

Angelos Barmpoutis,

PhD

Professor of Digital Arts and Sciences

Digital Worlds Institute · College of the Arts · University of Florida



Digital Innovation at the intersection of the Arts and Sciences.

Since 2010, as the Digital Worlds Institute’s inaugural tenure-track faculty member, I have helped build an interdisciplinary academic unit bridging the arts with other disciplines — developing curricula that now serve more than 500 undergraduates a year. This document collects a decade and a half of research, teaching, and creative practice at that intersection.

“The most transformative discoveries occur when artists, performers, designers, engineers, computer scientists, and humanists collaborate to solve problems that no single discipline could address independently.”

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Digital Worlds Institute
College of the Arts
University of Florida

Entertainment Technologies

Virtual Reality

Advanced Shader Models

AI in the Arts

Games for Education and Training

Programming for Artists

Public Experience Design

Computation as a creative collaborator

Angelos Barmpoutis is a Professor of Digital Arts and Sciences and coordinator of research and technology at the Digital Worlds Institute, University of Florida College of the Arts, with affiliate faculty appointments in the Department of Computer & Information Science and Engineering and the Center for the Arts, Migration, and Entrepreneurship.

Since 2010, as the Institute's inaugural tenure-track faculty member, he has helped build an interdisciplinary academic unit bridging the arts with other disciplines — developing curricula that now serve more than 500 undergraduates a year, alongside a graduate program in immersive technologies. His research treats computational systems not as production tools but as creative collaborators: systems that expand artistic expression, advance computer vision and AI methods, and generate real societal impact, from the concert hall to the clinic.

He directs the Digital Innovation and Public Experience Design lab in the College of the Arts. He was named UF Research Foundation Professor (2020–2023) and Teacher of the Year (2017), and currently chairs the Interactive and Emerging Media curricular area at UF.

15+
years of service

80+
peer-reviewed works

100+
public talks

\$8.9M+
external funding

Digital Arts and Sciences

Every project asks a version of the same question: how digital arts can be paired with other disciplines to create new knowledge, new experiences, and new impact.

01

Embodied & Immersive Interaction

Design of passive haptic interfaces, immersive museum installations, and embodied interactions in virtual environments. Foundational work includes a patented real-time human-body reconstruction and avatar-synthesis system (U.S. Patent 10,121,273 B2) built on low-cost infrared depth sensors.

[View the patent →](#)

02

Computational Creativity & AI

Computational systems as creative collaborators — from AI-driven dance analysis to generative performance tools. Representative work: real-time recognition and attribution of Afrogenic dance movements (ACM IMX 2026), developed through the ATUNDA project and funded by the Robert Wood Johnson Foundation.

[Read the ACM IMX paper →](#)

03

Emerging Technologies for Social Impact

Projects span passive-haptic VR for music conductor education, 3D museum collections in context for children, and integrated telehealth and XR for post-surgical home exercise adherence. One platform, developed through an NIH-supported commercialization effort, is now an FDA Class II medical device used in major hospitals.

[Read the IEEE VR paper →](#)

04

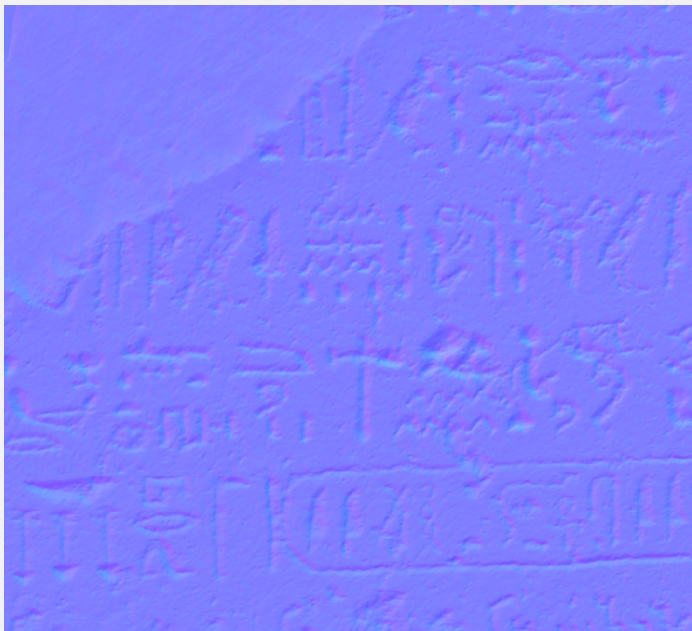
Digital Heritage & Public Experience

Novel methods for 3D digitization and analysis of historical artifacts, transforming how cultural monuments are preserved and shared. Work includes 3D digitization of the Rosetta Stone for the British Museum and the NEH-funded Digital Epigraphy Toolbox, adopted by the Library of Congress, Cornell, and the UK National Archives.

[Visit the Digital Epigraphy Project →](#)



Using a novel method to capture a high-resolution normal map of the Rosetta Stone for the 3D model of the museum.



RESEARCH PRACTICE

Interdisciplinary creativity in action

I approach each project as a design problem with social, cultural, and scientific dimensions.

That interdisciplinary model shapes how I teach, mentor, and collaborate: I work across the arts, computer science, engineering, health, and humanities in order to produce research that is both technically robust and meaningfully engaged with the communities it serves.

“Entertainment technologies, such as game engines, virtual reality, and motion tracking, can become powerful platforms for education, training, and scientific simulation, transforming technologies designed for play into tools for learning, discovery, and real-world problem solving.”

I engage digital arts and science students in all of my research projects as a hands-on learning experience, where they work directly on practical problems and contribute to research in action. Our process begins with the physical world: we observe material surfaces, movement, light, and form, then translate those insights into digital models, immersive environments, and custom visual systems.



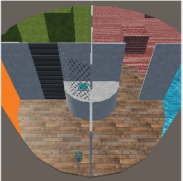
2026 · Conference

Real-Time Computer-Assisted Afrogenic Dance Move Recognition and Analysis

T. Pank, D. Carrascosa, Q. Onikeku, J. Frusco, O. Craig, A. Barmpoutis

ACM Intl. Conf. on Interactive Media Experiences

Trains a deep-learning classifier on 964 videos of 49 African-diaspora dance moves, using misclassification patterns to map movement similarity for attribution and cultural documentation.



2026 · Conference

Circular-Path VR Environments for Continuous Locomotion

H. Tian, J. Matousek, D. Ramtulla, Y. Hou, A. Barmpoutis
Intl. Conf. on Human-Computer Interaction

Tests VR environments that fold a linear walking path into a circular layout, letting users move continuously within a small physical footprint.



2025 · Conference

Integrated Telehealth and Extended Reality to Enhance Home Exercise Adherence

C. Conroy, G. Brunetti, A. Barmpoutis, E. Fox
IEEE VR Conference (VRW)

Combines telehealth check-ins with an extended-reality home exercise app to improve adherence after hip and knee replacement surgery.

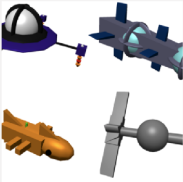


2024 · Conference

Enhancing Museum Experience with VR by Situating 3D Collections in Context

J. Delgado, R. West, A. Barmpoutis, S. Jang, E. Stanley, H. Kang
ACM Interaction Design and Children Conf.

Explores how presenting 3D-scanned museum artifacts within their original context affects children's engagement and learning in VR.



2023 · Conference

Developing Mini VR Game Engines as an Engaging Learning Method

A. Barmpoutis, W. Guo, I. Said

IEEE Integrated STEM Education Conf.

Has students build lightweight VR game engines from scratch as a hands-on strategy for teaching digital arts and sciences concepts.



2022 · Conference

AI-Driven Human Motion Classification Using the Laban Movement System

W. Guo, O. Craig, T. Difato, J. Oliverio, M. Santoso, J. Sonke et al.
Intl. Conf. on Human-Computer Interaction

Applies AI classification to Laban Movement Analysis descriptors to automatically recognize and annotate categories of human motion.



2020 · Conference

Assessing the Role of VR with Passive Haptics in Music Conductor Education

A. Barmpoutis, R. Faris, L. Garcia, L. Gruber, J. Li, F. Peralta et al.
Intl. Conf. on Human-Computer Interaction

A pilot study using passive haptics with physical batons and stands to test whether touch feedback improves VR training for orchestra conductors.

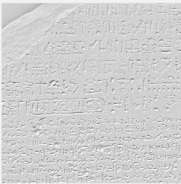


2020 · Conference

Discover DaVinci — A Gamified Blockchain Learning App

M. Suvajdzic, J. Oliverio, A. Barmpoutis, L. Wood, P. Burgermeister
IEEE Intl. Conf. on Blockchain & Cryptocurrency

Pairs blockchain-verified collectibles with gamified learning to teach students about Leonardo da Vinci's work.



2018

Depth Map of the Rosetta Stone

M. Amin, A. Barmpoutis, M. Berti, E. Bozia, J. Hensel, F. Naether
Digital Rosetta Stone Project, Leipzig University

An algorithmically generated depth map of the Rosetta Stone drawn from the Digital Rosetta Stone project's 3D scan data.



2016 · Conference

Kinesthetic Gaming for Elementary Math Education

A. Barmpoutis, Q. Ding, L. Anthony, W. Eugene, M. Suvajdzic
IEEE VR Workshop (KELVAR)

A culturally responsive kinesthetic game that teaches elementary math concepts to 5th graders through full-body movement.



2015 · Conference

Interactive 3D Digitization of Ancient Sculptures via Mobile Depth Sensors

A. Barmpoutis, E. Bozia, D. Fortuna
Intl. Conf. on Universal Access in HCI

A mobile depth-sensor pipeline for scanning, retrieving, and comparing ancient statues by their 3D features in the field.



2013 · Journal

Tensor Body: Real-Time Reconstruction of the Human Body from RGB-D

A. Barmpoutis
IEEE Transactions on Cybernetics

Introduces Tensor Body, a real-time method for reconstructing a person's 3D shape and building an avatar from a single low-cost depth camera.

- R. Chen, S. Chiu, J. DeSimone et al.** (2026). Automated Imaging Differentiation for Dementia: Including Alzheimer Disease Dementia and Dementia with Lewy Bodies. *Neurology open access*.
- H. Tian, J. Matousek, D. Ramtulla et al.** (2026). Circular-Path VR Environments for Continuous Locomotion. *International Conference on Human-Computer Interaction*.
- A. Barmpoutis, E. Bozia** (2026). Epigraphy Going Digital: Tools and Methods. *The Oxford Handbook of Digital Classical Studies*.
- T. Pank, D. Carrascosa, Q. Onikeku et al.** (2026). Real-Time Computer-Assisted Afrogenic Dance Move Recognition and Analysis. *Proceedings of the 2026 ACM International Conference on Interactive Media Experiences*.
- D. Vaillancourt, A. Barmpoutis, S. Wu et al.** (2025). Automated imaging differentiation for parkinsonism. *JAMA neurology*.
- C. Conroy, G. Brunetti, A. Barmpoutis et al.** (2025). Integrated telehealth and extended reality to enhance home exercise adherence following total hip and knee arthroplasty. *2025 IEEE Conference on Virtual Reality and 3D User Interfaces Abstracts and Workshops (VRW)*.
- L. Kemper, J. Lam, M. Levine et al.** (2024). Assessing the Influence of Passive Haptics on User Perception of Physical Properties in Virtual Reality. *International Conference on Human-Computer Interaction*.
- D. Vaillancourt, A. Barmpoutis, R. Chen et al.** (2024). Automated Imaging Differentiation of Parkinsonism (AIDP): A Prospective 21-site Trial within the Parkinson's Study Group. *MOVEMENT DISORDERS*.
- R. Chen, W. Wang, A. Barmpoutis et al.** (2024). Diffusion MRI and Machine Learning Distinguish Alzheimer's Disease and Dementia with Lewy Bodies. *MOVEMENT DISORDERS*.
- J. Delgado, R. West, A. Barmpoutis et al.** (2024). Enhancing museum experience with VR by situating 3D collections in context. *Proceedings of the 23rd Annual ACM Interaction Design and Children Conference*.
- R. Garrett, J. Gast, S. Henry et al.** (2024). Investigating how interaction with physical objects within virtual environments affects knowledge acquisition and recall. *International Conference on Human-Computer Interaction*.
- A. Barmpoutis, W. Guo, I. Said** (2023). Developing Mini VR Game Engines as an Engaging Learning Method for Digital Arts & Sciences. *2023 IEEE Integrated STEM Education Conference (ISEC)*.
- W. Guo, W. Brisbane, R. Ashouri et al.** (2023). Prostate capsule segmentation in micro-ultrasound images using deep neural networks. *2023 IEEE 20th International Symposium on Biomedical Imaging (ISBI)*.
- A. Barmpoutis, E. Bozia** (2023). Reinscribing the 3rd dimension in epigraphic studies and transcending disciplinary boundaries. *Numérique et lecture de textes épigraphiques altérés*.
- M. Amin, A. Barmpoutis, M. Berti et al.** (2023). The Digital Rosetta Stone Project. *Ancient Egypt, New Technology*.
- W. Guo, O. Craig, T. Difato et al.** (2022). AI-Driven human motion classification and analysis using laban movement system. *International Conference on Human-Computer Interaction*.
- A. Barmpoutis, R. Faris, L. Garcia et al.** (2020). Assessing the role of virtual reality with passive haptics in music conductor education: a pilot study. *International Conference on Human-Computer Interaction*.
- C. Conroy, G. Brunetti, P. Freeborn et al.** (2020). Custom Virtual Reality System with Real-Time Therapist Interactions to Enhance Home Exercise Performance and Adherence. *American Physical Therapy Association Combined Sections Meeting*.
- M. Suvajdzic, J. Oliverio, A. Barmpoutis et al.** (2020). Discover DaVinci--A gamified blockchain learning app. *2020 IEEE International Conference on Blockchain and Cryptocurrency (ICBC)*.
- A. Barmpoutis, R. Faris, S. Garcia et al.** (2020). Virtual kayaking: A study on the effect of low-cost passive haptics on the user experience while exercising. *International Conference on Human-Computer Interaction*.
- D. Archer, J. Bricker, W. Chu et al.** (2019). Development and validation of the automated imaging differentiation in parkinsonism (AID-P): a multicentre machine learning study. *The Lancet Digital Health*.
- A. Kondyli, A. Barmpoutis, V. Sisiopiku et al.** (2018). A 3D body posture analysis framework during merging and lane-changing maneuvers. *Journal of Transportation Safety & Security*.
- M. Amin, A. Barmpoutis, M. Berti et al.** (2018). Depth map of the Rosetta Stone.
- A. Barmpoutis** (2018). Integrating algebra, geometry, music, 3D art, and technology using emoticon. *2018 IEEE Integrated STEM Education Conference (ISEC)*.
- A. Barmpoutis** (2018). Learning programming languages as shortcuts to natural language token replacements. *Proceedings of the 18th Koli Calling International Conference on Computing Education Research*.
- A. Barmpoutis, K. Huynh** (2018). Name tags and pipes: assessing the role of metaphors in students' early exposure to computer programming using emoticon. *International Conference on Applied Human Factors and Ergonomics*.
- A. Barmpoutis** (2018). US Patent: Real-time reconstruction of the human body and automated avatar synthesis.
- A. Barmpoutis** (2017). Analytical mapping of linear walk from infinite virtual space to finite real space. *International Conference on Virtual, Augmented and Mixed Reality*.
- A. Barmpoutis, K. Huynh, P. Ariet et al.** (2017). Assessing the effectiveness of emoticon-like scripting in computer programming. *International Conference on Applied Human Factors and Ergonomics*.
- E. Bozia, A. Barmpoutis** (2017). Augmented Reality for Epigraphy: How to bring holograms of inscriptions to your classrooms. *CIEGL17: 15th International Congress of Greek and Latin Epigraphy*.
- A. Barmpoutis** (2017). Teaching computer programming to humanists using emoticon-like scripting. *HASTAC Conference 2017: The Possible Worlds of Digital Humanities*.
- A. Barmpoutis, J. Alzate, S. Beekhuizen et al.** (2016). Assessment of haptic interaction for home-based physical tele-therapy using wearable devices and depth sensors. *Studies in Health Technology and Informatics*.
- A. Barmpoutis, E. Bozia** (2016). Augmenting the workspace of epigraphists: An interaction design study. *Digital and Traditional Epigraphy in Context. Proceedings of the EAGLE 2016 International Conference on Digital and Traditional Epigraphy in Context*.
- A. Barmpoutis, Q. Ding, L. Anthony et al.** (2016). Exploration of kinesthetic gaming for enhancing elementary math education using culturally responsive teaching methodologies. *2016 IEEE Virtual Reality Workshop on K-12 Embodied Learning through Virtual & Augmented Reality (KELVAR)*.
- A. Levivier, E. Bozia, A. Barmpoutis et al.** (2016). Panel. Assessing the Role of Digital Libraries of Squeezes in Epigraphic Studies: Digitization, Visualization, and Metadata. *EAGLE 2016 International Conference on Digital and Traditional Epigraphy in Context*.
- A. Kondyli, A. Barmpoutis, V. Sisiopiku** (2016). Safety-Related Analysis of the 3D Driver Body Posture Using Naturalistic Data. *TRB 95th Annual Meeting Compendium of Papers*.

- A. Kondyli, V. Sisiopiku, L. Zhao et al.** (2015). Computer assisted analysis of drivers' body activity using a range camera. *IEEE Intelligent Transportation Systems Magazine*.
- R. Gallen, D. Eastop, E. Bozia et al.** (2015). Digital Imaging: The application of shape-from-shading to lace, seals and metal objects. *Journal of the Institute of Conservation*.
- J. Oliverio, A. Barmpoutis, C. Juehring et al.** (2015). Enhancing global collaboration through network-empowered live performance. *Electronic Visualisation and the Arts (EVA 2015)*.
- A. Barmpoutis, E. Bozia, D. Fortuna** (2015). Interactive 3D digitization, retrieval, and analysis of ancient sculptures, using infrared depth sensors for mobile devices. *International Conference on Universal Access in Human-Computer Interaction*.
- A. Barmpoutis, L. Zhang, L. Zao et al.** (2015). Investigating the Effect of Drivers' Body Motion on Traffic Safety.
- E. Bozia, A. Barmpoutis** (2015). Life and afterlife of archaeological sources: electronic preservation, dissemination, and study of Latin inscriptions.. *Archeologia e Calcolatori*.
- M. Lame, G. Sarullo, F. Boschetti et al.** (2015). Technology & tradition: A synergic approach to deciphering, analyzing and annotating epigraphic writings. *Lexis*.
- A. Barmpoutis** (2014). Applications of Virtual Environments in Experiential, STEM, and Health Science Education. *Handbook of Virtual Environments: Design, Implementation, and Applications, Second Edition*, K. Hale and K. Stanney (ed.).
- A. Barmpoutis, E. Fox, I. Elsner et al.** (2014). Augmented-reality environment for locomotor training in children with neurological injuries. *Workshop on Augmented Environments for Computer-Assisted Interventions*.
- A. Kondyli, V. Sisiopiku, L. Zhao et al.** (2014). Comparative Analysis of Driving Maneuvers Using 3D Body Posture Data. *Proceedings of the 5th International Conference on Applied Human Factors Ergonomics AHFE*.
- A. Barmpoutis** (2014). Neural Network Fundamentals. *Business Analytics: An Introduction*.
- E. Bozia, A. Barmpoutis, R. Wagman** (2014). Open-Access Epigraphy: Electronic Dissemination of 3D digitized Archaeological Material. *Information Technologies for Epigraphy and Cultural Heritage: Proceedings of the First EAGLE International Conference*.
- S. Ray, W. O'Dell, A. Barmpoutis** (2014). Perpendicular fibre tracking for neural fibre bundle analysis using diffusion MRI. *International Journal of Bioinformatics Research and Applications*.
- A. Kondyli, V. Sisiopiku, A. Barmpoutis** (2013). A 3D experimental framework for exploring drivers' body activity using infrared depth sensors. *2013 International Conference on Connected Vehicles and Expo (ICCVE)*.
- A. Barmpoutis** (2013). Automated Human Avatar Synthesis for Obesity Control using Low-Cost Depth Cameras.. *Studies in Health Technology and Informatics*.
- A. Barmpoutis** (2013). Digital epigraphy toolbox.
- A. Barmpoutis** (2013). Tensor body: Real-time reconstruction of the human body and avatar synthesis from RGB-D. *IEEE transactions on cybernetics*.
- A. Barmpoutis, J. Ho, B. Vemuri** (2012). Approximating symmetric positive semidefinite tensors of even order. *SIAM journal on imaging sciences*.
- Y. Weldeselassie, A. Barmpoutis, M. Atkins** (2012). Symmetric positive semi-definite cartesian tensor fiber orientation distributions (CT-FOD). *Medical Image Analysis*.
- A. Barmpoutis, J. Zhuo** (2011). Diffusion kurtosis imaging: Robust estimation from DW-MRI using homogeneous polynomials. *2011 IEEE International Symposium on Biomedical Imaging: From Nano to Macro*.
- S. Chandra, A. Barmpoutis, N. Simpson et al.** (2011). High Angular Resolution Diffusion Microscopy (HARDM) Detects Retinal Disruption in Mice with Diabetic Retinopathy. *Proc. Intl. Soc. Mag. Reson. Med*.
- A. Barmpoutis, E. Bozia, R. Wagman** (2010). A novel framework for 3D reconstruction and analysis of ancient inscriptions. *Machine Vision and Applications*.
- A. Barmpoutis, B. Vemuri** (2010). A unified framework for estimating diffusion tensors of any order with symmetric positive-definite constraints. *2010 IEEE international symposium on biomedical imaging: from nano to macro*.
- R. Kumar, A. Barmpoutis, A. Banerjee et al.** (2010). Non-Lambertian reflectance modeling and shape recovery of faces using tensor splines. *IEEE Transactions on Pattern Analysis and Machine Intelligence*.
- Y. Weldeselassie, A. Barmpoutis, M. Atkins** (2010). Symmetric positive-definite cartesian tensor orientation distribution functions (CT-ODF). *International Conference on Medical Image Computing and Computer-Assisted Intervention*.
- A. Barmpoutis** (2010). Tutorial on diffusion tensor MRI using Matlab. *Electronic Edition, University of Florida*.
- R. Kumar, A. Barmpoutis, B. Vemuri et al.** (2009). A Physical basis for multi-fiber reconstruction from DW-MRI data. *2009 IEEE International Symposium on Biomedical Imaging: From Nano to Macro*.
- A. Barmpoutis, B. Jian, B. Vemuri** (2009). Adaptive kernels for multi-fiber reconstruction. *International conference on information processing in medical imaging*.
- A. Barmpoutis, B. Vemuri** (2009). Groupwise registration and atlas construction of 4th-order tensor fields using the $\mathbb{R}^+$ Riemannian metric. *International Conference on Medical Image Computing and Computer-Assisted Intervention*.
- A. Barmpoutis, M. Hwang, D. Howland et al.** (2009). Regularized positive-definite fourth order tensor field estimation from DW-MRI. *NeuroImage*.
- A. Barmpoutis, R. Kumar, B. Vemuri et al.** (2008). Beyond the lambertian assumption: A generative model for apparent brdf fields of faces using anti-symmetric tensor splines. *2008 IEEE Conference on Computer Vision and Pattern Recognition*.
- A. Barmpoutis, B. Vemuri, D. Howland et al.** (2008). Extracting tractosemas from a displacement probability field for tractography in DW-MRI. *International Conference on Medical Image Computing and Computer-Assisted Intervention*.
- A. Barmpoutis, B. Vemuri, J. Forder** (2008). Fast displacement probability profile approximation from hardi using 4th-order tensors. *2008 5th IEEE International Symposium on Biomedical Imaging: From Nano to Macro*.
- A. Barmpoutis, B. Vemuri** (2008). Information theoretic methods for diffusion-weighted MRI analysis. *LIX Fall Colloquium on Emerging Trends in Visual Computing*.
- R. Kumar, A. Barmpoutis, B. Vemuri et al.** (2008). Multi-fiber reconstruction from DW-MRI using a continuous mixture of von Mises-Fisher distributions. *2008 IEEE computer society conference on computer vision and pattern recognition workshops*.
- A. Barmpoutis, B. Vemuri** (2007). Exponential Tensors: A framework for efficient higher-order DT-MRI computations. *2007 4th IEEE International Symposium on Biomedical Imaging: From Nano to Macro*.
- A. Barmpoutis, B. Vemuri, J. Forder** (2007). Registration of high angular resolution diffusion MRI images using 4 th order tensors. *International Conference on Medical Image Computing and Computer-Assisted Intervention*.
- A. Barmpoutis, B. Jian, B. Vemuri et al.** (2007). Symmetric positive 4 th order tensors & their estimation from diffusion weighted MRI. *Biennial International Conference on Information Processing in Medical Imaging*.
- A. Barmpoutis, B. Vemuri, T. Shepherd et al.** (2007). Tensor splines for interpolation and approximation of DT-MRI with applications to segmentation of isolated rat hippocampi. *IEEE transactions on medical imaging*.
- A. Barmpoutis, G. Ritter** (2006). Orthonormal basis lattice neural networks. *2006 IEEE International Conference on Fuzzy Systems*.
- A. Barmpoutis, B. Vemuri, J. Forder** (2006). Robust tensor splines for approximation of diffusion tensor MRI data. *2006 Conference on Computer Vision and Pattern Recognition Workshop (CVPRW'06)*.
- J. Barker, A. Barmpoutis** (2004). Smart dust: Monte Carlo simulation of self-organised transport. *Journal of Computational Electronics*.
- A. Barmpoutis, N. Nikolaidis, I. Pitas** (2003). Face 3D Pose Estimation Using a Generic 3D Face Model and Facial Features Extraction. *Proceedings 9th Panhellenic Conference on Informatics (PCI'2003)*.

I teach Digital Arts and Sciences students to design, build, test, and reflect critically on immersive systems as both creative artifacts and research instruments.



UNDERGRADUATE COURSE

Game Engine Development

This course asks students to build their own game engine rather than treat Unity or Unreal as a black box. They learn the architecture behind real-time rendering, shaders, scene graphs, input systems, resource management, and engine-level design decisions.

- Custom rendering pipeline and shader authoring
- Camera, transforms, lighting, and scene structure
- Game loop, input systems, and engine architecture

[View the syllabus →](#)



GRADUATE COURSE

Interdisciplinary Research Seminar

Students design novel immersive experiences in VR or AR with haptic feedback, form a hypothesis, conduct a user study, evaluate results, and prepare work for international conference publication.

- Hypothesis-driven design for immersive systems
- Haptic interaction and user experience evaluation
- Research methods and conference-ready dissemination

**GRADUATE COURSE****Entertainment Technology**

Covers interactive media, real-time graphics, and immersive technologies as platforms for entertainment — game engines, virtual and augmented reality, and interactive installations.

- Interactive media, real-time graphics, and immersive technologies
- Game engines, virtual and augmented reality, interactive installations
- Novel user experience design and prototyping

**GRADUATE COURSE****Movement, Media, and Machines**

Pairs infrared sensors and AI-based motion tracking with avatar rigging to build real-time motion-capture tools for interactive media.

- Infrared sensors and AI-based motion tracking
- Avatar rigging and inverse kinematics
- Real-time motion capture Unity plugin authoring

Also designed and taught: Interaction Design · Wearables and Mobile App Development · Production of Immersive Environments · Interactive Storytelling · Digital Arts and Science Design and Production Studio · Computer Programming for Artists.

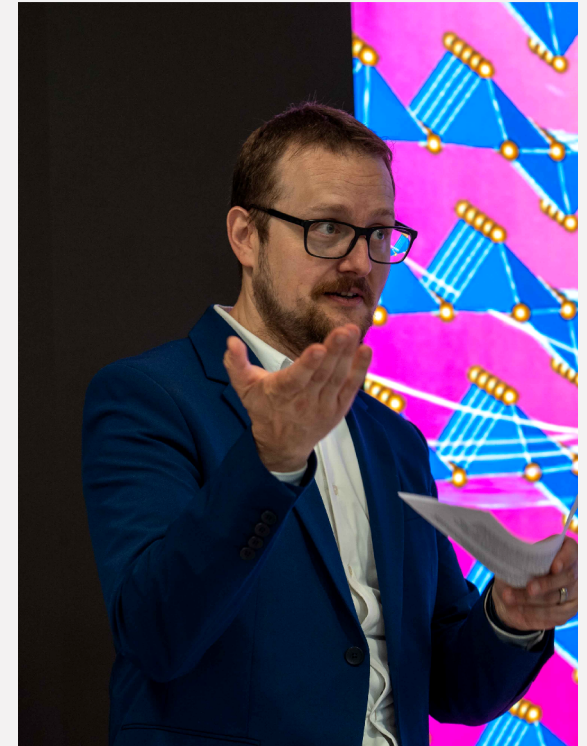
Selected external funding

More than \$8.9M in competitive funding from federal agencies, foundations, and industry.

AMOUNT	PROJECT	SOURCE · ROLE · PERIOD
\$439,336	ATUNDA: An AI Deep Tech Solution for Afrogenic Dance Move Recognition	Robert Wood Johnson Foundation 79829 · co-Director · Jul 2023–Jun 2026
\$1,647,650	Clinical performance testing of neuropacs™ in Parkinsonism diagnosis	NIH NIA/NINDS 2R42NS132614-02 · PI · Sept 2024–Aug 2026
\$392,605	Collaborative Research: 3D Visualization of Dentofacial Development in Primates	NSF 2235578 · Senior Faculty · May 2023–Apr 2027
\$400,000	Intersections on Technology, Space, and Time	Andrew W. Mellon Foundation · co-Investigator · Aug 2018–Aug 2021
\$87,000	K3D: An Augmented-Reality Distance Education Classroom	UF Office of the CIO · PI · May 2012–May 2013
\$4,777,251	Web-based Automated Imaging Differentiation of Parkinsonism	NIH U01 NS119562-01 · Multi-PI · Apr 2021–Mar 2027
\$132,972	Investigating the Effect of Drivers' Body Motion on Traffic Safety	US DOT / STRIDE 2013-051S · PI · Sept 2013–Jun 2015
\$421,788	Dysmetria & Motor Function in SCA: Mechanisms and Rehabilitation	NIH-NINDS R21 NS094946 · Investigator · Sept 2015–Aug 2018
\$70,000	3D Digitization of the Squeeze Collection, University of Venice	Ca' Foscari University of Venice · Consultant · Jun 2017–May 2019
\$50,000	Digital Epigraphy Toolbox	National Endowment for the Humanities, HD-51214-11 · Project Director · Jun 2011–Dec 2012

2026	Provost's Commendation for Outstanding Teaching Evaluations
2026	FDA DeNovo Classification granted for a collaborative project with health sciences
2025	Innov8r License Plate, third annual Standing InnOvation Showcase
2024	Sigma Xi — Scientific Research Honor Society, Elected Full Member
2024	Presidential Appointee, University Taskforce
2020–23	UF Research Foundation Professor
2023	Best Paper Award — 2nd place, IEEE ISEC
2022	Faculty speaker, College of the Arts Graduation Ceremony
2021	Awarded Sabbatical Leave (Spring and Fall)
2019	Anderson Scholar Faculty Honoree
2017	Undergraduate Teacher of the Year Award, College of the Arts, UF
2016	Finalist, Rome Prize — Historic Preservation, American Academy in Rome
2014	Merit Award & Best Paper Award Finalist, IEEE ICCVE Conference
2012	e-Humanities Award, 2nd place, University of Leipzig
2008	Outstanding Academic Achievement Award, University of Florida
2008	MICCAI Young Scientist Award Finalist
2007	First author of the most-cited article in Information Processing in Medical Imaging (Scopus)
2007	Bursary, International Epigraphic Conference, University of Oxford
2004–08	Alumni Fellowship, University of Florida

Apr 2, 2026	Keynote, Nucleate Florida's AI in Biotech, UF Innovate.
Mar 27, 2026	Invited speaker, Seminar series, University of Chicago.
Feb 22, 2024	"Investigating human behavior using passive haptics & motion tracking in extended reality environments," Dept. of Applied Physiology & Kinesiology, UF.
Mar 21, 2023	"From the chisel to the Metaverse: The Digital Epigraphy and Archaeology Project," Ghent University, Belgium.
Feb 15, 2022	"The Digital Epigraphy Toolbox 2.0," Digital Classics Seminar Series, Berlin-Brandenburg Academy of Sciences and Humanities.
Mar 30, 2018	"Research Applications of Infrared Depth Sensors," Suleyman Demirel University, Turkey.
Jun 21, 2017	"Working with Virtual Reality: International Perspectives," HumLab, University of Umeå, Sweden.
Feb 25, 2016	"Digital Preservation, Reconstruction, and Analysis of Fragmentary Archaeological Findings," American Academy in Rome, New York.
Apr 28, 2015	"Human Body and Gesture analysis for on-line tele-health applications," Old Dominion University.
Mar 2, 2015	"Classical Studies Revisited: Creating the Digital Cast of the Ancient World," Mary Moser Memorial Lecture, Dickinson College.
Jul 16, 2014	"Representing written objects in 3D," Open Philology Seminar, University of Leipzig.
Jun 11, 2014	"The Digital Epigraphy Project," Maison de l'Orient et de la Méditerranée, University of Lyon.
Dec 19, 2012	"The First On-line 3D Epigraphic Library," Center for Digital Humanities, University of Leipzig.
Mar 8, 2011	"Tensor Field Analysis for Image Processing Applications," Johns Hopkins University.



Presenting at the Collision Event, April 2026.

Journal & book review

Sustained review, program-committee, and leadership contributions to the research community and to the profession.

Virtual Reality (Springer)

CAD

CAMWA

CBM

CVIU

IEEE Trans. on Cybernetics

Frontiers in Virtual Reality

IEEE Trans. on Image Processing

IEEE Trans. on Intelligent Transportation Systems

IEEE Trans. on Pattern Analysis and Machine Intelligence

IJCARS

Information (MDPI)

Intl. J. of Machine Learning and Cybernetics

iScience

Pattern Recognition

PNAS

Sensors (MDPI)

SIIMS

Journal of Safety Science and Resilience

Conference service (selected)

2025–27	Program Board Member, Intl. Conf. on Virtual, Augmented, and Mixed Reality
2023–24	Program Board Member, HCI International Conference
2024	Session Chair, “Enhancing User Perception, Presence, and Comfort in VR,” HCII, Washington D.C.
2021	External Grant Reviewer, Czech Science Foundation
2020	Session Chair, “New Virtualities IV,” HCII, Copenhagen
2017	Session Chair, HFES III, AHFE, Los Angeles
2017	Session Chair, “Developing Novel Virtual Environments,” HCII, Vancouver
2015	Chair, Organizing Committee, Drivers’ Motion Depth Database Track, 3D Shape Retrieval Contest
2015, ’17, ’25	Program Committee, Intl. Conf. on Computer Vision Theory and Applications

University service (selected)

2010–present	Coordinator of Research and Technology, Digital Worlds Institute
2024–present	Chair, Interactive and Emerging Media curricular area
2020–21	Chair, University Library Committee (Co-Chair 2018–2020)
2015–present	Chair, Multiple Faculty Search Committees, Assistant/Associate Professors, Digital Arts and Sciences
2012	Chair, search committees for Interactive Media Programmer and Interaction Designer
2022–present	Member, AI and the Arts Working Group, College of the Arts
2023–present	Member, Tenure and Promotion Committee, College of the Arts
2025	Member, Search Committee for Director of the Digital Worlds Institute
2024–25	Member, Search Committee for Dean of the College of the Arts
2022–23	Member, UF Data Science Committee
2020–21	Member, UF AI Research Working Group
2011–present	Member, Graduate Admissions Committee, Digital Worlds Institute



Angelos Barmpoutis
Chair, Interactive & Emerging Media
Digital Worlds Institute

LEADERSHIP

Service and Academic Leadership

Throughout my career, I have viewed academic leadership as an opportunity to build institutions, programs, and communities that enable others to succeed. As one of the founding faculty members of the Digital Worlds Institute, I have played an active role in shaping its academic and interdisciplinary development through strategic planning, curriculum development (Bachelor of Arts in Digital Arts and Sciences), faculty recruitment (chairing 5 search committees and serving on 10 additional searches), graduate education (Master of Arts in Digital Arts and Sciences), and the creation of new programs and initiatives. As the Research and Technology coordinator, I have worked to ensure that the Institute is at the forefront of innovation in the fields of interactive media and emerging technologies, quadrupling the annual number of publications and grants.

As Chair of the Interactive and Emerging Media curricular area, I provide academic leadership across curriculum, faculty development, and interdisciplinary collaboration. I have mentored junior faculty through the tenure and promotion process, facilitated collaborations among faculty with complementary expertise, guided curricular innovation, and worked to position our programs for continued growth.

“I view academic leadership as an opportunity to build institutions that empower others to succeed. Effective leadership extends beyond administration; it involves creating environments where interdisciplinary collaboration flourishes, innovative programs emerge, and faculty and students are supported in achieving their highest potential.”

In my leadership roles I always prioritize the creation of new communities around emerging areas of scholarship. In 2026, I founded the **Collision Event**, an interdisciplinary forum bringing together artists, engineers, scientists, designers, and other scholars to explore ideas at the boundaries of their disciplines and generate new collaborations. Initiatives such as this reflect my broader commitment to building academic environments in which disciplinary boundaries are crossed and become opportunities for discovery.

Leadership training and certification:

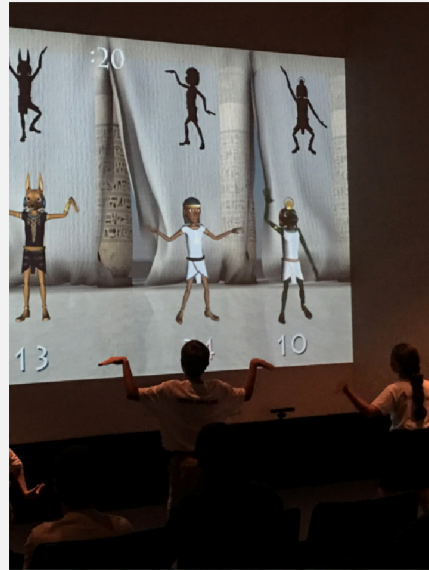
Emotional Intelligence in Leadership. Harvard University, Division of Cont. Education, 2006

Authentic Leadership. Harvard University, Division of Continuing Education, 2005

Ethical Leadership. Harvard University, Division of Continuing Education, 2024



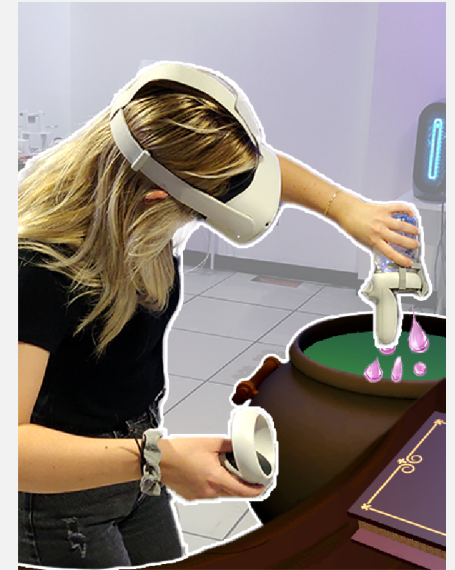
Use of haptic feedback in educational contexts. VR Handbook



Building kinesthetic learning games for elementary students. IEEE VR



Virtual training simulation with passive haptics. VAMR



Incorporating physicality into virtual experiences. HCII



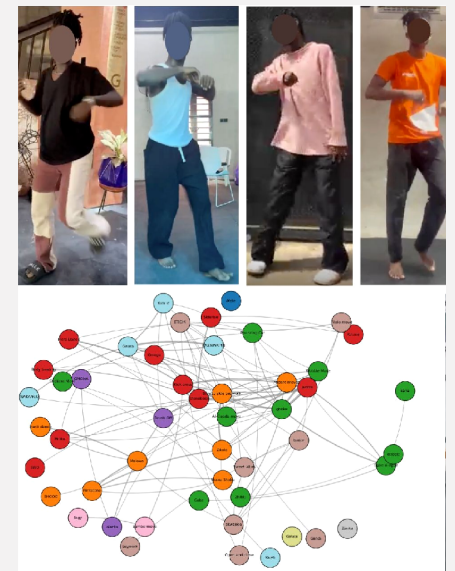
AI-driven Laban movement analysis. HCII



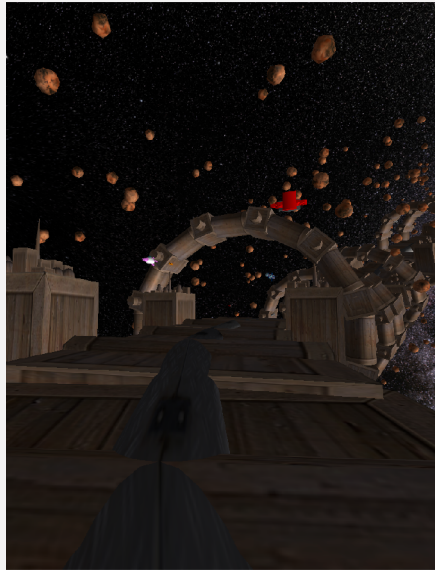
Perception and haptics in VR.



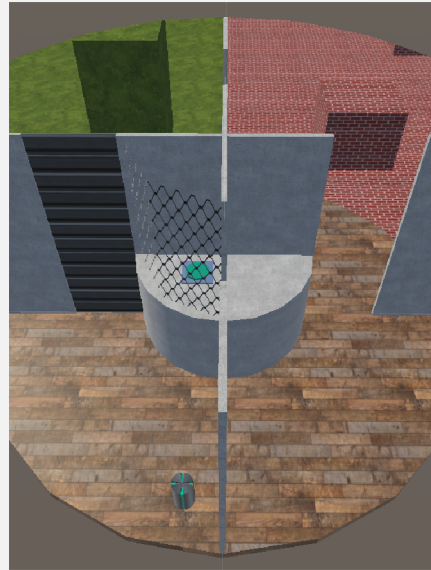
Designing custom wearable devices for haptic feedback. MMVR



Movement recognition for dance and performance. ACM IMX



Student-developed game engines with custom rendering pipeline.



Infinite circular paths for continuous locomotion in VR. HCII 2026



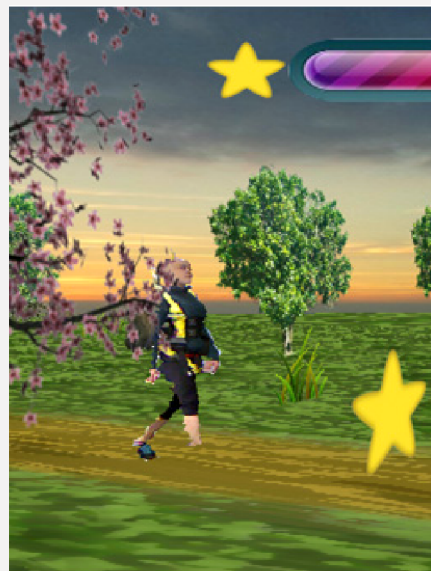
Immersive multi-sensory VR simulation for parachute training.



Museum VR and public engagement. ACM IDC



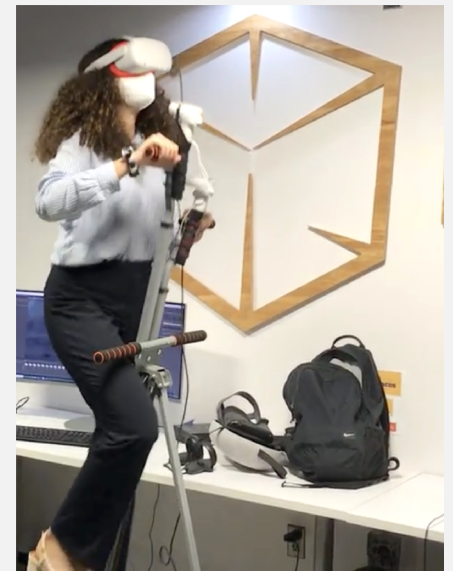
VR simulation for orchestra conductor training. VAMR



Mixed reality games for physical therapy and rehabilitation. MICCAI



Live performance with real-time motion capture.



Integrating vertical climbing fitness machine with virtual reality.

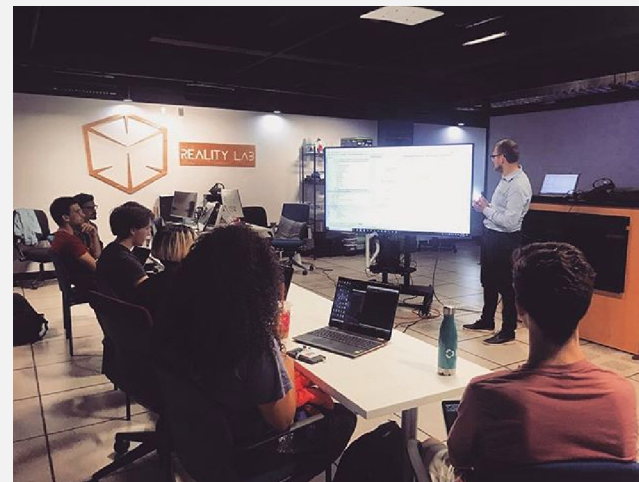
Student Mentorship

- Served on 60 graduate student committees (Ph.D.: 17, M.A.: 44)
- Mentor, Push4it, Office of Academic Affairs, 2022–2026
- Mentor, AP Research Papers on Virtual Reality in Schools, Suncoast Community High School, 2022–2024
- Advisor, First Lego League robotics team, Milwee Middle School, 2023
- Mentor, University Scholars Program, 2016–2017, 2018–2019, 2023–2024
- Mentor, Integrated Product and Process Design Program, 2014–2015, 2017–2018, 2018–2019, 2019–2020
- Mentor, University Minority Mentor Program, 2015–2016

MY STUDENTS HAVE GONE ON TO CAREERS AT



...and into academia and entrepreneurial ventures



Let's collaborate.

Open to conversations about interdisciplinary research, graduate mentorship, speaking engagements, teaching, and creative-technology partnerships.

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GitHub	github.com/digitalworlds