virtual ATE Conference, October 2021.
- University of Wyoming Hackathon, September 2021.
- Enabling the workforce to embrace emerging technologies, Japan Science and Technology Agency (JST) Funding Agency President's Meeting (FAPM), September 2021.
- National Health Research Forum, September 2021.
- National Postdoctoral Appreciation Week, September 2021.
- IEEE Conference and Awards Ceremony, August 2021.
- NSPM-33 Community Forum, August 2021.
- Research in Engineering: Indo-U.S. Collaboration, India National Academy of Engineering, July 2021.
- Science Counsellors of the European Union, June 2021.
- Student Innovation Showcase – Community College Innovation Challenge (CCIC), June 2021.
- R1 Hispanic Serving Institution (HSI) Consortium, June 2021.
- 10th Annual Deshpande Symposium on Innovation and Entrepreneurship in Higher Education, June 2021.
- 2021 International Conference, National Organization of Research Development Professionals, May 2021.

- "Strengths and Opportunities of India-U.S. Cooperation," India-U.S. Knowledge and Education Partnership, May 2021.
- "How the World will be Different," Global Research Council Annual Meeting, May 2021.
- White House Asian American Pacific Islander Cultural Event, May 2021.
- Historically Black Colleges and Universities (HBCU) Webinar with NSF Director Panchanathan, "The Future of Competitiveness: The Vital Role that our Nation's HBCUs Play in Building a Robust S&E Enterprise," April 2021.
- Association of American Universities (AAU) Spring Virtual Meeting, April 2021
- UIDP Virtual Conference, April 2021.
- ISSP & IISTP D. Allan Bromley Memorial Lecture, April 2021
- Annual Meeting of the ORAU Council of Sponsoring Institutions, March 2021.
- IUSSTF U.S. India Artificial Intelligence Initiative, March 2021
- Project OVERCOME Press Conference, March 2021
- "NSF Strategy into the Future," Council on Undergraduate Research, February 2021.
- American Academy of Arts and Sciences Annual Meeting, February 2021.
- Universities Research Association (URA) Annual Council of Presidents Meeting and Policy Forum, February 2021.
- Government University-Industry Research Roundtable (GUIRR) Council Meeting, Feb. 2021.
- Council on Governmental Relations (COGR), February 2021.
- IEEE virtual LIGO-Virgo Milestone Dedication, February 2021.
- "Advancing the Frontiers of Research: The Future of the Research Enterprise," Engineering Deans Public Policy Colloquium, American Society for Engineering Education (ASEE), February 2021.
- "NSF Strategy into the Future: Strengthening @ Speed & Scale," Coalition for National Science Funding (CNSF), January 2021.
- "Advancing the Frontiers of Research: The Future of the Research Enterprise," Association of Independent Technological Universities, January 2021.
- "NSF & AMS: A Commitment to Discovery and Innovation," American Meteorological Society (AMS) Annual Meeting, January 2021.
- "Vision for the Future of the National Science Foundation," President's Council of Advisors on Science and Technology (PCAST), December 2020.
- "NSF Strategy into the Future: Strengthening @ Speed & Scale," State University System of Florida Vice Presidents of Research, December 2020.
- "Agency Lecture: Director Sethuraman Panchanathan," American Geophysical Union Annual Conference, December 2020.
- "Science the Endless Frontier: NSF Strategy into the Future," Council of Scientific Society Presidents, December 2020.
- Workshop hosted by Schmidt Futures, NeurIPS 2020, December 2020.
- Natural Science and Engineering Council of Canada (NSERC) Partnership Meeting, Dec. 2020.
- National Research Foundation of Korea, Virtual Seminar on COVID-19, Keynote November 2020.

- "Strengthening Quantum Research @ Speed & Scale," Chicago Quantum Summit, Keynote, November 2020.
- "Strengthening the principles of merit review, strengthening the global S&E ecosystem," Global Research Council (GRC) Virtual Conference on Responsible Research Assessment, November 2020.
- Annual Conference of the National Society of Black Physicists, November 2020.
- 2020 Arizona BioPreneur Conference, Opening Remarks, October 2020.
- "NSF Strategy into the Future: Strengthen @ Speed & Scale," International Federation of Catholic Universities' New Forum for University Leaders, October 2020.
- Government-University-Industry Research Roundtable (GUIRR), October 2020.
- National Q-12 Education Partnership Kickoff, White House Office of Science and Technology Policy, October 2020.
- "Discussion with NSF Director Panchanathan," Association of Public and Land-Grant Universities (APLU) meeting, October 2020.
- "NSF Strategy into the Future: Strengthen @ Speed & Scale," CEOs of Scientific Societies Meeting, October 2020.
- "Advancing the Frontiers of Research: The Future of the Research Enterprise," University of California System -Vice Chancellors for Research, October 2020.
- "Advancing the Frontiers of Research: The Future of the Research Enterprise," The Committee on Science, Engineering, Medicine, and Public Policy (COSEMPUP), virtual workshop, "Reopening US Research Universities: Confronting Long Standing Challenges and Imaging Novel Solutions," October 2020.
- "Advancing the Frontiers of Research: The Future of the Scientific Enterprise," New York Academy of Sciences Board of Directors, September 2020.
- "Technology Leadership & Strategy Initiative: Competitiveness Watch," Council on Competitiveness, September 2020.
- "Advancing the Frontiers of Research: The Future of the Scientific Enterprise," Keynote, Federal Demonstration Partnership, September 2020.

Fireside Chats

- THE/IHE US Universities Summit, October 2025.
- Computing Research Association (CRA) Summit, July 2025.
- National Academy of Inventors (NAI) Annual Conference, June 2025.
- CHIPS and Science Act, U.S. Chamber of Commerce Tech Leadership Summit, Sept. 2024.
- Annual Meeting of The Science Coalition, Association of American Universities (AAU) and Association of Public and Land Grant Universities (APLU), June 2024.
- Future of Work and the Innovation Economy, New America's Initiative, June 2024.
- Future of AI with President Tripathi, University at Buffalo, April 2024.
- EDGE Consortium, October 2023
- Research!America 2023 National Health Research Forum, September 2023.

- NSF Town Hall with White House Office of Science and Technology Policy (OSTP) Director Arati Prabhakar, January 2023
- Research!America, September 2022.
- MeriTocracy American Innovation Forum, July 2022.
- Texas Academy of Medicine, Engineering, Science and Technology (TAMEST), June 2022.
- 2022 AAAS Annual Meeting, February 2022.
- "A virtual conversation with NSB Chair, Ellen Ochoa, and AAAS CEO, Sudip Parikh," American Association for the Advancement of Science (AAAS), January 2021.
- 2020 Canadian Science Policy Centre (CSPC) Conference, "Special Session: A Fireside Chat with Dr. Mona Nemer, Chief Science Advisor, Government of Canada and Dr. Sudip Parikh, AAAS CEO," November 2020.

Panels and Roundtable Discussions

- "The State of STEM: ASU Leadership on Challenges & Opportunities," Panel Discussion, 4th Annual STEM Inclusion Summit, October 2025.
- Arizona State University, Global Career Network (GCN) Inaugural GlobeTalk, September 2025.
- "The Frontier Artificial Intelligence Competition," Discussion hosted by Chairman of the Joint Chiefs of Staff, General Charles Q. Brown, September 2024.
- State of America's Ecosystem, Roundtable Discussion, hosted by American Association for the Advancement of Science (AAAS) and Research!America, September 2024.
- CSIS Computing Strategy Dialogue, August 2024.
- Global Research Council Annual Meeting, Interlaken, Switzerland, May 2024.
- American Association of Universities, Senior Research Officers Annual Meeting, March 2024.
- Canadian Science Policy Conference, Ottawa, November 2023.
- G-20, US-India Tech Industry Roundtable, India, August 2023
- G-20, BioTech Roundtable, "Collaborative Opportunities for Investment and Innovation in Biomanufacturing Sector," India, August 2023.
- India Ministry of Science and Technology, Department of Biotechnology, August 2023.
- AAAS Annual Conference, "Just Systems Transition in Response to Crises," March 2023.
- Japan Science and Technology Agency (JST) and Council on Competitiveness panel, AAAS Annual Conference Convention Center, Washington, DC, March 2023.
- AAAS Annual Conference, "The Innovation Ecosystem: From Gee-whiz to Jobs.", March 2023.
- White House Office of Science and Technology and Policy (OSTP) President's Budget Release, March 2023.
- Critical Minerals Roundtable Discussion, Australia, February 2023.
- Circular Economy and Sustainable Materials, Australia, February 2023.
- US-India Forum panel, January 2023.
- Science and Technology in Society Forum, October 2022.
- Moderated Panel, Science Summit of the United Nations General Assembly, Sept. 2022.
- University of Texas System, Roundtable, March 2022.

- “The State of Pure (Basic/Fundamental) Science Around the World,” The Aspen Institute Science and Technology Program, Roundtable Discussion, December 2021.
- Federal Policies to Strengthen Science in Service to the Nation, American Physical Society, 2021.
- NDIA Virtual National Security AI Conference and Exhibition, Harnessing the Pace of Innovation in AI: University Research Perspectives Panel Session, 2021.
- Science in the New Administration, NAS Annual Meeting, 2021.
- Understand, Observe, Strengthen, Respond, Arctic Science Ministerial, 2021.
- American Physical Society (APS), Federal Science Policy Panel, February 2021.
- New Research Paradigm Panel Discussion, UC, San Diego School of Engineering, Dec. 2020.
- “Strengthening International Collaborations,” APLU, November 2020.
- “Basic Science, Innovation & Policy,” Science & Technology in Society (STS) Forum, Oct. 2020.
- “Global Challenges Need Global Responses,” European Commission Research and Innovation Days, September 2020.
- “Equity, Access, and Excellence,” Strengthening NSF for Advanced Modeling & Simulations at MSIs, University of Texas at El Paso, September 2020.

MEDIA COVERAGE

(TV, RADIO, NEWSPAPER)

2020 – PRESENT

During and after tenure at the National Science Foundation

Op-eds

- *Science and technology backed partnership*, August 15, 2023.
- *Public investments power advancements, Scranton Times-Tribune,* July 9, 2023.
- *There is more to the story than computer chips*, June 30, 2023.
- *How to keep UT, Tennessee on leading edge of AI research and tech development,* June 27, 2023.
    - Picked up by *The Tennessean, The Knoxville News Sentinel*, *The Commercial Appeal (Memphis)*, *The Leaf Chronicle,* and *The University of Tennessee*.
- *STEM must meet people where they are*, Science, May 11, 2023.
- *The San Jose Mercury News: Opinion: How U.S. can build on Chips and Science Act momentum,* by Dr. Sethuraman Panchanathan and Ro Khanna, May 10, 2023.
- *The Hindu: A boost for science, a wider window to the universe*, May 5, 2023.
- *NYT (Opinion): Understanding America's Greatest Vulnerabilities,* by Peter Coy, January 18, 2023.
- *Washington Post (Opinion): U.S. politics is awful — but our science and technology offer hope for the future,* by Max Boot, January 18, 2023.
- *The Hill: Refocusing on high tech R&D will help make America competitive again,* The Hill, August 2, 2022.
- *National Science Foundation: Innovation anywhere, opportunity everywhere,* The Hill, May 3, 2022.
- *Building Stronger Bridges Between Discovery, Innovation, and Prosperity*, American Physical Society *(APS) News, May 10, 2021.*
- *We need to strengthen and accelerate US science and technology progress*, The Hill, April 1, 2021.
- *Talent and Ideas Are Democratized in the Sense That They Are Everywhere*, Issues, April 23, 2021.

Video Interviews

- *University of Oregon, "Innovation Anywhere, Opportunities Everywhere | A Talk by Dr. Sethuraman Panchanathan,"* August 26, 2024.
- CSIS: Forging America's Tech Future: The Need for a National Computing Strategy, August 2, 2024.

- Sethuraman Panchanathan (Director of the U.S. National Science Foundation) — How to Navigate Complex Situations and Lead Fearlessly, How to Succeed Without Sacrificing Human Values (#4) (substack.com), June 7, 2024
- New America: Unpacking the Education, Labor, and Workforce Impact of NSF Engines: America's Broadest Investment in Regional Innovation Ecosystems, June 6, 2024.
- Research and Technology Subcommittee hearing on "Oversight and Examination of the National Science Foundation's Priorities for 2025 and Beyond," May 16, 2024.
- White House "NAIRR & PCAST: Opportunities at the AI Research Frontier," May 6, 2024.
- Biden Officials Visit University to Talk Lithium, 2News Nevada, August 11, 2023.

Interviews

- The Quantum Insider*: Dr. Sethuraman Panchanathan Gives His Vision for Innovation & Opportunity in Quantum World Congress 2024 Keynote*, September 25, 2024.
- *MeriTalk:* NSF Director: US Must Invest in AI, Quantum or Risk Losing Tech Race, August 5, 2024.
- *Eye on AI: Sethuraman Panchanathan: How The U.S. National Science Foundation is Shaping the Future of AI* July 17, 2024.
- *E&E News by POLITICO:H ow would Trump overhaul the NSF? We asked his top appointee.* May 2024.
- *'Devastating' NSF funding cuts present a 'national security issue,' officials tell House panel*," Fedscoop, May 17, 2024.
- *Podcast:* Conversations with scientists*: A chat [about AI)] with NSF director Dr Sethuraman Panchanathan,* May 15, 2024.
- *Politico Tech: Big dreams, small budget. NSF's director on funding AI research*, May 13, 2024.
- *MeriTalk Q&A: NSF Director Talks NAIRR Next Steps, Resource Needs,* May 7, 2024.
- *Geophysical Institute***:** *NSF director: 'I am grateful to UAF's partnership',* April 24, 2024.
- *Empowering Innovators for a Brighter Tomorrow*, The Regulating AI Podcast, April 24, 2024.
- *Time: U.S. Science Agency Launches Program to Connect American and Taiwanese Startups*, April 9, 2024.
- *Bloomberg: US Science Agency Debuts Startup Matchmaking Program in Taiwan,* April 8, 2024.
- *Federal News Network: The National Science Foundation wide-and-far on artificial intelligence*, February 29, 2024.

- *Hindustan Times: India, the US looking into exciting joint science & technology projects to further expand ties: says top American scientist,* February 21, 2024.
- *New India Abroad: SF Funding directed at unleashing research from across the nation*, August 24, 2023.
- *NSF Director interviewed by Arjun Ramani*, The Economist, August 14, 2023.
- *NSF Director interviewed by Moira Gunn*, Tech Nation, July 11, 2023.
- *CHIPS Act Funding for Science and Research Falls Short - The New York Times (nytimes.com),* by Madeleine Ngo, May 8, 2023.
- *NSF Director interviewed by Janet Lee*, Reuters, May 3, 2023.
- *NSF Director interviewed by Josh Hendel*, Politico at 6G Conference, April 21, 2023.
- *NSF eyes science alliances on 'steroids' to meet China challenge - Roll Call*, by Gopal Ratnam, CQ Roll Call, March 14, 2023.
- *How the National Science Foundation is dealing with a big budget increase | Federal News Network,* by Tom Temin, Federal News Network, February 24, 2023.
- *NSF Director interviewed by Gopal Ratnam*, CQ Roll Call, February 7, 2023.
- *MSN: SpaceX tells astronomers: Fine, we'll try to stop Starlink spoiling stargazing sessions* by Dan Robinson, January 18, 2023.
- NSF Director interviewed by Alison Snyder, Axios, January 1, 2023.
- *Press Trust India: Important for India and U.S. to work together in science and technology: NSF Director, b*y Lalit Jha, October 31, 2022.
- *Research America: A Revealing Map,* With PBS NewsHour Anchor Judy Woodruff, September 23, 2022.
- *Marketplace: The science part of the CHIPS and Science Act,* With Sabri Ben-Achour and Erika Soderstrom, August 5, 2022.
- *Roll Call/MSN: NSF director: Funding boost can steer research money to more states, b*y Gopal Ratnam , August 2, 2022.
- *KPBS-TV Online: National Science Foundation director visits San Diego to talk NSF mission, investments,* July 7, 2022.
- From Florida Podcast: *NSF director: Let's seize this moment to achieve prosperity for all,* May 27, 2022.
- *The Economist Commercialising Quantum Conference, May 2022.*
- *SPIE: A conversation with NSF Director and SPIE Fellow Sethuraman Panchanathan*, by William G. Schulz, May 1, 2022.

- *NSF Science Friday: The National Science Foundation Has a New Goal: Entrepreneurship*, with Ira Flatow, April 15, 2022.
- *FNN: National Science Foundation launches brand new directorate with ambitious goals*, The Federal Drive with Tom Temin, April 1, 2022.
- *FedScoop: NSF tech directorate tasked with boosting U.S. competitiveness needs congressional funding*, by Dave Nyczepir, March 30, 2022.
- *WSJ: Forget 5G. Let's Talk About 6G,* by Chris Kornelis, March 12, 2022.
- *Federal News Network: A new federal effort to bolster the nation's expertise in quantum computing*, The Federal Drive with Tom Temin, February 11, 2022.
- *GovExec Daily: The NSF Director Says Science Is Leading the Way*, Government Executive by Adam Butler and Ross Gianfortune, February 3, 2022.
- *FedScoop: NSF Director Sethuraman Panchanathan; "Fixing computers" at DOD; Improving NatSec, IC cybersecurity, The Daily Scoop Podcast with Frances Rose, February 2, 2022.*
- *How The US Stays Competitive In Technologies Like AI - An Interview With Director Of National Science Foundation Dr. Sethuraman Panchanathan*, Forbes, October 29, 2021.
- *NSF Director Shares Vision for Solutions-Focused Science*, Diverse Issues in Higher Education, October 11, 2021.
- *U.S. effort to combat China's tech rise 'not nearly enough*' Roll Call, July 13, 2021.
- *U.S. Launches Task Force to Study Opening Government Data for AI Research*, The Wall Street Journal, June 10, 2021.
- *Lawmakers Consider the National Science Foundation's Future*, Next Gov, April 29, 2021.
- *NSF Director Lays Out Vision for Future of U.S. Science*, AAAS, February 18, 2021.
- *A Very Exciting Time to be at the Helm*, ACM NEWS, September 23, 2020.
- *U.S. will continue to lead the world in scientific investment and innovation*, The Hindu, July 21, 2020.
- *Panchanathan Takes Up Baton as NSF Director*, American Institute of Physics, July 17, 2020.
- *An optimist takes the helm at NSF*, Science, July 17, 2020.
- *Indian American Innovator Sethuraman Panchanathan Sworn in as Director of National Science Foundation*, India West, July 6, 2021.
- *New National Science Foundation Director Begins Six-Year Term*, Next Gov, June 23, 2021.
- *Indian-American to head America's apex science body*, News India Times, June 21, 2020.

- *Senate Approves Panchanathan as National Science Foundation Chief*, Inside Higher Ed, June 19, 2020.

Articles Featuring Sethuraman Panchanathan

- *'New collaborations needed' as US cuts global health funding*, Times Higher Education (THE), October 8, 2025.
- *Show impact of research investment better, says ex-NSF director*, Times Higher Education (THE), October 8, 2025.
- *Prominent ASU Figures Encourage International Students at Globe*Talk, The State Press, September 7, 2025.
- *Thousands Of Indian Students Enroll At Arizona State University*, IndiaWest Journal, August 19, 2025.
- *ASU's Panchanathan wins prestigious honor in India for scientific contributions*, ASU News, June 3, 2025.
- *Dr. Sethuraman Panchanathan gives his vision for Innovation and Opportunity at the Quantum World Summit 2024 Keynote*, The Quantum Insider, September 25, 2024.
- *NSF & Simons Foundation To Fund Two AI Research Institutes For Astronomy*, Forbes, September 21, 2024.
- *New AI Institutes to Advance Astronomical Sciences*, Government Technology Online, September 20, 2024.
- *NSF Announces Funding for Future of Semiconductors Competition Projects*, ExecutiveGov, September 17, 2024.
- *NSF announces $75 million to create five biofoundries at research institutions*, FedScoop, August 28, 2024.
- *NSF & Intel Corporation Invest in Semiconductor Education Projects*, ExecutiveGov, August 7, 2024.
- *NSF Seeks Paradigm-Shifting Results Through New TRAILBLAZER Program*, American Institute of Physics, August 1, 2024.
- *NSF Announces New AI Test Beds Initiative to Advance Safety and Security of AI*, AI Wire, July 25, 2024.
- *US moves forward with plan for national research security centre*, Science Business, July 25, 2024.
- La. Tech professor receives $6 million from National Science Foundation for mobile energy, water research KNOE-TV

- NSF Making Huge Investment In New Computing Center Led By University Of Texas Forbes
- National Science Foundation breaks ground on computing facility in Texas FedScoop
- NSF announces new AI investments aimed at diversifying research community FedScoop
- White House showcases what's possible with AI across 12 agencies Federal News Network
- MSN: Science minister meets U.S. science foundation chief
- The University of Oregon recently achieved a new milestone with its first-ever visit from the director of the NSF
- The Eugene Register-Guard: National Science Foundation director visits Eugene, talks opportunity in STEM
- University of Oregon: UO hosts U.S. National Science Foundation director for the first time
- MeriTalk: NSF Director: US Must Invest in AI, Quantum or Risk Losing Tech Race
- Next Gov: Lawmaker set to introduce bill to standardize AI system testing
- Edaily (via MSN): Ministry of Science and ICT discusses ways to strengthen cooperation with US National Science Foundation
- KGF News: Ministry of Science and ICT discusses cooperation agenda with U.S. National Science Foundation (NSF)
- Nate (South Korea): Ministry of Science and ICT discusses ways to strengthen cooperation with US National Science Foundation
- Nate (South Korea): Minister Lee Jong-ho greets the Director of the National Science Foundation (NSF)
- Yonhap News Agency: Science minister meets U.S. science foundation chief
- New America: Community Colleges Will Suffer if Congress Doesn't Reverse NSF Budget Cuts
- Federal News: White House showcases what's possible with AI across 12 agencies
- FedScoop: How AI and the cloud are accelerating scientific discoveries. Will government be ready?
- Associated Press Online: Indiaspora Releases Report on Impact of Indian Diaspora in America-
- NNK: NSF Director's Global Research Council Meeting Tour
- News OOL: NSF Director Promotes Sustainable Research Practices at International Conference.
- Seattle U News: Inspiring Industry Leaders to Address the Class of 2024, June 9, 2024

- First Lady Jill Biden arrives in NC, will soon head to Raleigh (wral.com)
- Happening Now | First Lady Jill Biden speaks at Forsyth Technical Community College (youtube.com)
- First Lady arrives in Winston-Salem for visit to Forsyth Tech (greensboro.com)
- Rice's OpenStax awarded $90M to lead first-of-its-kind NSF research hub for transformational learning and education research.
- The News Sun: Young tours with National Science Foundation director
- Press Trust of India: Indian American NSF Director Panchanathan to deliver 3 commencement addresses
- The American Bazaar: Sethuraman Panchanathan to speak at Northeastern's commencement
- Enterprise AI: NSF Director and US Senate Majority Leader Attend Launch of National AI Institute for Exceptional Education in Buffalo
- FedScoop: NSF, Energy announce first 35 projects to access National AI Research Resource pilot
- NextGov: NSF pitches Congress on the potential of quantum technology
- WSBT 22 (South Bend, IN): Senator Todd Young on impact of innovation legislation and research funding
- The American Bazaar: 10 Indian Americans elected to National Academy of Engineering
- HPC Wire: NSF Director Unveils Major Funding for National Semiconductor Technology Center Under CHIPS Act
- Yahoo News: Science Foundation director visits WNY
- ExecutiveGov: NSF, DOE Announce Selection of 35 National AI Research Resource Pilot Projects; Sethuraman Panchanathan Quoted
- Today in the News: NSF Director Panchanathan headlines Arctic Encounter Symposium 2024 as VIP speaker, meets Alaska senator and announces a $20M award to three Alaskan research institutions
- Northeastern Global News: Commencement was a day of joy for more than 10,000 graduating Northeastern University students — and their families
- Science: Analysis: How NSF's budget got hammered
- NewsIndia Times: Foundation for India and Indian Diaspora Studies hosts US-India Partnership Summit on Capitol Hill
- Nate News: Minister Yoo Sang-im discusses cooperation in science, technology, and digital fields in the U.S.

- Herald: Minister Yoo Sang-im: “Science, technology, and digital sectors, Korea-US alliance strengthened”
- Zum: Minister of Science and Technology Yoo Sang-im's visit to the US to lay the foundation for cooperation in science, technology, and digital
- K-Vibe: Science minister meets NSF chief
- The Hindu: U.S.-India tech partnership will grow to hundreds of millions of dollars, NSF director says
- New America: Community Colleges Are Key to an Equitable Future of Work in America
- New America: How Community and Technical Colleges Are Building the Bioeconomy Workforce
- Science: NSF’s bid to help more scientists in have-not states stirs controversy
- NextGov: Lawmaker set to introduce bill to standardize AI system testing
- MeriTalk: NSF Awards $10M to Foster Diversity in AI Research
- Sun Journal Online (Maine): Forest-based economy, jobs focus of new university-nonprofit partnership
- News India Times: Indiaspora unveils report showcasing Indian Diaspora’s contributions
- The Morung Express: US, India must remain at forefront of technology to defend their value systems: Ajit Doval
- The Financial Express: India and US Strengthen Strategic Partnership in Critical and Emerging Technologies
- Associated Press Online: Federal Award to Help Make North Dakota the “Epicenter of AgTech” Supporting Innovation, Jobs, and Economic Growth
- Issues in Science and Technology: An Innovation Economy in Every Backyard
- FedScoop: NSF announces $16M program for responsible tech design with philanthropic partners
- Axios: House GOP budget proposals fall short for tech agencies
- FedScoop: ‘Devastating’ NSF funding cuts present a ‘national security issue,’ officials tell House panel
- AIP: NSF Leaders Warn Congress Against Further Budget Cuts
- NextGov: NSF to issue framework addressing national security implications of sensitive research
- FASEB: Inside (the Beltway) Scoop
- Yahoo News: UTEP, El Paso get up to $15M to spur aerospace, technology
- Yahoo News: Science Foundation director visits WNY
- MSN News: US Science Agency Debuts Startup Matchmaking Program in Taiwan

- MSN News:OpenAI, Nvidia, and Meta's Latest Innovations Set to Redefine Industries
- Forbes: Biden Administration To Fund Training For Non-Degree Clean Energy Jobs

Articles Quoting Sethuraman Panchanathan

- Forbes: New Round Of Tech Hubs Funding Supports Main Streets
- Forbes: Why The White House Announced Its Broadest Innovation Investment At A Community College
- *Tech professor receives NSF investment on mobile energy-water research* Lincoln Parish Journal, July 24, 2024.
- *NSF Launches Planning Grants for AI Test Platforms; Sethuraman Panchanathan Quoted*, ExecutiveGov, July 24, 2024.
- *NSF awards $6 million grant to NMSU for climate change research*, New Mexico Sun, July 23, 2024.
- Government Technology Online: New America Launches Innovation Accelerator for Community Colleges
- Forbes: NSF Invests $72 Million In Four University Pandemic Research Centers
- FedScoop: NSF announces $75 million to create five biofoundries at research institutions
- GovCIO: NSF launches AI-driven biotech research program
- How AI's data-crunching-power can help demystify the cosmos
- Politico: "Labor wants — and gets — a say over the future"
- Crain's Chicago Business: Northwestern-led collaboration gets $20M grant to develop AI astronomy tools
- Compound Semiconductor: NSF awards $42.4M to support future semiconductors
- ExecutiveGov: NSF Announces Funding for Future of Semiconductors Competition Projects
- FedScoop: National Science Foundation, Simons Foundation launch two AI institutes for astronomy
- Forbes: NSF Budget Cuts Hamstring CHIPS Act And Community Colleges
- Vacaville Reporter (Calif.): UCD's new pandemic center 'a moonshot' to study pre-emergence phase
- Government Technology Online quotes the NSF Director in: K-12 Game Design Competition Asks, Imagine 'Life in 2100'
- Austin Business Journal: $457M from National Science Foundation to help establish new computing center at UT focused on AI
- Forbes: NSF Making Huge Investment In New Computing Center Led By University Of Texas
- FedScoop: National Science Foundation breaks ground on computing facility in Texas
- Axios: House GOP budget proposals fall short for tech agencies
- FedScoop: 'Devastating' NSF funding cuts present a 'national security issue,' officials tell House panel
- AIP: NSF Leaders Warn Congress Against Further Budget Cuts
- NextGov: NSF to issue framework addressing national security implications of sensitive research
- FASEB: Inside (the Beltway) Scoop
- Forbes: OpenAI, Nvidia, NSF, NASA And More Partner On Federal Program To Increase Access To AI Resources

- Associated Press Online: Spelman College led team awarded a $14 Million National Science Foundation grant focused on transforming the research enterprise
- Eos: National Science Board Reports a Need for More Support of STEM Talent
- Alaskan Culture Daily: NSF announces a new EPSCoR Track-1 award to combat climate change in Alaska
- GovCIO Media: White House Science Advisors Tout Advances in AI Research

Other Videos

- *A message to our Indian students | Arizona State University*, August 2025.

SOCIAL MEDIA

- **X** account: *https://x.com/DrPanch*
- LinkedIn: *https://www.linkedin.com/in/drpanch/*

PART 2

Academic Activities
Arizona State University

KEY SPEAKING ENGAGEMENTS
1990 – 2020

During and prior to active tenure at Arizona State University

Guest Speaker and Distinguished Lectures

- *An Interdisciplinary Framework for Citizen-Centered Smart Cities and Smart Living*, International Conference on Smart Multimedia, 2019.
- *Innovations in Transportation Security*, TSA Symposium, 2019.
- *Scaling Technology for Maximum Impact*, Starbucks Innovation Expo, 2019.
- *How Person-Centered Technology is Transforming Abilities*, Fordham Distinguished Lecture Series, Fordham University, 2019.
- *How Person-Centered Technology Partnerships are Transforming Abilities*, The Emerging Economies Summit, Qatar University, 2019.
- *Invited Witness*, "Research and Innovation: Ensuring America's Economic and Strategic Leadership," Hearing at U.S. Senate Commerce Subcommittee, 2019.
- U.S. Army Corps of Engineers Engineer Research and Development Center (ERDC) Visit to ASU, 2019.
- *Leadership in Innovation*, Catholic University of Portugal, International Federation of Catholic Universities, 2019.
- Beus CXFEL Laboratory Celebration, 2019.
- Sun Corridor Inc. Annual Meeting, 2019.
- *An Interdisciplinary Framework for Citizen-Centered Smart Cities and Smart Living*, International Conference on Smart Multimedia, 2019.
- *Solutions to Grand Challenges Demand Innovation*, BDO Global, 2019.
- *Biologicalization in Manufacturing Thought Leaders Workshop*, ASU, Biodesign Institute Europe, Dublin City University, and Fraunhofer Society, 2019.
- *The Business of Space*, Arizona Space Business Roundtable, 2019.
- *Celebration of Invention*, National Academy of Inventors, 2019.
- *Advancing the Mission of the New American University*, Honeywell Leadership Series, 2019.
- *Health Solutions: Investment, Impact and Future*, Piper Board of Trustees, 2019.
- *Welcome Remarks*, Global KAITEKI Center Launch, ASU, 2019.
- *Innovation Day*, ASU Leadership Institute, 2019.
- *Celebrating Excellence*, Arizona State University (ASU) Graduate College, 2019.
- *Person-Centric Multimedia Computing: Technology Inspirations Drawn from Needs of Individuals with Disabilities with Impacts to the Broader Population*, International Conference on Computing, Networking and Communications, 2019.

- *Modeling Dynamics, Statistical Inference and Prediction of Infectious Diseases,* Indo-U.S. International Workshop, 2018.
- *Congressional Conference on Space Innovation*, Arizona State University (ASU), 2018.
- *Person-Centered Multimedia Computing: A New Paradigm Inspired by Assistive and Rehabilitative Applications*, International Conference on Smart Multimedia, 2018.
- *Person-Centered Multimedia Computing: A New Paradigm Inspired by Assistive and Rehabilitative Applications*, Distinguished Seminar Series of the School of Electrical and Computer Engineering (ECE), Oklahoma State University (OSU), 2018.
- *Celebration of Invention*, Arizona State University (ASU) NAI chapter inductee ceremony, 2018.
- Flinn Foundation, 2018.
- *Promoting Economic Development Via Entrepreneurship and Innovation*, Qaboos Cultural Center-ASU Oman 2018 Fall Conference, 2018.
- *Person-Centered Multimedia Computing: A New Paradigm Inspired by Assistive and Rehabilitative Applications*, International Conference on Smart Multimedia, 2018.
- *Person-Centered Multimedia Computing: A New Paradigm Inspired by Assistive and Rehabilitative Applications*, Third International Workshop on Interactive and Spatial Computing, 2018.
- *Universities Innovating to Prepare Students for a Disrupted World*, Japan-U.S. Digital Innovation Hub Workshop, Universities of the Future, 2018.
- *Universities Innovating to Prepare Students for a Disrupted World*, Univation Universities Canada, 2018.
- *Leveraging Extreme Innovation*, Global Innovation Summit & University and Research Leadership Forum, Task Force, 2017.
- *Technology and New Professions in 2030*, Quest India, 2017.
- Arizona State University (ASU) Advanced Leadership Initiative Cohort Thought Leader Presentation, 2017.
- Arizona State University (ASU) Center for 4D Materials Science Symposium, 2017.
- *Innovation Through Disruption*, 2017 East Valley Leadership Forum, Thought Leader Forum, 2017.
- *University and Research Leadership Forum*, Global Federation of Competitiveness Councils, 2017.
- CompTIA State Tech Summit, AZ, *Innovation and Economic Development*, 2017.
- *Solutions to Grand Challenges Demand Innovation*, TEDxASU, 2017.
- Flinn Foundation, 2016.
- Canada Arizona Business Council, 2016.
- Health Futures Council Meeting, 2016.
- Innovation Day @ Arizona Coyotes, 2016.
- University Club Advisory Board Fall Colloquium, *Innovation and Economic Development*, 2016.

- *Person-Centered Multimedia Computing: A New Paradigm Inspired by Assistive and Rehabilitative Applications*, 2016 Second IEEE International Conference on Research in Computational Intelligence and Communication Networks, 2016.
- *Designed for Discovery*, Graduate and Professional Student Association Research Symposium, Arizona State University, 2016.
- *Driving Economic Impact in Our Community*, Tempe City Council Meeting, 2016.
- *Global Partnerships*, Arizona International Trade and Commerce Committee, 2015.
- *Driving Real Economic Impact in Our Communities*, University Economic Development Association, 2015.
- *ASU Research and Economic Development*, Arizona State Senate Commerce Committee, 2013 and 2015.
- *Person-Centered Multimedia Computing: A New Paradigm Inspired by Assistive and Rehabilitative Applications*, Third International Conference on Signal Processing, Communication and Networking, 2015.
- Tamil Entrepreneurs Forum, 2015.
- Council on Government Relations, 2015.
- Chandler Chamber Education IMPACT Forum, CCA, 2015.
- Ctr. for Applied Structural Discovery, Virginia Piper Charitable Trust, 2015.
- iClusters - Ministry of Economy in Mexico and Tec de Monterrey, 2015.
- *Innovation and Knowledge Transfer: Effective Technology Transfer and Economic Development*, 6th Brazilian Industrial Innovation Summit, 2015.
- *Person-Centered Multimedia Computing: A New Paradigm Inspired by Assistive and Rehabilitative Applications*, Arizona Computing Postdoc Academy, Arizona State University, 2014.
- *A Community Conversation on Education*: *Breakfast with Our Business Leaders,* City of Gilbert, 2014.
- APACT Retreat Welcome, 2014.
- *Rehabilitation Robotics*, 2nd Annual Piper Health Solutions Workshop, 2014.
- Global Entrepreneurship Week, 2013.
- *Celebrating Excellence*, Arizona State University (ASU) Graduate College, 2013.
- City of Scottsdale/Alexandria Network Opening, Arizona State University (ASU), 2013.
- *An Interdisciplinary Approach to the Design, Development and Deployment of Person-Centered Accessible Technologies*, Third International Conference on Recent Trends in Information Technology, 2013.
- *Role of Universities in Development*, 2013 PBEd Summit for Higher Education, Creating a National Roadmap for People-Drive Competitiveness, 2013.
- *Realizing the Economic Strength of Our 21st Century Border: Trade, Education, and Jobs Conference*, U. S. Department of Commerce and Arizona State University, 2012.
- AZ Solar Summit, Guest Speaker and Panel Moderator, 2012.
- *Entrepreneurship & Innovation at Arizona State University (ASU) and Research Focus Areas*, ASU/Mayo Leadership Meeting, 2012.

- Connection One 10th Anniversary Symposium, 2012.
- *Person-Centered Accessible Technologies: Improved Usability and Adaptation Through Inspirations from Disability Research*, International Conf. on ACM Multimedia, 2012.
- *Science and Technology in Education*, Arizona SciTech Festival News Conference, 2011.
- *Human-Centered Multimedia Computing: Inspirations Through Enriching the Lives of Individuals with Sensory, Motor, Perceptual and Cognitive Disabilities*, International Conference on Trends in Industrial Measurements and Automation, 2011.
- *Research Enterprise: Goals, Achievements & Future Outlook*, Arizona State University (ASU) Planning and Budget Annual Staff Retreat, 2010.
- *ASU Research Highlights and Achievements*, UGA Admissions Counselor Training, 2010.
- *Grant Opportunities and Seed Funding in Grand Challenge Areas*, NAE Grand Challenges Summit Series, 2010.
- *Lessons Learned*, Phoenix Chapter of the Association of Government Accountants (AGA), Professional Development Conference, 2010.
- *Gain Understanding on the Academic, Social, Cultural and Economic Impact of Arizona State University on the Local, National and Global Level*, Tempe Leadership Meeting, Arizona State University, 2010.
- *Multimedia in Biomedicine*, Basic Medical Sciences Seminar Series, 2010.
- *Becoming a Member of Your Academic Community & Networking*, Preparing Future Faculty Seminar Series, 2009.
- *Early Diagnostic and Assistive Technologies for Individuals with Alzheimer's Disease*, The 2009 Arizona Alzheimer's Consortium Annual Conference, 2009.
- *Human–Centered Multimedia Computing*, Phoenix IEEE Computer Society Chapter, 2009.
- *Multimedia in Biomedicine*, Basic Medical Sciences Seminar Series, The University of Arizona, College of Medicine-Phoenix, in partnership with Arizona State University, 2009.
- *Enriching the Lives of Individuals with Disabilities through Human-Centered Multimedia Computing*, Fourth International Conference on Digital Information Management, University of Michigan, 2009.
- *Developing Human–Centered Multimedia Computing Tools that Combine Engineering, Medicine and Computer Science*, Arizona State University (ASU) President's Founders Retreat, 2008.
- *Becoming a Member of Your Academic Community & Networking*, Preparing Future Faculty Seminar Series, 2008.
- *Human-Centered Multimedia Computing: A New Paradigm for the Design of Assistive and Rehabilitative Environments*, CERI and Arizona State University (ASU) Applied Psychology Brown Bag Series, 2008.
- *iCARE Research Project*, Sai Institute of Higher Learning, 2008.
- *Human-Centered Multimedia Computing Inspired by Focus on Disabilities and Impairments*, International Conference on Multimedia Computing and Systems, 2009.

- *Human-Centered Multimedia Computing*, 12th IASTED International Conference on Internet and Multimedia Systems and Applications, 2008.
- *Implications of Multimodality in Ambient Interfaces*, Haptics in Ambient Systems, 2008.
- *Human-Centered Multimedia Computing: A New Paradigm for the Design of Assistive and Rehabilitative Environments*, International Conference on Signal Processing, Communications and Networking, 2008.
- *Human-Centered Multimedia Computing: Co-aptive Computing, Haptic Interfaces, Assistive and Rehabilitative Technologies*, TCS Computer Science Week, 2008.
- *Empowering Women through IT*, IT for Societal Advancement and Innovation, 2008.
- *Biomedical Informatics Program*, Phoenix City Council, Subcommittee on Innovation, Parks and Education, 2007.
- *Building a Department/Strategic Planning*, Academic Chairs and Dir. Council, 2007.
- *Biomedical Informatics*, Arizona Board of Regents, 2007.
- *Arizona State University (ASU) Technology Entities Partnering with Industry*, International Enterprise Singapore Wireless Cluster Mission, 2007.
- *Human-Centered Multimedia Computing*, Multimedia Applications for Enterprises, TCS Workshop, 2007.
- *Status Report to the Governor on Biomedical Informatics*, Arizona Commission for Medical Education and Research (ACMER), 2004–2007.
- *Update on ASU Biomedical Informatics*, Phoenix City Council, 2006.
- *Information Technology Centric Assistive and Rehabilitative Environments*, International Conference on NextGen Information Technology for Societal Applications and Integration, Sai Institute of Higher Learning, 2006.
- *Adaptive Technology for the Sight Impaired*, Unite for Sight 2nd Annual International Health Conference, Harvard University, 2005.
- *Understanding the Health Needs for People with Disabilities: Implications for Assistive Technologies Research*, World Health Organization: Forum 8, Mexico City, 2004
- *Cognitive Multimedia Computing*, International Symposium on Information Science and Engineering, 2003.
- *Ubiquitous Multimedia Computing*, International Conference on Optical Computing and Multimedia, 2002.
- *Ubiquitous Multimedia – Issues*, Challenges and Solutions, Multimedia Information Systems, 2002.
- *The Role of Color in the Content-based Image Retrieval*, IEEE International Conference on Image Processing, 2000.
- *Journeys of the Mind*, The President's Community Enrichment Program, 1999.
- *Video Indexing and Processing*, High Performance Computing Workshop, 1999.
- *Delivering Media Processing Solutions*, ASU-Motorola Delivering Solutions Technology Symposium, 1999.
- *Media Processing – Issues*, Challenges and Processor Architectures, International Symposium on Multimedia Signal Processing, 1999.

- *Media Processors*, International Conference of the Austrian Center for Parallel Computing, 1999.
- *Video Indexing in Wavelet Compressed Domain*, IEEE International Conference on Image Processing '98, 1998.
- *Visual Computing and Communications*, Motorola Research Seminar, Phoenix Technology Park, Motorola, 1998.
- *Visual Computing and Communications*, Distance Learning Initiative Seminar, Arizona State University, 1998.
- *Visual Computing and Communications*, ACM Seminar, Computer Science and Engineering Department, Arizona State University, 1997.
- *Visual Computing and Communications*, Bell–Northern Research, 1996.
- *Video Indexing, Graduate Colloquium Seminar*, Northern Illinois University, 1996.
- *Visual Computing and Communications*, Texas Instruments, 1996.
- *Visual Computing and Communications*, University of Ottawa, 1996.
- Visual Computing and Communications, University of New South Wales, 1996.
- *Multimedia Computing and Communications*, School of Computing Curtin University of Technology, 1996.
- *Visual Communications*, International Conference on Trends in Instrumentation and Measurement, 1995.
- *Wavelet Transforms–Algorithms and Implementation*, Eastman Kodak Company, 1995.
- *VLSI Chip–Set for Wavelet Transforms*, Genesis Inc., 1995.
- *Video Browsing in Multimedia Databases*, OCRI/TRIO Multimedia Systems– Technology and Applications, 1994.
- *Multimedia Communications*, Computer Society of India, 1993.
- *Visual Communications*, Department of Electronics and Communication Engineering, Indian Institute of Science, 1993.
- *Video Compression*, IEEE Society Chapter, 1993.
- *Visual Communications*, MITEL, 1993.
- *Video Compression*, Dedicated Technologies Inc., 1992.
- *Visual Communications*, NEWBRIDGE Networks Corp., 1992.
- *Adaptive Vector Quantization and Architectures for Image Coding*, Computer and Vision Research Center, University of Texas at Austin, 1990.
- *Algorithms and Architectures for Image Compression*, Signal and Image Processing Institute, University of Southern California, 1990.
- *Algorithms and Architectures for Visual Compression*, University of Quebec, 1990.

Panel Organizer/Moderator

- *Leading Change in Health Care: Transnational Perspectives on Culture and Collaboration to Improve Population Health*, 2018.

- University Research Leadership Forum, Global Federation of Competitiveness Councils, Forum 2016.
- *Managing University Intellectual Property*, Association of Public and Land Grant Universities, Summer Meeting, 2015.
- *Entrepreneurship Education: Nurturing the Next Generation of Innovators*, Clinton Global Initiative at ASU, 2014.
- *Following the Money: Where is it Taking Us?* Commission on Innovation, Competitiveness, and Economic Prosperity,125th Association of Public and Land Grant Universities Annual Meeting, 2012.
- *Sustainability and Climate Impacts*, 124th Association of Public and Land Grant Universities Annual Meeting, 2011.
- *National Research Priorities*, 124th Association of Public and Land Grant Universities Annual Meeting, 2011.
- *Energy Research*, Council on Research Policy & Graduate Education 2011 Summer Forum, 2011.
- *Communicating Research to the Public*, Council on Research Policy & Graduate Education, 2011 Summer Forum, 2011.
- *Biomedical Informatics*, Computing Research Association Conference, 2008.

Panels

- Arizona Chamber of Commerce and Industry ASU COVID-19 Update Webinar, 2020.
- U.S. National Science Board Listening Session moderator at National Academy of Inventors Annual Meeting, 2019.
- Maricopa Association of Governments Economic Development Committee, 2019.
- Chandler Chamber of Commerce Education Forum, 2018.
- Japan-U.S. Digital Innovation Hub Summit, U.S.-Japan Academic/Industrial Collaborations, 2018.
- ASU-American Enterprise Institute, Minding the Skills Gap: The Future of Education in the Future of Work, 2018.
- PLuS Alliance Symposium, Forces of Globalization and Nationalism: Pathways for Leading Universities and International Collaboration, 2017.
- Council on Research Summer Meeting, Designing and Implementing a Successful Research Office, 2017.
- Council on Research 2017 Summer Meeting, Association of Public and Land Grant Universities (APLU) Commission on Innovation, Competitiveness & Economic Prosperity Tech Transfer Evolution, 2017.
- Global Federation of Competitiveness Council Conference: Brazilian Technology Companies on the Move: How Can Innovation be Turbocharged at a Global Scale? 2017.
- Select USA Investment Summit, Innovation Centers: Dynamic Change in R&D, 2017.

- Council on Competitiveness 7th Brazilian Industry Innovation Summit, Industry of the Future – Risks and Opportunities in the Face of Disruptive Innovations, 2017.
- SelectUSA Investment Summit, Innovation Centers: Dynamic Change in the R&D Environment, 2017.
- Arizona Technology Innovation Summit, 2017.
- Arizona State Legislature Nexus of Business and Education Forum, 2017.
- Greater Phoenix Economic Council (GPEC) Metro Phoenix Global Investment Plan, 2017.
- ASU/Georgetown Academy for Innovative Higher Ed Leadership, 2017.
- NextCon 2016, Thriving in the Silicon Desert, 2016.
- Education Writers Association (EWA), Higher ED 2016 Accelerating Innovation: New Ideas for Colleges & Newsrooms, 2016.
- Economic Development Administration (EDA), 2016 Fifth Americas Competitiveness Exchange on Innovation and Entrepreneurship (ACE) National Conference, 2016.
- Global Pathways Institute at the Southwest Pathways Conference, 2015.
- Braingainmag.com Student Session, Studying in the USA: Perspectives from NYU & ASU, 2014.
- Linking International Development & Education Innovation Outcomes, at the ASU + GSV Education Innovation Summit, 2014.
- University Partnership Models in Different Countries & Relevance for India's Higher Education Reform Agenda, One Globe 2013: Uniting Knowledge Communities Conf., 2013.
- Commission on Innovation, Competitiveness, and Economic Prosperity: Following the Money: Where is it Taking us? 125th Association of Public and Land Grant Universities (APLU) Annual Meeting, 2012.
- Communicating Research to the Public, Council on Research Policy & Graduate Education (CRPGE) 2011 Summer Forum, 2011.
- IT's Journey from Theory to Practice, International Workshop on Scientific Computing, Sai Institute of Higher Learning, 2010.
- Facilitating Large Research Initiatives, 123rd Association of Public and Land Grant Universities (APLU) Annual Meeting, 2010.
- Priming the Green Engine: An Introduction to Algae, ASU, LightWorks, 2010.
- Innovative Curricula for Science Informatics position paper at the Workshop on Computational Education for Scientists, 2007.
- Future of High–Performance Computing, Sai Institute of Higher Learning, 2003.
- Bridging the Semantic Gap at the International Conference on Image & Video Retrieval, 2002.
- Future of Image Analysis at the 1998 Southwest Symposium on Image Analysis and Interpretation Conference, 1998.
- Video Rep., Coding and Indexing at the Workshop on Very Low Bit–Rate Video, IL, 1998.

TEACHING AND MENTORING ACTIVITIES

Sample of Courses Taught

Undergraduate	Graduate
Freshman: Introduction to ASU	Multimedia Information Systems
Freshman: Introduction to Electrical and Computer Engineering	Image Processing and Communications
Sophomore: Digital Computer Organization	Parallel Processing
Junior: Analog and Digital Electronics II	Digital Image Processing I
Junior: Computer System Design	Digital Image Processing II – Video Processing
Senior: Computer Architecture and Parallel Processing	2 to 3 (average) Independent Studies per year, 2000 – 2016

All courses (graduate and undergraduate) received consistently high evaluations in the areas of teaching; course content; laboratory and projects; access for consultation; and enthusiasm and energy in delivering the course material.

Short Courses/Tutorials

- MPEG–4, Korean Information Processing Society (KIPS 2002), 2002.
- MPEG–4, Qualcomm, 2002.
- Electronic Imaging 2001 Symposium, 2001.
- Internet Multimedia Management Systems, 2000.
- Electronic Imaging 2000 Symposium, 2000.
- Video Indexing, Browsing, and Retrieval, SPIE Photonics West Symposium, 2000.
- Multimedia *Storage* and Archiving Systems IV Conference, 1999.
- Multimedia Information Indexing and Retrieval, SPIE Photonics West Symposium, 1999.
- Video Indexing, Browsing, and Retrieval, SPIE Photonics West Symposium, 1999.
- Multimedia Storage and Archiving Systems III Conference, 1998.
- Electronic Imaging ’98 Symposium, 1998.
- IEEE–International Conference on Multimedia Computing Systems ’97, 1997.
- Electronic Imaging ’97 Symposium, 1997.

Doctoral Students – Graduated

1. **J. Miller**, '*Can I Consider You My Friend?' Moving Beyond One-Sided Conversation in Social Robotics*, **Ph.D.**, 2022. (Postdoctoral Scientist, Oak Ridge National Laboratory)
2. **B. Duarte**, *Haptic Vision: Augmenting Non-Visual Travel by Increasing Spatial Knowledge Through Dynamic Haptic Interactions*, Ph.D., 2020.
3. **A. Tadayon**, *Anticipatory and Invisible Interfaces to Address Impaired Proprioception in Neurological Disorders*, **Ph.D.**, 2020. (VP of Engineering, Trainual)
4. **M. Moore**, *'I'm Having Trouble Understanding You Right Now': A Multi-Dimensional Evaluation of the Intelligibility of Dysphonic Speech*, **Ph.D.**, 2020. (Assistant Professor, Drake University)
5. **B. Fakhri**, *Modern Sensory Substitution for Vision in Dynamic Environments*, **Ph.D.**, 2020. (Software Engineer, Google)
6. **C.D.C. Heath**, *Multimodal Data Processing of Dyadic Interactions for Automated Feedback Systems Supporting Parent Implementation of Pivotal Response Treatment*, **Ph.D.**, 2019. (Software Engineer, Intel Corporation)
7. **H. Ranganathan**, *Deep Active Learning Explored Across Diverse Label Spaces*, Models for Computer Vision, **Ph.D.**, 2018.
8. **R. Tadayon**, *Person-Centered Serious Game Design for Motor Learning*, **Ph.D.**, 2017. (Assistant Professor, Hiroshima University, Japan)
9. **H. Venkateswara**, *Adaptive Computational Models for Computer Vision Applications*, **Ph.D.**, 2017. (Assistant Professor, Georgia State University)
10. **P. Lade**, *Probabilistic Topic Models for Human Emotion Analysis*, **Ph.D.**, 2015. (Senior Data Scientist, Bosch Center for AI)
11. **R. Chattopadhyay***, *Building Adaptive Computational Systems for Physiological and Biomedical Data via Transfer and Active Learning*, **Ph.D.**, 2013. (Senior Data Scientist, Intel Corp.)
12. **S. Chakraborty**†, *Batch Mode Active Learning for Multimedia Pattern Recognition*, **Ph.D.**, 2013. Assistant Research Professor, Arizona State University. (Assistant Professor, Florida State University)
13. **M. Alzubaidi**, *Computational Methods for Perceptual Training in Radiology,* **Ph.D.**, 2012. (Assistant Professor, Yarmouk University, Jordan)
14. **T. McDaniel**†, *Somatic ABC's: A Theoretical Framework for Designing, Developing and Evaluating the Building Blocks of Touch-Based Information Delivery*, **Ph.D.**, 2012. (Assistant Professor, Arizona State University)
15. **S. Krishna**†, *Mediated Social Interpersonal Communication: Evidence-based Understanding of Multimedia Solutions for Enriching Social Situational Awareness*, **Ph.D.**, 2010. (Director, Data Science, Artificial Intelligence and Innovation, KPMG US)
16. **N. Chatapuram Krishnan**†, *A Computational Framework for Wearable Accelerometer-Based Activity and Gesture Recognition*, **Ph.D.**, 2010. (Assistant Professor, Indian Institute of Technology, Ropar, India)

17. **V. Nallure Balasubramanian**†, *Conformal Predictions in Multimedia Pattern Recognition*, **Ph.D.**, 2010. (Associate Professor, Indian Institute of Technology, Hyderabad, India.)
18. **R. Gurunathan**, *Building Developmental Networks with Pairwise Gene Interactions*, **Ph.D.**, 2007.
19. **M. Gargesha**, *Content–Based Image Analysis Technologies & Biological Validation Schemes for Images Depicting Spatial Gene Expressions Patterns in Developing Embryos*, **Ph.D.**, 2006. (Vice President, Research and Operations, at BioInVision, Inc.)
20. **K. Kahol**†, *Distal Object Perception Through HAPTIC User Interfaces*, **Ph.D.**, 2006. (Head, Affordable Health Technologies Division at Public Health Foundation of India)
21. **A. Akoglu**, *Application Specific Reconfigurable Architecture Design Methodology*, **Ph.D.**, 2005. (Associate Professor of Electrical Computer Engineering, University of Arizona)
22. **A. R. Dasu**, *Design of Reconfigurable Processors*, **Ph.D.**, 2004. (Principal Investigator, CTO Office, Intel Programmable Solutions Group)
23. **O. Lotfollah**, *Content – Aware Video Transmission System*, **Ph.D.**, 2004. (Research and Development Engineer, Johnson Controls, Milwaukee, WI)
24. **J. Black**, *A Framework for Indexing Higher – Level Content in Natural Images: A Study on The Far Side of The Semantic Gap*, **Ph.D.**, 2004.
25. **G. Fahmy**, *Joint Compression and Classification in the Wavelet Domain*, **Ph.D.**, 2003. (Associate Professor, Electrical Engineering, Majmaah University, KSA)
26. **A. Vrenios**‡, *Parallel Adaptive Mobile Web Clipping*, **Ph.D.**, 2003. (Independent Consultant)
27. **Y.C. Park**‡, *A Framework for Description, Sharing and Retrieval of Semantic Visual Information*, **Ph.D.**, 2002. (Head of Research, Johnson Controls, Milwaukee, WI)
28. **F. Idris**, *Video Indexing using Vector Quantization*, **Ph.D.**, 2000. (Assistant Professor, Department of Computer Engineering, Jordan University of Science and Technology, Jordan)
29. **O. Fatemi**, *Affine Video Processors*, **Ph.D.**, 2000. (Assistant Professor, Digital System Level Design Laboratory, University of Tehran, Iran)
30. **T. M. Le**, *Computing RAMs for Video Processing*, **Ph.D.**, 2000. (Assistant Professor, Department of Electrical and Computer Engineering, National University of Singapore)
31. **M. Mandal**, *Wavelets for Compression and Indexing*, **Ph.D.**, 1998. (Professor, Electrical and Computer Engineering, University of Alberta, CAN)

†*Nominated for the Best Ph.D. student Award, School of Comp. and Augmented Intelligence.*

#*Nominated for the Governor General's Gold Medal for the Best Ph.D. thesis at the University of Ottawa*

**Best Ph.D. Student Award, School of Comp. and Augmented Intelligence.*

Master's Degree Students – Graduated

1. **B. Nagabandi**, *Generalized Domain Adaptation for Visual Domains*, **M.S.**, 2020.
2. **R. Patil**, *Incremental Learning with Sample Generation from Pretrained Networks*, **M.S.**, 2020.
3. **M. Saxon**, *Characterizing Dysarthric Speech with Transfer Learning*, **M.S.**, 2020.
4. **R. Ramakrishnan**, *Language Image Transformer*, **M.S.**, 2020.
5. **M. Vyas**, *Zero Shot Learning for Visual Object Recognition with Generative Models*, **M.S.**, 2020.
6. **A. Patel**, *Accessible Retail Shopping for The Visually Impaired Using Deep Learning*, **M.S.**, 2020.
7. **A. Dudley**, *Deep Domain Fusion for Adaptive Image Classification*, **M.S.**, 2019.
8. **P. Papreja**, *Representation, Exploration, and Recommendation of Music Playlists*, **M.S.**, 2019
9. **B. Gupta**, *Chat-Box: A Mood Analyzer for Individuals with Social Interaction Disabilities*, **MCS**, 2018.
10. **J. Eusebio**, *Learning Transferable Data Representations Using Deep Generative Models*, **M.S.**, 2018. (Software Engineer, Axosoft, USA)
11. **S. Mian**, *Long-Term Deployment of an Autonomous Drone System in an Urban Environment*, **M.S.**, 2018. (Ph.D. Student, University of Pittsburg)
12. **D. D'Souza**, *Addressing Problems Facing Drone Scheduling Systems in Urban Environment*, **M.S.**, 2018. (Analyst, Southwest Research Institute)
13. **L. Narayan Viswanathan**, *Enhancing Movie Comprehension for Individuals who are Visually Impaired or Blind through Haptics*, **M.S.**, 2011. (Software Engineer, Facebook)
14. **H. Venkatesan**, *Human Activity Recognition*, **M.S.**, 2011. (Senior Research Engineer, Mix Tech, Inc.)
15. **S. Nataraju**, *Visual Attention-Based Saliency in Videos*, **M.S.**, 2010.
16. K. Bracamonte, *Image Quality Assessment for Wearable Vision Systems*, **MCS**, December 2010.
17. **R. Gouripeddi**, *Kernal-Based Machine Learning Approaches for Decision Support in Interventional Cardiology*, **M.S.**, 2009.
18. **L. Gade**, *Person Localization in Videos from a Wearable Camera*, **M.S.**, 2009.
19. **M. Vankipuram**, *Hybrid Optimization of Haptic Rendering for Volumetric Drilling Simulation*, **M.S.**, 2008.
20. **D. Villenueva**, *Characterization of Dynamic Expertise in Collaborative Knowledge Acquisition Systems*, **M.S.**, 2008.

21. **F. Saeidi**, *Predictive Model for Errors in High Cognitive Load Environments Using Electroencephalography*, **M.S.**, 2008.
22. **A. Sridharan**, *Physics Based Hybrid Deformation Platform for Introducing Configurability in Visio–Haptic Environments*, **M.S.**, 2007.
23. **P. Satyan**, *Pose Invariant Face Recognition Using Frontal and Profile Views*, **M.S.**, 2007.
24. **B. Koshi**, *Automating Standardization of Fruit–Fly Embryo Images*, **M.S.**, 2006.
25. **R. Hiremagalur**, *A Platform Evaluating Potential Augmentations to the Human Visual System*, **MCS**, 2006.
26. **M. Shah**, *Reading and Comprehension from the Textual Content Based on Semantics of the Words*, **M.S.**, 2006.
27. **S. Krishna**, *Face Recognition in Ubiquitous Environment*, **M.S.**, 2005.
28. **M. Rush**, *iCARE Reader Design, Development and Background Work*, **M.Eng.**, 2005.
29. **M. Srinivasan**, *Target Architecture Automation and Placement of Reconfigurable Logic Blocks*, **M.S.**, 2004.
30. **A. Sudharsanan**, *Media Processing on Network Processors*, **M.S.**, 2004.
31. M. Walters, *Human Skin Detection: An Implementation of the Fleck and Forsyth Naked People Skin Filter*, 2004.
32. **P. Kuchi**, *Gait Recognition using Empirical Mode Decomposition Based Feature Extraction*, **M.S.**, 2003.
33. **K. Kahol**, *Gesture Segmentation in Complex Motion Sequences*, **M.S.**, 2003.
34. G. Amudhan, *Algorithmic Developments and Complexity Analysis of 2D Mesh- Based MPEG–4 coding*, **M.S.**, 2003.
35. **R. Bhaghavan**, *Performance Analysis of Adaptive Modulation to Support Multiple Data Rates in a Wideband Code Division Multiple Access System*, **M.S.**, 2002.
36. **N. Gamaz**, *Video Indexing in the MPEG Domain Compressed*, **M.Eng.**, 2002.
37. **S. Narayanan**, *Super Binary Alpha Block based Quad–Tree Shape Coding Methods*, **M.S.**, 2002.
38. **R. Brinkerhoff**, *iGuide Reader: A System for Automatic Reading of Printed Test*, **M.Eng.**, 2002.
39. **M. Gargesha**, *Indexing and Retrieval from Face Databases Using Feature–Based and Data Analysis Techniques*, **M.S.**, 2001.
40. **K. Jayaraman**, *Classification and Indexing of Gene Expression Images*, **M.S.**, 2001.
41. **R. Mohan**, *Temporal Partitioning for Design of Reconfigurable Architectures*, **M.S.**, 2001.
42. **A. Dawra**, *Most Sustainable Path Routing*, **M.S.**, 2001.
43. **K. Vaithianathan**, *A Human Visual System-Based Model for Contour Detection in Natural Images*, **M.S.**, 2000.
44. **M. Jammetige**, *Joint Indexing and Watermarking of Images and Video*, **M.S.**, 2000.
45. **J. M. Bhalod**, *Content–Based Image Indexing in the Wavelet Domain*, **M.S.**, 2000.

46. **V. M. Zubair**, *Visual Query Interface for Indexing and Retrieval*, **M.S.**, 2000.
47. **K. Ramaswamy**, *Complexity Analysis of MPEG–4 Video Profile*, **M.S.**, 2000.
48. **R. C. Nagaraj**, *Reconfigurable Architecture for MPEG4*, **M.S.**, 2000.
49. **K. Tsougarakis**, *Unsupervised Content–Based Video Object Segmentation and Tracking*, **M.S.**, 2000.
50. **J. Chen**, *Video Browser for Distance Learning*, **M.Eng.**, 2000.
51. **V. Singhla**, *Video Composition and Retrieval System*, **M.S.**, 1999.
52. **L. Chandrasekhar**, *Architectures for Motion Estimation in MPEG 4*, **M.S.**, 1999.
53. **R. Gururaj**, *Visual Query Specification and Retrieval*, **M.S.**, 1999.
54. **S. Dillman**, *An Image and Video Processing Toolbox*, **M.Eng.**, 1999.
55. **S. Padhy**, *Scalable Video Browsing*, **M.Eng.**, 1999.
56. **Y. P. Ko**, *Scalable Video Transmission over Wireless Networks*, **M.Eng.**, 1999.
57. **A. David**, *Real–Time Methods for Face Recognition*, **M.A.Sc.**, 1999
58. **B. Huang**, *Color–based Indexing of Visual Information*, **M.Eng.**, 1998.
59. **K. A. Qazi**, *Video Transmission over ATM*, **M.Eng.**, 1998.
60. **G. Hammouri**, *Video Algebra*, **M.A.Sc.**, August 1997.
61. **Q. Hu**, *Scalable Video Compression*, **M.A.Sc.**, March 1997.
62. **D. Knox**, *Telecommunications Call Processing on a Linear Processor Array*, **M.A.Sc.**, 1996.
63. **A. Grezeszczak**, *VLSI Architectures for Discrete Wavelet Transform*, **M.A.Sc.**, 1995.
64. **T. M. Le**, *Computing RAMs for Video Compression*, **M.A.Sc.**, 1995.
65. **M. Mandal**, *Wavelets for Image Compression*, **M.A.Sc.**, 1994.
66. **A. Jain**, *Scalable Image Coding for Storage, and Transmission*, **M.A.Sc.**, 1994.
67. **E. Chan**+, *Novel Motion Estimators for Video Compression*, **M.A.Sc.**, 1994.
68. **F. Idris**, *An Algorithm and Architecture for Video Compression*, **M.A.Sc.**, 1993.
69. **R. Gandhi**, 3–*D Pyramids for Video Compression*, **M.A.Sc.**, 1993.
70. **G. Iyengar**, *Algorithms and Architectures for Progressive Image Transmission*, **M.A.Sc.**, 1993.
71. **D. Richens**, *Multimedia Workstation for Cardiac Image Sequences*, **M.A.Sc.**, 1993.
72. **L. Zhang**, *Frame Replenishment Coding Over Noisy Channels*, **M.A.Sc.**, 1991.

+ *Best Thesis Award in Multimedia Communications from Canadian Advance Technology Association (CATA).*

Research Faculty/Postdoctoral Fellows/Research Engineers

1. **H. Venkateswara**, **Ph.D.**, *Transfer Learning for Computer Vision Applications*, 2017–2022. (Assistant Professor, Georgia State University)

2. **T. McDaniel**, **Ph.D.**, *Haptic User Interfaces for Assistive and Rehabilitative Applications*, 2011-2019. (Assistant Professor, Arizona State University)
3. **R. Tadayon**, **Ph.D.**, *Person-Centered Motor Learning and Rehabilitation*, 2017–2018. (Software Engineer, Axosoft)
4. **S. Chakraborty**, **Ph.D.**, *Batch Mode Active Learning for Multimedia Pattern Recognition*, completed, 2017. (Assistant Professor, Florida State University)
5. **S. Yasmin**, **Ph.D.**, *iHap: Toward a Vision Substitution System for Active Analysis of Facial Expressions*, 2013–2015. (Assistant Professor, Eastern Washington University)
6. **V. Balasubramanian**, **Ph.D.**, *Human Centered Multimedia Computing, Machine Learning, Computer Vision, Assistive Technology*, 2010–2013. (Associate Professor, Indian Institute of Technology, Hyderabad, India)
7. **J. Black**, **Ph.D.**, *Cognitive Ubiquitous Computing Research*, 2004–2012. (Faculty Associate, Arizona State University)
8. **D. Pradhan**, **Ph.D.**, *Pattern Recognition, Classification, and Cluster Analysis on Multi–Dimensional Databases*, 2009–2011. (Assistant Professor of Biomedical Informatics, Mayo Clinic)
9. **D. Colbry**, **Ph.D.**, *Analysis and Recognition of Faces, Emotions, and Events*, 2007– 2009. (Director HPC Studies, Michigan State University)
10. **T. Hedgpeth**, **Ph.D.**, *iCARE Reader and Interaction Assistant Research*, 2002–2008. (Director, EOSS Technology Team, Arizona State University)
11. **W. Atwood**, **Ph.D.**, *User Interface Designs for Surgical Simulators*, 2007–2008.
12. **S. Brainman**, **Ph.D.**, *Prototype Designs for iCARE project*, 2007–2009.
13. **B. Van Emden**, **Ph.D.**, *Genomic Image Processing*, 2002–2009.
14. **K. Kahol**, **Ph.D.**, *Haptic Interfaces – Modeling, Rehabilitation and Surgical Simulation*, 2005–2007.
15. **P. Kuchi,** *Visual Search and Illumination Invariant Face Recognition*, 2006.
16. **O. Lotfollah**, **Ph.D.**, *MPEG–4 Video Communication and Performance Analysis*, 2004–2006.
17. **M. Donderler**, **Ph.D.**, *Multimedia Databases and Information Assistants for Blind Individuals*, 2002–2004.
18. **D. Liu**, **Ph.D.**, *3D Feature Extraction for Indexing*, 2000–2002.
19. **K. Kim**, **Ph.D.**, *Multimedia Indexing and Retrieval*, 2000–2001.
20. **D. Wu**, **Ph.D.**, *Video Browsing*, 1995.
21. **S. Chang**, **Ph.D.**, *Optical Computing Architectures for Video Compression*, 1995.
22. **S. Zhang**, **Ph.D.**, *Video Browsing*, 1994–1995.
23. **X. Wang**, **Ph.D.**, *Wavelets for Video Compression*, 1992–1993.
24. **B. Brahmanandam**, **Ph.D.**, *Fractals for Image Compression*, 1991–1992 and 1994.

Undergraduate Thesis Research and Project Students - Graduated

1. **J. Eusebio**, *Convolutional Neural Networks for Facial Expression Recognition with Limited Data*, **Thesis**, 2016. (Software Engineer, Axosoft)
2. **J. Zia**, *Utilizing Neural Networks to Predict Freezing of Gait in Parkinson's Patients*, **Thesis**, 2016. (Graduate Student, Emory University and Georgia Tech)
3. **S. Bala**, *Exploring the Design of Vibrotactile Cues for Visio-Haptic Sensory Substitution*, **Thesis**, 2014.
4. **B. Fakhri**, *Computing Platform for Context Aware Smart Objects for Stroke Rehabilitation*, **Thesis**, 2014.
5. **M. Astrauskas**, *Face Data Capture for Pose and Illumination Invariant Recognition*, **Project**, 2013.
6. **D. Hayden**, *iCARE Note–Taker: Enabling the Legally Blind to Take Notes in Class*, **Project**, 2010.
7. **N. Edwards**, *Haptic Belt & Wireless Haptic Belt*, **Project**, 2010.
8. **M. Veach**, *Note-Taker*, **Project**, 2010.
9. **J. Rosenthal**, *Haptic Belt System Design*, **Project**, 2009.
10. **C. Juillard**, *iCARE Immersion Assistant Prototype*, **Project**, 2008.
11. **S. Philipp**, *Multiple Accelerometers Based Tap Interface*, **Project**, 2009.
12. **D. Merrill**, *iCARE Interaction Assistant Prototype*, **Project**, 2008.
13. **D. G. Little**, *A Methodology for Evaluating Robustness of Face Recognition Algorithms with Respect to Variations in Pose Angle and Illumination Angle*, **Thesis**, 2005.
14. **P. Tripathi**, *Visual Processing of 3D Dance Data*, **Thesis**, 2003.
15. **R. Walker**, *Visual Representation of Audio Signals*, **Thesis**, 1999.
16. **I. Jama**, *Video Retrieval*, **Thesis**, 1997.
17. **A. Vashist**, *Image and Video Indexing using Text*, **Thesis**, 1997.
18. **R. Djafarzadeh**, *Video Browsing*, **Thesis**, 1997.
19. **P. Rojas**, *Video Indexing*, **Thesis**, 1997.
20. **Y. P. Ko**, *Image Indexing*, **Project**, 1995.
21. **K. Tse**, *Scene Change Detection in MPEG–2 Domain*, **Project**, 1995.
22. **J. Wei**, *Scene Change Detection for a Sequence of Raw Frames*, **Project**, 1995.
23. **H. Dam**, *Color Mapping Algorithms*, **Project**, 1994.
24. **P. Manga**, *A Neural Network Approach to PVQ for Image Compression*, **Thesis**, 1993.
25. **C. Chang**, *Cell Loss Effects on Compressed Images*, **Project**, 1993.
26. **S. Nashikkar**, *Kohonen Learning Applied to Vector Quantizer Design*, **Project**, 1992.
27. **E. Chan**, *A Unified Architecture for FFT/FHT/DCT*, **Project**, 1992.
28. **B. Pilache**, *Neural Network for Data Compression*, **Co–op student from France**, 1991.

PROFESSIONAL SERVICE ACTIVITIES

(not an exhaustive list)

Chair, Graduate Education and Research Evaluation Committee, University of Central Florida, 2016.

Member, IEEE Technical Committee on Multimedia Computing (TCMC), 2012– 2020.

Global Advisory Board Member, Nalanda 2.0, 2018–2020.

Executive Committee Member, PLuS Alliance, an education consortium between ASU, King's College London and University of New South Wales, 2016–2020.

Member, IEEE Transactions on Multimedia Editor-in-Chief Search Committee, 2012 and 2016.

Expert Evaluation Member, National University of Singapore, Review of the National Centre of Sensor-Enhanced Social Media (SeSaMe), 2015.

Member, National Science Foundation (NSF) Office of Integrative Activities (OIA) Director Search Committee, 2015.

Expert Evaluation Member, Networks of Centers of Excellence (NCE), 2014.

Expert Evaluation Member, UBC Institute for Computing, Information and Cognitive Systems (ICICS), 2014.

Member, 5th American Energy and Manufacturing Competitiveness (AEMC) Dialogue, University of California, Berkeley, 2014.

Expert Evaluation Member, Tomsk Polytechnic University Roadmap, at the International Board Meeting, Ministry of Education and Science of the Russian Federation, 2013.

Member, ACM Special Interest Group on Multimedia Steering Committee, 2011–2013.

Member, National Science Board Expert Panel Review on Data Policies (NSF), 2011.

Member, IEEE Circuits and Systems Society Fellow Evaluation Committee, 2008.

Member, IEEE Best Paper Award Selection Committee, Transactions on Circuits and Systems for Video Technology, 1998–2000.

Member, IEEE Publications Board, 2006–2010.

Member, Computing Research Association (CRA) Committee, 2004–2009.

Member, Academic Council, International Institute of Information Technology, Pune, India, 2004–2009.

Member, SPIE Committee on Information Technology, 2005.

Member, SPIE Joint Committee of the Society of Photo–Optical Instrumentation Engineers (SPIE) and Optical Society of India (OSI), 1995–2000.

Member, External Expert, Invention Screening Committee, Communication Research Center (CRC), Ottawa, Canada, 1993–1997.

Member, Canadian International Development Agency (CIDA) University Delegation to Jordan for evaluating the academic institutions and establishing collaborations, 1993.

Panel Member, Grant Review Committees, National Science Foundation (NSF), 2000–2014.

Panel Member, Natural Sciences and Engineering Research Council of Canada (NSERC), 2016.

- Site Visit Committee, Strategic Network in Smart Applications on Virtual Infrastructure, 2011.
- Site Visit Committee, Strategic Network in Photonics, 2008.

Tenure and Promotion Evaluator

- Massachusetts Institute of Technology
- Columbia University
- New York University
- Penn State University
- Baylor University
- University of Alberta, Canada
- University of New South Wales, Sydney, Australia
- University of Texas at Arlington
- Curtin University of Technology, Australia
- Hong Kong University of Science and Technology
- Sultan Qaboos University, Sultanate of Oman
- Jordanian University on Science and Technology, Jordan
- Indian Institute of Science, Bangalore
- National University of Singapore

Proposal Reviewer (1990–2020)

- National Science Foundation (NSF)
- Natural Sciences and Engineering Research Council of Canada (NSERC)
- Australian Research Council
- Hong Kong Research Council
- Micro Research Program (University of California)
- Council of Physical Sciences of the Netherlands Organization for Scientific Research
- John Hopkins University Applied Physics Laboratory
- Alzheimer's Association
- Qatar National Research Foundation

Academic Activities

University Level (sample of activities)

Chair, Dean of Fulton School of Engineering Search Committee

Member, ASU Provost Search Committee

Member, Science Foundation Arizona (SFAz) Graduate Fellowship Committee

Member, ASU Biosignatures Consortium Initiative Advisory Council

Member, Provost's Bisgrove Postdoctoral Scholars Inaugural Advisory Board

Member, Provost's Education Executive Working Group

Member, Quintiles-ASU Joint Executive Steering Committee

Member, College of Education Dean Search Committee

Presenter:

- Arizona Board of Regents (ABOR)
- President's Advisory Council
- President's Club
- Founders Retreat
- Academic Chairs and Directors Committee
- Presidential Prospects
- Industry
- Numerous distinguished university visitors

Presenter, The University of Arizona College of Medicine Phoenix, in Partnership with Arizona State University, The Class of 2012 White Coat Ceremony

Member, Downtown Phoenix Biomedical Campus Academic Advisory Committee

Co-Chair, University Planning Taskforce for the creation of the Department of Biomedical Informatics

Member, Interdisciplinary Schools Committee

Member, Decision Theater Advisory Council

Member, Honors Disciplinary Faculty Committee, The Barrett Honors College

Member, Faculty Search Committee, Digital Media in the Arts Program

Member, Provost Committee on Arizona Proposition 301–Information Technology Research

Member, ASU Academic Senate

Member, ASU Graduate School Scholarships Committee

College/School Level (sample of activities)

Invited Speaker, ASU Global Institute of Sustainability Board Meeting

Invited Speaker, Sun Devil 100

Invited Speaker, ASU-United States Air Force Science and Technology Workshop

Invited Speaker, ASU International Student Convocation

Invited Speaker, Graduate College Celebration of Excellence

Invited Speaker, Preparing Future Faculty Scholarship, Research, and Creative Activities

Member, Fulton International Program Committee

Invited Speaker, 50 Years of Engineering Alumni Reception

Invited Speaker, Dean's Advisory Council Symposium

Chair, Search Committee for Associate Dean for Research

Member, Search Committee for Electrical Engineering Faculty in Signal Processing

Invited Speaker, Motorola–ASU Technology Symposium

Member, Electrical Engineering Chair Selection Committee

Member, Faculty Teaching Personnel Committee

Member, Dean's Advisory Council on Computing

Community and Other Service Activities (sample of activities)

Commencement Speaker, BASIS Charter School, Scottsdale

Commencement Speaker, BASIS Charter School, Chandler

Chief Guest Speaker, Swayamsevak Sangh USA, Inc., honoring teachers and service to the community, *Empowering Individuals for Societal Impact*.

Chief Guest Speaker, Arizona Tamil Sangam, *Empowering Individuals for Societal Impact*.

President, Sathya Sai Baba Organization, Region 9

Co-Chair, Walk for Values Day, Tempe

Co-Chair, Walk for Values Day, Phoenix

Member, 29th Hugh Downs Annual Science Dinner Group

Member, Take Your Kids to College, ASU Sun Devil Stadium

Member, Executive Advisory Council, MahaGanapati Temple of Arizona

Advisor, Region 9 Sathya Sai Young Adult Program

Organizer, Demos for Women in Science and Engineering Summer Program

Organizer, Demos for School Children (Ages 8-10) in Summer Camp

Member, Advisory Board, Heritage Scholarship Foundation

Judge, Science Exhibition at the Ottawa Secondary School Board

Judge, *What is Engineering?* Competition at Henry Munro School

EDITORIAL AND CONFERENCE LEADERSHIP

Editor-in-Chief

- IEEE Multimedia Magazine, 2006–2010.

Guest Editor of Special Issues

- Special Issue on *Human-Centric Cyber Social Computing*, IEEE Transactions on Computational Social Systems, 2019.
- Special Issue on *Haptics for Human Augmentation,* MDPI Multimodal Technologies and Interaction, 2019.
- Special Issue on *Technologies for Disabilities*, NAI Technology and Innovation, 2018.
- Special Issue on *Deep-Learning Systems for Domain Adaptation in Computer Vision: Learning Transferable Feature Representations*, IEEE Signal Processing Magazine, 2017.
- Special Issue on *Cyber Social Computing and Cyber-Enabled Applications*, IEEE Cyber Technology Congress (CyberSciTech), 2016.
- Special Issue on *Person-Centered Signal Processing for Assistive, Rehabilitative and Wearable Health Technologies*, IEEE Journal on Selected Topics in Signal Processing (JSAC), 2016.
- Special Issue on *Ubiquitous Environments* in the Institute for Computer Sciences, Social Informatics and Telecommunications Engineering, 2015.
- Special Issue on *Ubiquitous Media Generated Big Data and Human Behavior Analysis* in the International Journal of International Journal of Big Data Intelligence, 2014.
- Special Issue on *Information Sciences on Human Centric Computing* in the International Journal of Informatics and Computer Science Intelligent Systems, 2014.
- Special Issue in IEEE Transactions on Multimedia (TMM), International Conference on Multimedia & Expo (ICME), 2011.
- Special Issue on *Haptic Audio-Visual Environments and Games* in the IEEE Transactions on Instrumentation and Measurement, 2010.
- Special Issue on *Multimedia Services and Streaming for Mobile Devices: Challenges and Innovations* in the IGI Global, 2010.
- Special Issue on *Haptic User Interfaces for Multimedia Systems*, IEEE Multimedia Magazine, 2006.
- Special Issue on *Emerging H.264/AVC Video Coding Standard* in the Journal of Visual Communication and Image Representation, 2006.
- Special Issue on *Conceptual and Dynamical Aspects of Multimedia Content Description* in the IEEE Transactions on Circuits and Systems for Video Technology, 2002.
- Special issue on *Visual Computing and Communications* in the Canadian Journal of Electrical and Computer Engineering, 1999.

- 3 Special Issues on the theme of *Image and Video Processing for Emerging Interactive Multimedia* in the IEEE Transactions on Circuits and Systems for Video Technology.
    - Representation and Coding of Images and Video II – 1999.
    - Representation and Coding of Images and Video I – 1998.
    - Image Sequence Analysis for Content Segmentation, Tracking and Query – 1998.
- Special Issue on *Indexing, Storage and Retrieval of Images and Video* in the Journal of Visual Communication and Image Representation, 1996–1997.

Editorial Board Member

- Journal of Visual Communication and Image Representation, 1997–2020.
- IEEE Multimedia Magazine, 2000–2005 and 2009–2020.
- International Journal of Information Technology, Communications and Convergence (IJITCC), 2009–2020.
- Journal of Electronic Imaging, 1999–2018.
- ICST Transactions on Ubiquitous Environments, 2010–2020.
- International Journal on Advances in Internet Technology, 2009–2014.
- Journal of Electrical and Computer Engineering, 2008–2015.
- International Journal on Artificial Intelligence Tools Architectures, Languages, Algorithms, 2005–2008.
- IEEE Transactions on Multimedia, 2000–2006.
- IEEE Transactions on Circuits and Systems for Video Technology, 1995–2006.

Conference/Symposium General Chair

- International Conference on Smart Multimedia, 2019.
- IEEE International Conference on Distributed Computing in Sensor Systems, 2018.
- International Conference on 3D Converged IT and Optical Communications, 2013.
- IEEE International Conference on Multimedia and Expo, 2013.
- ACM International Conference on Multimedia, 2011.
- IEEE International Conference on Circuits and Systems, 2002.
- Electronic Imaging Symposium'98 (included 24 conferences), 1998.

Conference Program Chair

- Applications of Digital Image Processing XXXVI, SPIE/Optics and Photonics Symposium on Optical Engineering + Applications, 2013.
- The 2011 IEEE International Conference on Multimedia and Expo, 2011.
- The International Symposium on Haptic Audio-Visual Environments and Games, 2010.
- The IEEE International Workshop on Robotic and Sensors Environments, 2010.
- The 13th IASTED International Conference on Internet and Multimedia Systems and Applications, 2009.

- Third International Conference on Body Area Networks, 2008.
- Embedded Processors for Multimedia and Communication, 2005.
- Internet Multimedia Management Systems, 2004.
- Workshop on Media and Signal Processors for Embedded Systems and SoCs, 2004.
- Visual Communications and Image Processing, 2004.
- Internet Multimedia Management Systems, 2003.
- Workshop on Parallel and Distributed Computing in Image Processing, Video Processing, and Multimedia, (held in conjunction with the International Parallel and Distributed Processing Symposium), 2003.
- Internet Multimedia Management Systems, 2002.
- Workshop on Parallel and Distributed Computing in Image Processing, Video Processing, and Multimedia, (held in conjunction with the International Parallel and Distributed Processing Symposium), 2002.
- Media Processors, 2000, 2001, 2002, and 2003.
- Tutorials Chair, ACM Multimedia 2001, 2001.
- Internet Multimedia Management Systems, 2001.
- Workshop on Parallel and Distributed Computing in Image Processing, Video Processing, and Multimedia, held in conjunction with the International Parallel and Distributed Processing Symposium, 2001.
- Workshop on Parallel and Distributed Computing in Image Processing, Video Processing, and Multimedia, held in conjunction with the International Parallel and Distributed Processing Symposium, 2000.
- Internet Multimedia Management Systems, 2000.
- Multimedia and Communications Track, International Symposium on Circuits and Systems, 2000.
- Media Processors'99, 1999.
- Multimedia Storage and Archiving Systems III, 1998.
- Multimedia Hardware Architectures '98, IS&T/SPIE Symposium on Electronic Imaging: Science and Technology, 1998.
- Tutorials Chair, International Conference on Multimedia Computing Systems '97, 1997.
- Multimedia Hardware Architectures '97, 1997.
- Digital Video Compression–Algorithms and Technologies '96, 1996.

Symposium/Conference/Workshop Organizing Committee

- Reinventing Tech Transfer – Exploring Initiatives in Research Innovation, Saint Louis University, 2017.
- The 4th International Conference on Recent Trends in Information Technology, Madras Institute of Technology, Anna University, 2014.

- The 1st International Symposium on Wireless Sensor Networks for Developing Countries, 2013.
- Research Univ. and the Future of America, National Research Council Workshop, 2013.
- The 7th International Conference on Embedded and Multimedia Computing, 2012.
- ACM International Conference on Multimedia, 2012.
- International Conference on Mobile, Ubiquitous, and Intelligent Computing, 2012.
- Association of Public and Land–Grant Universities Council on Research Policy and Graduate Education 2011 Summer Forum, 2011.
- International Conference on Recent Trends in Information Technology, 2011.
- Future Technology Research Association International, 2010.
- IEEE – ICME Conference Steering Committee, 2007–2010.
- The First International Conference on Advances in Future Internet, 2009.
- The Fourth International Conference on Embedded and Multimedia Computing, 2009.
- Computing Research Association, Snowbird Conference, 2006 and 2008.
- Signal Processing, Communications and Networking, International Conference, 2008.
- Advanced Communication Systems, International Symp. on Circuits and Systems, 2007.
- IEEE – ISCAS, 1999–2004.
- IEEE International Conference on Circuits and Systems, 2003.
- Multimedia Information Systems, 2002.
- SPIE International Symposium, Information Technologies, 2000.
- Electronic Imaging Symposium'99,1999.
- SPIE International Symposium, Voice, Video, and Data Communication, 1999.
- SPIE International Symposium, Voice, Video, and Data Communication, 1998.

Special Sessions Organizer/Session Chair

- *Signal and Information Processing for Person-Centered and Citizen-Centered Smart Living*, 7th IEEE Global Conference on Signal and Information Processing, 2019.
- *Smart Multimedia for Citizen-Centered Smart Living*, International Conference on Smart Multimedia, 2019.
- *Person-Centered Smart Multimedia: Serving People with Disabilities to the General Population*, International Conference on Smart Multimedia, 2018.
- IEEE International Conference on Image Processing, 2016.
- *Haptics for Assistive, Rehabilitative, and Healthcare Technologies*, Universal Access in Human-Computer Interaction, HCI International, 2015.
- *Haptics for Assistive and Rehabilitative Technologies*, Universal Access in Human-Computer Interaction, HCI International, 2014.
- International Conference on ACM Multimedia, 2012.
- *Machine Learning for Human Behavior Understanding and Assisted Living*, IEEE Tenth International Conference on Machine Learning and Applications, 2011.
- *Segmentation & Classification*, IEEE International Conf. on Multimedia and Expo, 2011.

- *IT & Healthcare*, National Symposium Transforming American Healthcare Over the Next Decade, 2006.
- *Media Processors*, Parallel and Distributed Image Processing, Video Processing, and Multimedia, 2005.
- *Embedded Processors for Multimedia and Communication*, IS&T/SPIE 16 Annual Symposium Electronic Imaging Science and Technology, 2004.
- *Multimedia Indexing, Browsing and Retrieval*, International Conference on Image Processing, 2001.
- *Experimental Parallel Processing*, High–Performance Computing Symposium, 2000.
- *Content–Based Multimedia Indexing*, European Association for Signal Processing Conference, 2000.
- *Visual Computing and Communications*, Canadian Conference on Electrical and Computer Engineering (CCECE) '95, 1995.
- *Video Communications*, CCECE '93, 1993.
- *Image Communications*, CCECE '92, 1992.

Program Committee Member

- International Conference on Smart Multimedia, 2018.
- Trends in Industrial Measurements and Automation, 2017.
- IEEE International Symposium on Multimedia, 2016.
- 20th International Conference on Distributed Multimedia Systems, 2014.
- The 3rd Annual Conference of the National Academy of Inventors, 2014.
- The 6th International Conference on Information, Process, and Knowledge Management in Conjunction with Digital World, 2014.
- The 7th International Conference on Advances in Computer-Human Interactions, 2014.
- The 6th International Conference on Advances in Multimedia, 2014.
- The 19th International Conference on Distributed Multimedia Systems, 2013.
- The 18th International Conference on Distributed Multimedia Systems, 2012.
- The 26th Conference on Artificial Intelligence, Symp. on AI for Gerentechnology, 2012.
- IEEE International Instrumentation and Measurement Technology Conference, 2012.
- The 5th International Conference on Advances in Computer-Human Interactions, 2012.
- ACM SIGHIT International Health Informatics Symposium, 2012.
- IEEE International Workshop on Video Panorama, 2011.
- ACM SIGHIT International Health Informatics Symposium, 2011.
- The 17th International Conference on Distributed Multimedia Systems, 2011.
- The 3rd International Conference on Advances in Future Internet, 2011.
- IEEE International Conference on Multimedia and Expo, 2011.
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112. R. Chattopadhyay, G. Pradhan, and **S. Panchanathan**, "A Generalized Machine Learning Framework for Continuous Monitoring of Physiological Conditions Based on Fatigue and Intensity of Activity in Daily Living," Workshop on Women in Machine Learning at Neural Information Processing Systems (NIPS), December 2009.
113. S. Nataraju, V. Balasubramanian, and **S. Panchanathan**, "Learning Attention-Based Saliency in Videos from Human Eye Movements," IEEE Workshop on Motion and Video Computing (WMVC), Snowbird, UT, December 2009.
114. N. Edwards, J. Rosenthal, D. Moberly, J. Lindsay, K. Blair, S. Krishna, T. McDaniel, and **S. Panchanathan**, "A Pragmatic Approach to the Design and Implementation of a Vibrotactile Belt and its Applications," International Workshop on Haptic Audio-Visual Environments and Games (HAVE 2009), Lecco, Italy, November 2009.
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Symposium on Computer-Based Medical Systems (CBMS 2009), Albuquerque, NM, August 2009.

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125. S. Krishna, N. C. Krishnan, and **S. Panchanathan**, "Detecting Stereotype Body Rocking Behavior through Embodied Motion Sensors," Annual Conference on Disability, Rehabilitation Engineering and Assistive Technology Society of North America (RESNA), New Orleans, LA, June 2009.
126. T. McDaniel, S. Krishna, D. Colbry, and **S. Panchanathan**, "Using Tactile Rhythm to Convey Interpersonal Distances to Individuals who are Blind," CHI 2009 Digital Life New World Conference, pp. 4669–4674, Boston, MA, April 2009.
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129. A. Todorovic, JA Black Jr, and **S. Panchanathan**, "A Methodology for Coupling a Visual Enhancement Device to Human Visual Attention," Human Vision and Electronic Imaging (HVEI 2009), San Jose, CA, January 2009.
130. S. Krishna and **S. Panchanathan**, "Combining Skin–Color Detector and Evidence-Aggregated Random Field Models Toward Validating Face Detection Results," Computer Vision, Graphics & Image Processing (ICVGIP '08), pp. 466–473, Sixth Indian Conference, 2008.
131. S. Krishna, D. Colbry, J. Black, V. Balasubramanian, and **S. Panchanathan**, "A Systematic Requirements Analysis and Development of an Assistive Device to Enhance the Social Interaction of People Who are Blind or Visually Impaired," Workshop on Computer Vision Applications for the Visually Impaired (CVAVI 08) at European Conference on Computer Vision, Marseille, France October 2008.
132. J. Black, and **S. Panchanathan**, "Enabling the Legally Blind in Classroom Note–Taking," 10th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS 2008), Halifax, CA, October 2008.

133. D. Hayden, D. Colbry, J.A. Black, and **S. Panchanathan**, "Note–Taker: Enabling Students who are Legally Blind to Take Notes in Class," 10th International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS 2008), Halifax, CA, October 2008.
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136. **S. Panchanathan**, N. C. Krishnan, S. Krishna, T. McDaniel, and V. Balasubramanian, "Enriched Human–Centered Multimedia Computing through Inspirations from Disabilities and Deficit Centered Computing Solutions," ACM MM 3rd Workshop on Human Centered Computing, Vancouver, CA, October 2008.
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138. C. K. Narayanan, D. Colbry, C. Juillard, and **S. Panchanathan**, "Real Time Human Activity Recognition Using Tri–Axial Accelerometers," Sensors Signals and Information Processing Workshop, Sedona, AZ, May 2008.
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140. C. K. Narayanan and **S. Panchanathan**, "Analysis of Low-Resolution Accelerometer Data for Human Activity Recognition," IEEE International Conference on Acoustics, Speech and Signal Processing, pp. 3337–3340, Las Vegas, NV, March 2008.
141. K. Sreekar; V. Balasubramanian, C. Krishnan Narayanan, T. Hedgpeth, and **S. Panchanathan**, "The iCARE Ambient Interactive Shopping Environment," 23rd Annual International Technology and Persons with Disabilities Conference (CSUN 2008), Los Angeles, CA, March 2008.
142. T. L. McDaniel, K. Kahol, D. Villanueva, and **S. Panchanathan**, "Integration of RFID and Computer Vision for Remote Object Perception for Individuals Who are Blind," Proc. of the First International Conference on Ambient Media and Systems, Article No. 8, Montreal, CA, February 2008.
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145. P. Tripathi, K. Kahol, T. McDaniel, and **S. Panchanathan**, "Efficient Selection of Information Presentation Modality in a Hybrid–Task Environment," 4th ACI Conference held in conjunction with the HFES 51st Annual Meeting, Baltimore, MD, October 2007.
146. T. McDaniel, K. Kahol, **S. Panchanathan**, "Perceptual Surface Roughness Classification of 3D Textures Using Support Vector Machines," poster at IEEE International Workshop on Haptic Audio-Visual Environments and Games (HAVE 2007), Ottawa, Ontario, CA, October 2007.
147. M. Vankipuram, A. McLaren, L. Kauvar, **S. Panchanathan**, and K. Kahol, "Haptic Virtual Reality Simulator to Promote and Measure Haptic Differentiation Skill," Annual meeting of the Orthopedic Trauma Association (OTA), Boston, MA, October 2007.
148. S. Mayes, J. Deka, K. Kahol, M. Smith, J. Mattox, **S. Panchanathan**, and A. Woodwards, "Evaluation of Cognitive and Psychomotor Skills of Surgical Residents at Various Stages in Residency," 5th Annual Meeting of American College of Obstetricians and Gynecologists, San Diego, CA, 2007.
149. K. Kahol, J. French, T. McDaniel, **S. Panchanathan**, and M. Smith, "Augmented Reality for Laparoscopic Surgical Tool Training," 12th International Conference on Human Computer Interaction (HCI 2007), Beijing, China, July 2007.
150. T. McDaniel, K. Kahol, and **S. Panchanathan**, "An Interactive Wearable Assistive Device for Individuals who are Blind for Color Perception," 12th International Conference on Human Computer Interaction (HCI 2007), Beijing, China, July 2007.
151. V.N. Balasubramanian, J. Ye, and **S. Panchanathan**, "Biased Manifold Embedding: A Framework for Person–Independent Head Pose Estimation," IEEE Computer Society Conference on Computer Vision and Pattern Recognition (CVPR'07), Minneapolis, MN, June 2007.
152. K. Kahol, M. Leyba, M. Smith, S. Mayes, V. Deka, and **S. Panchanathan**, and J. Ferrara, "The Effect of Fatigue on Psychomotor and Cognitive Skills of Surgical Residents," Annual Meeting of American College of Surgeons, Las Vegas, NV, April 2007. Best Resident Paper Award.
153. V. N. Balasubramanian, and **S. Panchanathan**, "Biased Manifold Embedding for Person– Independent Head Pose Estimation," 2nd International Conference on Computer Vision Theory and Applications (VISAPP'07), Barcelona, Spain, March 2007.
154. N. C. Krishnan, B. Li, and **S. Panchanathan**, "Detecting and Classifying Frontal, Back and Profile Views of Humans," International Conference on Vision Theory and Applications, Barcelona, Spain, March 2007.

155. D. Villanueva, K. Kahol, M. Smith, and **S. Panchanathan**, "Collaborative Surgical Proficiency Initiative: www.ratethesurgeons.com," Medicine Meets Virtual Reality, Long Beach, CA, February 2007.
156. K. Kahol, T. McDaniel, M. Smith, J. Ferrara, and **S. Panchanathan**, "The Effect of Real–Time Visualization of Skill on Surgical Training," Medicine Meets Virtual Reality, Long Beach, CA, February 2007.
157. K. Kahol, M. Smith, J. French, and **S. Panchanathan**, "Configurable Haptic Training System for Laparoscopy," Medicine Meets Virtual Reality, Long Beach, CA, February 2007. Best poster award.
158. P. Tripathi, K. Kahol, and **S. Panchanathan**, "Robust Fragment-Based Approach for Illumination and Pose Invariant Object Recognition," 6th International Conference on Advances in Pattern Recognition (ICAPR), January 2007.
159. J. A. Black Jr., N. C. Krishnan, and **S. Panchanathan**, "The Role of Eye Movement in Signals in Dorsal and Ventral Processing," Human Vision and Electronic Imaging (HVEI 2007), San Jose, CA, January 2007.
160. S. Krishna, S. Braiman, J.A. Black Jr., and **S. Panchanathan**, "Temporal Relation Between Bottom–Up Versus Top–Down Strategies for Gaze Prediction," Human Vision and Electronic Imaging (HVEI 2007), San Jose, CA, January 2007.
161. K. Kahol, T. McDaniel, and **S. Panchanathan**, "Methodology for Efficient Perception in Exclusively Haptic Environments," IEEE International Workshop on Haptic Audio-Visual Environments and Their Application (HAVE 2006), Ottawa, CA, November 2006.
162. P. Kakumanu, N. Bourbakis, J. Black, and **S. Panchanathan**, "Document Image Dewarping Based Online Estimation for Visually Impaired," 18th IEEE International Conference on Tools with Artificial Intelligence (ICTAI'06), Washington, D.C., November 2006.
163. D. Homa, K. Kahol, P. Tripathi, L. Bratton, and **S. Panchanathan**, "Multidimensional Scaling of Commonplace Objects by the Blind," Psychonomics Meeting, Houston, TX, November 2006.
164. T. Hedgpeth, J. Black, and **S. Panchanathan**, "The Evolution of the iCARE Reader" 8th International ACM SIGACCESS Conference on Computer & Accessibility, Portland, Oregon, October 2006.
165. K. Kahol, N. Krishnan, V. Balasubramanian, and **S. Panchanathan**, "Measuring Movement Expertise in Surgical Tasks," ACM Multimedia 2006, Santa Barbara, CA, October 2006.
166. K. Kahol, J. French, L. Bratton, and **S. Panchanathan**, "Learning and Perceiving Colors Haptically," 8th International ACM SIGACCESS Conference on Computers and Accessibility, Portland, OR, October 2006.
167. K. Kahol, J. French, **S. Panchanathan**, G. Davis, and C. Berka, "Evaluating the Role of Visio–Haptic Feedback in Multimodal Interfaces through EEG Analysis," 2nd Annual AugCog International Conference, San Francisco, CA, October 2006.

168. T. McDaniel, K. Kahol, and **S. Panchanathan**, "A Bayesian Approach to Visual Size Classification of Everyday Objects," IEEE IAPR International Conference on Pattern Recognition (ICPR), Hong Kong, China, August 2006.
169. K. Kahol, P. Tripathi, T. McDaniel, and **S. Panchanathan**, "Hand Anatomy-Based Modeling of Manual Haptic Gestures," International Conference on Cognition and Recognition, Hyderabad, India, 2006.
170. K. Kahol, M. Smith, J. Ferrara, P. Tripathi, A. Leibowitz, and **S. Panchanathan**, "Gesture- Based Hand Movement Analysis and Haptic Feedback for Surgical Training," Medicine Meets Virtual Reality Conference, Long Beach CA, January 2006.
171. S. Krishna, G. Little, J. Black, and **S. Panchanathan**, "Using Genetic Algorithms to Find Person–Specific Gabor Feature Detectors for Face Indexing and Recognition," International Conference on Biometrics (ICBA 2006), Hong Kong, China, January 2006.
172. M. Phiellip, J. A. Black Jr, and **S. Panchanathan**, "Using Words as Lexical Basis Functions for Automatically Indexing Face Images in a Manner that Correlates with Human Perception of Similarity," Human Vision and Electronic Imaging (HVEI 2006), San Jose, CA, January 2006.
173. D. Homa, K. Kahol, P. Tripathi, L Bratton, and **S. Panchanathan**, "Acquisition of Haptic Concepts by Individuals Who are Blind," Psychonomics Meeting, Toronto, CA, November 2005.
174. T. McDaniel, K. Kahol, P. Tripathi, and **S. Panchanathan**, "A Methodology to Establish Ground Truth for Computer Vision Algorithms to Estimate Haptic Features from Visual Images," IEEE International Workshop on Haptics and Audio-Visual Environment (HAVE), Ottawa, CA, October 2005.
175. S. Krishna, G. Little, J. Black, and **S. Panchanathan**, "A Wearable Face Recognition System for Individuals with Visual Impairments," International ACM SIGACCESS Conference on Computers and Accessibility (ASSETS 2005), Baltimore, MD, October 2005.
176. **S. Panchanathan**, Priyamvada Tripathi, and Troy McDaniel, "Visio–Haptic Database of Objects for Automatic Content Creation in Multimodal Environments," Tenth IEEE International Conference on Computer Vision (ICCV2005), Beijing, China, October 2005.
177. K. Kahol, P. Tripathi, T. McDaniel, and **S. Panchanathan**, "Modeling Context in Haptic Perception, Rendering and Visualization," ACM International Workshop on Multimedia Information Systems, Sorrento, Italy, September 2005.
178. M. Gargesha, J. Yang, B. Van Emden, **S. Panchanathan**, and S. Kumar, "Automatic Annotation Techniques for Gene Expression Images of the Fruit Fly Embryo," Visual Communications and Image Processing (VCIP2005), Beijing, China, July 2005.
179. A. Akoglu, and **S. Panchanathan**, "Application Specific Reconfigurable Architecture Design," International Conference on Engineering of Reconfigurable Systems and Algorithms (ERSA), Las Vegas, NV, June 2005.

180. K. Kahol, P. Tripathi and, **S. Panchanathan**, “Rendering Block Diagrams Accessible through Audio–Haptic Interface,” IEEE First International Workshop on Computer Vision Applications for Visually Impaired (CVPR), San Diego, CA, June 2005.
181. D. Smith, P. Tripathi, K. Kahol, and **S. Panchanathan**, “Validation of Serial Presentation of Tactile Cues as Human Computer Interface for Assistive Devices,” Symposium on Research in Engineering & Applied Sciences, Tempe, AZ, May 2005.
182. K. Kahol, P. Tripathi, and **S. Panchanathan**, “Haptic User Interfaces: Design, Testing and Evaluation of Haptic Cueing Systems to Convey Shape, Weight, Material and Texture Information,” International Conference on Human–Computer Interfaces, Las Vegas, NV, May 2005.
183. P. Tripathi, K. Kahol, L. Baxter, T. McDaniel, A. Baker, and **S. Panchanathan**, “Rehabilitation of Patients with Hemispatial Neglect Using Visual–Haptic Feedback in Virtual Reality Environment,” International Conference on Human–Computer Interfaces, Las Vegas NV, May 2005.
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185. **S. Panchanathan**, K. Kahol, P. Tripathi, and T. McDaniel, "Conversion of Visual Data into Haptic Information,” IEEE Sensor Signal and Information Processing Workshop, Tempe, AZ, April 2005.
186. T. Hedgpeth, M. Rush, J. Black, and **S. Panchanathan**, “The iCare iReader Project,” CSUN 2005, Los Angeles, CA, March 2005.
187. A. Akoglu, A. Dasu, and **S. Panchanathan**, “Application Specific Hybrid–FPGA Design,” SPIE 17th Symposium on Electronic Imaging Science and Technology, San Diego, CA, January 2005.
188. G. Little, S. Krishna, J. Black, and **S. Panchanathan**, “A Methodology for Evaluating Robustness of Face Recognition Algorithms with Respect to Variations in Pose Angle and Illumination Angle,” IEEE International Conference on Acoustics Speech and Signal Processing (ICASSP), Philadelphia, PA, January 2005.
189. A. Sudarsanam, and **S. Panchanathan**, “Novel Predicted Data Flow Analysis-Based Memory Design for Data and Control Intensive Multimedia Applications,” SPIE Symposium on Electronic Imaging 2005, San Jose, CA, January 2005.
190. J. Black, L. Bonnasse, P. Satyan, S. Ozer, and **S. Panchanathan**, “Using Perceptually–Based Face Indexing to Facilitate Human–Computer Collaborative Retrieval,” Human Vision and Electronic Imaging (HVEI 2005), San Jose, CA, January 2005.
191. K. Kahol, P. Tripathi, and **S. Panchanathan**, “Recognizing Whole Body Movements and Gestures Through Activities in Human Anatomy,” International Conference on Systemics, Cybernetics and Informatics, Hyderabad, India, January 2005.
192. P. Kuchi, and **S. Panchanathan**, “On the Use of Joint Estimation in Particle Filters for Object Tracking in Video,” IEEE TENCON, Chiang–Mai, Thailand, November 2004.
193. M. Gargesha, J. Yang, B. Van Emden, **S. Panchanathan**, and S. Kumar, “Computational Annotation of View, Orientation and Stage of Fruit Fly Gene Expression Pattern

Images from Early Developmental Stages," 46th Annual Drosophila Research Conference, San Diego, CA, November 2004.

194. **S. Panchanathan**, T. Hedgpeth, and J. Black, "Understanding the Health Needs for People with Disabilities: Implications for Assistive Technologies Research and Meeting the MDG's," Proc. of the World Health Organization: Forum 8, Mexico City, Mexico, November 2004.
195. P. Kakumanu, S. Makrogiannis, R. K. Bryll, **S. Panchanathan**, and N. G. Bourbakis, "Image Chromatic Adaptation Using ANNs for Skin Color Adaptation," International Conference on Tools with Artificial Intelligence (ICTAI 2004), Boca Raton, FL, November 2004.
196. G. F. Fahmy, J. Black, and **S. Panchanathan**, "Texture Characterization and Compression Based on Human Perception in the JPEG2000 Framework," International Conference on Image Processing (ICIP), Singapore, October 2004.
197. T. Hedgpeth, M. Rush, J. Black, and **S. Panchanathan**, "The iCare iReader Project," CSUN 20th Annual International Conference: Technology and Persons with Disabilities, Los Angeles, CA, October 2004.
198. M. Donderler, K. S. Candan, S. Wu, L. Peng, J. Kim, and **S. Panchanathan**, "iCare–Assistant: Adaptive Electronic Course Content Delivery for Students who are Blind," ACM SIGACCESS Conference on Computers and Accessibility (ASSETS 2004), Atlanta, GA, October 2004.
199. T. Hedgpeth, M. Rush, J. Black, and **S. Panchanathan**, "The iCare Project Reader," ACM SIGACCESS Conference on Computers and Accessibility (ASSETS 2004), Atlanta, GA, October 2004.
200. K. Kahol, P. Tripathi, **S. Panchanathan**, and M. Goldberg, "Formalizing Cognitive and Motor Strategy of Haptic Exploratory Movements of Individuals who are Blind," IEEE International Workshop on Haptic Audio-Visual Environments and their Applications (HAVE 2004), Ottawa, Ontario, CA, October 2004.
201. A. Akoglu, A. Dasu, and **S. Panchanathan**, "Design of Fast and Efficient Hybrid–FPGAS for Numerically Intensive Applications in Fluid Dynamics and Image/Video Processing," 7th Annual Military and Aerospace Programmable Logic Devices International Conference (MAPLD), Washington D.C., September 2004.
202. G. Little, S. Krishna, J. Black, and **S. Panchanathan**, "A Methodology for Evaluating Robustness of Face Recognition Algorithms with Respect to Variations in Pose Angle and Illumination Angle," IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP 2005), September 2004.
203. P. Kuchi, V. Iyer, R. Hiremagalur, and **S. Panchanathan**, "Characteristics of Gait of Humans with Incomplete Spinal Cord Injury," International Conference of the IEEE Engineering in Medicine and Biology Society, San Francisco, CA, September 2004.
204. K. Kahol, P. Tripathi, and **S. Panchanathan**, "Computational Analysis of Mannerism Gestures," IEEE International Conference on Pattern Recognition (ICPR), Cambridge, UK, August. 2004.

205. A. Sudarsanam, M. Srinivasan, and **S. Panchanathan**, "Resource Estimation and Task Scheduling for Multithreaded Reconfigurable Architectures," IEEE International Conference on Parallel and Distributed computing (ICPADS), San Diego, CA, July 2004.
206. A. Sudarsanam, A. Dasu, and **S. Panchanathan**, "Task Scheduling of Control–Data Flow Graphs for Reconfigurable Architectures," International Conference on Engineering of Reconfigurable Systems and Algorithms (ERSA), Las Vegas, NV June 2004.
207. M. Srinivasan, and **S. Panchanathan**, "Target Architecture Automation for Reconfigurable Logic Blocks," International Conference on Engineering of Reconfigurable systems and algorithms (ERSA), Las Vegas, NV, June 2004.
208. A. Akoglu, A. Dasu, and **S. Panchanathan**, "Cluster Extraction for Hybrid FPGA Architecture in Computation Intensive Applications," International Conference on Engineering of Reconfigurable Systems and Algorithms (ERSA), Las Vegas, NV June 2004.
209. P. Kuchi, and **S. Panchanathan**, "Intrinsic Mode Functions for GAIT Recognition," International Symposium on Circuits and Systems, Vancouver, CA, May 2004.
210. M. Gargesha, P. Antin, B. Van Emden, and **S. Panchanathan**, "Image Registration and Similarity Computation for Chicken Gene Expression Patterns," International Workshop on Genomic Signal Processing and Statistics, May 2004.
211. K. Kahol, P. Tripathi, and **S. Panchanathan**, "Automated Gesture Segmentation from Dance Sequences," IEEE conference on the Automatic Face and Gesture Recognition, Seoul, Korea, May 2004.
212. J. Black, K. Kahol, P. Tripathi, P. Kuchi, and **S. Panchanathan**, "Indexing Natural Images for Retrieval Based on Kansei Factors," Human Vision and Electronic Imaging Conference, San Jose, CA, January 2004.
213. J. Black, M. Phillipp, G. Nielson, and **S. Panchanathan**, "Can the High–Level Content of Natural Images be Indexed Using Local Analysis?" Human Vision and Electronic Imaging Conference (HVEI2004), San Jose, CA, January 2004.
214. A. Akoglu, A. Dasu, and **S. Panchanathan**, "A Framework for the Design of the Routing Architecture of a Dynamically Reconfigurable Media Processor," Workshop on Embedded Systems for Media Processing International Conference on High Performance Computing, Hyderabad, India, December 2003.
215. P. Kuchi and, **S. Panchanathan**, "Gait Recognition Using Empirical Mode Decomposition," Proc. of the International Conference on Advances in Pattern Recognition (ICAPR), Calcutta, India, December 2003.
216. J. Black, K. Kahol, and P. Tripathi, **S. Panchanathan**, "Visual Concept Derivation from Natural Scenery Images Using Lexical Basis Functions, Multidimensional Scaling, and Density Clustering" IICAI Conference, India, December 2003.
217. **S. Panchanathan**, J. Black, P. Tripathi, and K. Kahol, "Cognitive Multimedia Computing," Invited Paper, Proc. IEEE International Symposium on Information

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Patents, Copyrights, IP Disclosures Summary

Patents Granted: 6

Hand-Directed System for Identifying Activities	18/296,908 Issued: 10/22/2024 Patent #:US 12,124,629	Venkateswara, Hemanth; Goldberg, Mozest; Kakaraparthi, Vishnu; Panchanathan, Sethuraman
Systems and methods including a device for personalized activity monitoring involving the hands	17/759,011 Issued: 2/2/2023 Patent #: US 20230034807A1	McDaniel, Troy; Panchanathan, Sethuraman; Goldberg, Mozest
Reconfigurable Processing	10/544,894 Issued: 10/2/2012 Patent #: US 8,281,297	Dasu, Aravind; Akoglu, Ali; Sudarsanam, Arvind; Panchanathan, Sethuraman
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Patent Applications Filed: 3

Adaptive Performance Goals and Feedback using Wearable Computers to Overcome Learned Non- Use in Stroke Survivors	61/768,806	McDaniel, Troy; Panchanathan, Sethuraman
Adaptive Batch Mode Active Learning for Evolving a Classifier	13/484,696	Chakraborty, Shayok; Balasubramanian, Vineeth Nallure; Sethuraman Panchanathan
Active Batch Selection for Training a Data Classifier with Guaranteed Performance Bounds	61/740,315	Chakraborty, Shayok; Balasubramanian, Vineeth Nallure; Panchanathan, Sethuraman; Ye, Jieping

Registered Copyrights: 2

OASIS	TXu1-366-205	Kolhatkar, Atul; Panchanathan, Sethuraman; Candan, Kasim; Goveas, Maria; Li, Qing; Han, Sangwoo; Haas, Susan; Hedgpeth Terri
Rate the Surgeons Collaborative Surgical Proficiency Rating Software and System	Tx7-416-203	Panchanathan, Sethuraman; Kahol, Kanav; Villanueva, Daniel

IP Disclosures Filed: 25

RESEARCH FUNDING DETAILS (PI or Co-PI)

	Funding Source	Title of Project	Award Amount	Duration
1.	National Science Foundation (NSF)	NRT: Citizen-Centered Smart Cities and Smart Living	$2,999,997	09/01/18 - 08/31/23
2.	Carnegie Corporation of New York	UIA - Carnegie: University Innovation Alliance	$500,000	07/01/18 - 06/30/20
3.	Phoenix Children's Hospital	Pediatric Affiliation and Research Collaboration	$10,000,000	06/01/18 - 05/31/23
4.	Strada Education Network	UIA - Strada the National Summit for Student Success Innovation and Campus Transformation	$70,000	03/15/18 - 03/14/19
5.	Great Lakes Higher Education Corporation and Affiliates	UIA - Great Lakes Fellows 2	$1,111,000	02/01/18 - 01/31/20
6.	Dignity Health dba St. Joseph's Hospital and	MMSA- Mission Support Year 2	$11,000,000	01/01/18 - 06/21/22
7.	Strada Education Network	UIA - Strada: A New Data Dialogue: Bridging the Gap from Education to Employment	$2,400,000	01/01/18 - 12/31/20
8.	Kresge Foundation	UIA - Kresge: UIA 2 Taking Higher Education Innovation and Scale to the Next Level	$920,000	07/01/14 - 06/30/17

9.	Great Lakes Higher Education Corporation and Affiliates	UIA - Great Lakes: Retention Grants	$1,999,986	08/01/17 - 12/31/20
10.	ECMC Foundation	UIA - ECMC: University Innovation Alliance	$600,000	05/01/17 - 04/30/19
11.	Gates (Bill and Melinda) Foundation	UIA- Gates: Retention Grants - ASU	$1,999,986	2/10/17 - 12/31/20
12.	Dignity Health dba St. Joseph's Hospital and Medical Center	MMSA- Mission Support	$10,750,000	01/01/17 - 06/21/22
13.	USAID	U.S. – Pakistan Centers for Advanced Studies in Energy	$17,916,526	11/21/14 - 11/20/19
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15.	Adidas America, Inc.	SMART Platform for Athletic Music Recommendation and Emotional Analysis.	$71,639	08/01/18 - 07/31/19
16.	ASU Global Sport Institute	The Future of Sport Experiences: Multimodal Virtual Attendance Toward Accessibility and Scalability	$20,000	01/01/18 - 12/31/18
17.	Ford Foundation	UIA - Ford YR 3 - University Innovation Alliance	$300,000	09/01/16 - 08/31/17
18.	Strada Education Network	UIA - USA Funds Yr 3 - University Innovation Alliance	$250,000	09/01/16 - 08/31/17
19.	Gates (Bill and Melinda) Foundation	Edcom - IP Network: Interaction Effect 20 - Seeding Collaborative UIA	$75,000	04/01/16 - 09/30/17
20.	Flinn Foundation	ASU Mayo Collaboration on Science Health Care Delivery Education	$500,000	10/01/15 - 09/30/17

21.	NSF I-CORPS	Arizona State University Start Up Mill	$296,624	05/01/16 -
22.	Intel Corporation	Smart Stadium and Smart Living Research	$86,520	01/01/15-12/31/16
23.	Science Foundation of Arizona	Yr 01: Bisgrove Post-Doctoral and Early Career Scholars	$400,000	10/01/13 - 09/30/16
24.	Science Foundation of Arizona	ASU 2013 Graduate Research Fellowship Program	$631,750	06/01/13 - 12/31/14
25.	Flinn Foundation	Flinn Foundation - Arizona SciTech Festival 2013	$15,000	01/01/13 - 12/31/13
26.	Mayo Clinic Jacksonville	Association between Visual Gaze Patterns and Adenoma Detection Rate	$20,000	08/01/12 - 07/31/13
27.	Virginia G. Piper Charitable Trust ASUF	Piper Health Solutions Consortium	$10,025,676	05/01/12 - 6/30/18
28.	NSF: Directorate for Education Human Resources	IGERT: Person-Centered Technologies and Practices for Individuals with Disabilities	$2,972,183	8/15/11 - 7/31/18
29.	Flinn Foundation	Flinn Foundation - Arizona SciTech Festival	$50,000	07/22/11 - 12/31/12
30.	Mayo Clinic Arizona	Aerospace Vestibular Laboratory Services	$87,041	01/01/11 - 02/05/12
31.	DOD: Air Force (USAF)	Research and Development of Haptic Annunciator System (HAS)	$294,576	11/01/09 - 10/31/10

32.	National Science Foundation	RDE-FRI: The CUbiC CAReS Note-Taker: Enabling students who are legally blind to take notes in class	$450,439	09/01/09 - 08/31/13
33.	National Science Foundation	Prime the Pipeline Project (P3): Putting Knowledge to Work	$1,344,438	09/01/08 - 08/31/13
34.	Mayo Clinic Arizona	A Study of the Visual Scanning Strategies of Experienced Radiologists, and the Application of that Knowledge to Automated Image Understanding	$99,996	05/16/09 - 05/15/11
35.	National Science Foundation	COMPUGIRLS: A Culturally Relevant Technology Program for Girls	$879,425	09/15/08 - 06/30/13
36.	Mayo Clinic Arizona	Investigation of Spatial Memory Formation and Retention in Patients with Early Alzheimer's Disease	$39,720	01/01/08 - 12/31/08
37.	HHS: National Institutes of Health	Computational Analysis of Gene Expression Pattern Images	$1,704,027	09/01/07 - 06/30/11
38.	HHS-NIH-NCATS: National Center for Research Resources (NCRR)-TGen	Arizona Clinical and Translational Science Award	$28,966	09/22/06 - 09/21/07
39.	National Science Foundation	CISE RI: An Interdisciplinary Research Environment for Motion Analysis	$758,082	09/01/06 - 08/31/11
40.	Dept. of Economic Security	Ubiquitous Environment to Facilitate Access to Textbooks & Related	$784,765	01/09/06 - 12/31/07

		Materials for Individuals who are Blind or Visually Impaired		
41.	National Science Foundation	SGER: Incorporation of Psychological Basis of Haptics in the Design of Assistive Haptic User Interfaces	$196,574	11/15/05 - 10/31/06
42.	National Science Foundation	IGERT: An Arts, Sciences, and Engineering Research and Education Initiative for Experimental Media	$3,638,079	10/01/05 - 09/30/12
43.	National Science Foundation	CISE RI: An Interdisciplinary Research Environment for Motion Analysis	$263,257	09/15/0 4- 08/31/06
44.	National Science Foundation	MEASURES: A Proof-of-Concept Demonstration Ecosystems	$86,000	08/15/04 - 07/31/05
45.	NIH-National Institutes of Health	Computational Analysis of Gene Expression Pattern Images	$1,244,430	07/11/03 - 06/30/07
46.	National Science Foundation	PPD-FRI: Ubiquitous Environment to Facilitate Engineering Education for Blind Persons	$172,538	10/01/03 - 09/30/06
47.	National Science Foundation	ITR: ILEARN: IT-Enabled Intelligent and Ubiquitous Access to Education Opportunities for Blind Students	$1,236,210	09/01/03 - 08/31/08
48.	HHS: National Institutes of Health	Computational Analysis of Gene Expression Pattern Images	$1,244,430	07/11/03 - 06/30/07

49.	Fulton Schools of Engineering	CUbiC (Center for Cognitive Ubiquitous Computing)	$230,000	07/1/03 - 06/30/04
50.	Arizona–Prop. 301–IT Grant	iCARE: Center for Cognitive Ubiquitous Computing	$754,000	05/16/03 - 05/15/05
51.	National Science Foundation	Video Traces: Create, Disseminate, Analyze	$733,308	09/15/02 - 12/31/06
52.	Arizona–Prop.301–IT Grant	iCARE: Information Technology Centric Assistive and Rehabilitative Environment	$240,000	5/16/02 - 5/15/03
53.	Arm Ltd.	Design of High-Performance General-Purpose Embedded Processors Based on the Arm Architecture	$35,708	01/01/02 - 08/15/03
54.	National Science Foundation	A Concentration Track in Embedded Systems	$490,139	09/01/01 - 08/31/06
55.	ASU: Consortium for Embedded & Internetworking Technologies	Replicated Clients and Adapted RPC	$65,502	05/16/01 - 06/30/02
56.	ASU: Consortium for Embedded & Internetworking Technologies	A Performance Evaluation Framework for Internet and Multimedia Services in Network Processors	$89,347	05/16/01- 05/15/02
57.	NSF: Directorate for Biological Sciences (BIO)	Design of a Bioinformatic Database for Functional Evolutionary Footprints in Multigene Families	$677,398	07/01/00 - 06/30/04
58.	Luxxon Corporation	Software Environment for H-223 Implementation	$81,337	05/15/00 - 08/31/01

59.	National Science Foundation	3D Knowledge: Acquisition Representation & Analysis in a Distributed Environment	$2,100,000	09/01/99 - 02/29/04
60.	SUN Research Grant	Multimedia Computing with UltraSparc	$200,000	9/01/99 - 5/31/02
61.	National Science Foundation	A Logical Foundation for an Information Engineering Curriculum	$386,000	07/15/99 - 06/30/02
62.	Motorola, Inc.	Media Processing for Digital Television	$146,059	01/16/99 - 05/15/01
63.	Motorola, Inc.	Software for HDTV Platforms	$30,144	06/17/98 - 08/15/99
64.	American Express Company	Joint ASU/American Express TRS Co. Effort in Instruction of Large Grain Information Systems	$62,000	08/16/96- 05/05/99
65.	ASU Research Grant	Genomic Signal Proceeding	$90,000	1999–2000
66.	ASU Research Grant	Media Processing	$27,000	1999–2000
67.	TRIO	Content Indexing of Visual Media	$125,000	1997–1998
68.	NSERC Research Grant	Indexing of Compressed Video Sequences	$88,000	1997–1998
69.	NSERC – Industry Oriented Research (IOR)	Video Signal Processing and Coding for Multimedia Services in Future Networks.	$180,000	1996–1998
70.	NSERC – IOR	Distance Learning over an ATM Network	$150,000	1994–1997

71.	NCE – Microelectronics Network (MICRONET)	Computing in Random Access Memory (CRAM)	$80,000	1993–1997
72.	Center of Excellence - Telecom Res. Institute of Ontario (TRIO)	Multimedia Communications	$1,360,000	1993–1997
73.	NSERC Research Grant	Real–Time Coders for Image Coding using VQ	$95,855	1990–1997
74.	Center of Excellence – Canadian	Scalable Video Coding for Database Storage	$525,000	1990–1996
75.	National Research Council (NRC)	Optical Computing Architectures for Video Processing	$33,785	1995–1996
76.	CANARIE – Canadian Marconi Company	Video Compression for a Video Server	$43,000	1994–1995
77.	University Research Incentive Fund (URIF)	Multimedia Communications Workstation for Cardiac Image Sequences	$459,945	1990–1933
78.	TRIO	Multimedia Communications	$680,000	1991–1993
79.	University Research Fund	Image Compression	$26,000	1990–1992

TOTAL $ 109,149,407