# Emil Polyak

*Curriculum Vitae*

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## Education

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| 2014 | **Master's Degree in Cross-Disciplinary Art and Design**, *University of New South Wales*, Sydney, Australia<br>Master's thesis on interactive media and design innovations. |
| 2003 | **Associate of Arts in Media Design School**, *Media Design School*, Auckland, New Zealand<br>Focused on 3D animation and media production techniques. |
| 1993 | **Associate of Science in Telecommunication Technology**, *Pataky Istvan*, Budapest, Hungary<br>Specialized in telecommunication systems and technology. |

## Academic Experience

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| 2019–Present | **Associate Professor (Tenured)**, *Drexel University*, Philadelphia, PA |
| 2014–2019 | **Assistant Professor (Tenure Track)**, *North Carolina State University*, Raleigh, NC |
| 2009–2014 | **Assistant Arts Professor**, *New York University, Tisch School of the Arts Asia*, Singapore |
| 2014 | **Visiting Professor**, *Nanyang Polytechnic*, Singapore |
| 2007–2009 | **Department Head / Lecturer**, *Media Design School*, Auckland, New Zealand |
| 2004–2007 | **Department Head / Lecturer**, *Lifeway College*, Auckland, New Zealand |

## Professional Experience

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| 2014–present | **Freelance Projects**, *United States* |
| 2011–2014 | **Interactive Developer for Special Projects**, *Earth Observatory of Singapore, Nanyang Technological University*, Singapore |
| 2010 | **Visual Effects Artist**, *Mediation*, Singapore |
| 2010 | **Consultant**, *Artificial Life Source Ltd*, Singapore |
| 2009 | **Lead Animator and Technical Director**, *BrandSpank Ltd*, Auckland, New Zealand |
| 2004–2008 | **Technical Director**, *Yukfoo Ltd*, Auckland, New Zealand |
| 2007 | **Lead Designer**, *Bubble Dome Llc*, Auckland, New Zealand |
| 1993–2001 | **Managing Director**, *Klodovik Ltd*, Budapest, Hungary |

# Scholarship and Creative Activities

## Peer-Reviewed Conference Proceedings

E. Polyak et al. "Plumes and pixels: Bridging digital and traditional art in SciArt education". In: *SIGGRAPH Asia 2024 Educator's Forum*. New York, NY, USA: Association for Computing Machinery, 2024. ISBN: 9798400711367. DOI: 10.1145/3680533.3697072. URL: https://doi.org/10.1145/3680533.3697072.

E. Polyak and R. Balkhyoor. "The creative imagination: Tracing phenomenological gestures across inner worlds". In: *The Creative Gesture Symposium 2024: International and Interdisciplinary Symposium*. University of Molise, Campobasso, Italy, 2024. URL: https://easychair.org/smart-program/TheCreativeGestureSymposium2024/2024-05-29.html#talk:247104.

A. Anand and E. Polyak. "Exploring the potential of large language models for enhanced virtual non-player character interactions". In: *INTED2024 Proceedings*. IATED, 2024, pp. 4895–4898. URL: https://library.iated.org/view/ANAND2024EXP.

G. Jaferian et al. "Exploring blockchain's horizons in educational gaming". In: *INTED2024 Proceedings*. IATED, 2024, pp. 5050–5058. URL: https://library.iated.org/view/JAFERIAN2024EXP.

E. Polyak. "Teaching from Home: Real-Time Technology for Remote Synchronous Course Delivery". In: *EDULEARN21 Proceedings*. 2021. URL: https://library.iated.org/view/POLYAK2021TEA.

E. Polyak. "Undergraduate Research Lab: Introducing Research To Undergraduate Students During Lockdown". In: *EDULEARN21 Proceedings*. 2021. URL: https://library.iated.org/view/POLYAK2021UND.

T. Berreth, E. Polyak, and P. Fitzgerald. "Turning Stories: A Mythotrope as an Augmented Reality Education Platform". In: *ICERI2020 Proceedings*. 2020. URL: https://library.iated.org/view/BERRETH2020TUR.

E. Polyak. "Story–Go–Round: A Carousel–Based Platform for AR Storytelling". In: *ACM SIGGRAPH 2020 Educators Forum and Groovy Graphics*. 2020. URL: https://dl.acm.org/doi/10.1145/3388530.3407244.

E. Polyak, T. Berreth, and P. Fitzgerald. "Teaching and Learning Creativity: Augmented Reality Storytelling in the Multidisciplinary Classroom". In: *EDULEARN20 Proceedings*. 2020. URL: https://library.iated.org/view/POLYAK2020TEA.

E. Polyak, X. Zhang, and S. Fisher. "A Bioreactor in Virtual Reality and Video Games to Enhance the Learning Experience in Bioprocess Labs". In: *EDULEARN19 Proceedings*. 2019. URL: https://library.iated.org/view/POLYAK2019BIO.

E. Polyak. "Paper Town VR: Immersive Expressions WebVR Exhibition". In: *SIGGRAPH 2017*. 2017. URL: https://immersive-expressions.siggraph.org/works/Paper_Town_VR.html.

E. Polyak and X. Zhang. "Stories for Science Classes: Experimental Interactive Metaphors". In: *EDULEARN17 Proceedings*. 2017. URL: https://library.iated.org/view/POLYAK2017STO.

E. Polyak et al. "Gamification of Sustainability: The Hybrid Game Design". In: *EDULEARN17 Proceedings*. 2017. URL: https://library.iated.org/view/POLYAK2017GAM.

E. Polyak. "Chirp: Science of the Unseen Digital Art Perspectives". In: *SIGGRAPH 2016*. 2016. URL: https://science-unseen.siggraph.org/.

E. Polyak. "Learning to Play: Gamification of Sustainability". In: *EDULEARN16 Proceedings*. 2016. URL: https://library.iated.org/view/POLYAK2016LEA.

E. Polyak. "Teaching and Learning Sustainability: Gamification of the "Three E's"". In: *NC State Teaching and Learning Symposium*. 2016.

E. Polyak. "Teaching Code in Art and Design: Visual Thinkers Need Dimensions". In: *NC State Teaching and Learning Symposium*. 2015.

E. Polyak. "Learning Mathematical Concepts with 3D Animation: Active Visualization of a Quaternion". In: *ICERI2012 Proceedings*. 2012. URL: https://library.iated.org/view/POLYAK2012LEA.

E. Polyak. "Virtual Impersonation Using Interactive Glove Puppets". In: *SIGGRAPH 2012 Poster Proceedings*. 2012. URL: https://dl.acm.org/doi/10.1145/2407156.2407191.

E. Polyak. "Storytelling with Open Hardware: Interactive Animation Learning Framework". In: *ICERI2011 Proceedings*. 2011. URL: https://library.iated.org/view/POLYAK2011STO.

## Peer-Reviewed Exhibitions and Performances

E. Polyak. *Eutuxiae: Digital, Animated Artwork for Choreography*. Performed by Drexel students. 2023.

E. Polyak. *Homeostasis*. Exhibition at the PASEO Festival, Taos, NM. 2022. URL: https://polyzaar.com/installation#paseo.

E. Polyak. *L[i]ve: Digital, Animated Artwork for Choreographic Research*. Explored cancer survivors' experiences, performed in Puerto Rico. 2022. URL: https://polyzaar.com/installation#live.

E. Polyak. *Homeostasis*. Exhibition at ACM SIGGRAPH 2020. See also: https://polyzaar.com/installation#homeostasis. 2020. URL: https://digitalartarchive.siggraph.org/artwork/emil-polyak-homeostasis/.

E. Polyak and O. Kleiankina. *...Our Passage to the Stars*. Performance at the College Music Society National Conference. 2020. URL: https://polyzaar.com/installation#our-passage.

E. Polyak and O. Kleiankina. *...Our Passage to the Stars*. Performance at Smithsonian National Museum of American History, Washington DC. 2019.

E. Polyak and D. Papp. *Optimization for Radiotherapy*. Smithsonian National Museum of American History, Washington DC. 2019. URL: https://polyzaar.com/installation#radio.

E. Polyak. *Invisible Worlds: The Leading Strand Exhibit*. Raleigh, NC. 2018.

E. Polyak. *Vocalization of Lemurs*. Interactive Installation, NC State University. 2018.

E. Polyak and O. Kleiankina. *...Our Passage to the Stars*. Sights and Sounds Concert Series, North Carolina Museum of Art. 2018.

E. Polyak and O. Kleiankina. *...Our Passage to the Stars*. Piano/visual recital live performance, Stewart Theatre, Raleigh NC. 2018.

E. Polyak and D. Papp. *Optimization for Radiotherapy*. North Carolina Museum of Natural Sciences. 2018.

E. Polyak. *InLight Festival*. Exhibition in public space, Richmond, VA. 2017. URL: https://polyzaar.com/installation#inlight.

E. Polyak. *Mist DJ*. Exhibition at Contemporary Art Museum, NC. 2017. URL: https://polyzaar.com/installation#mistdj.

E. Polyak, T. Berreth, and P. Fitzgerald. *Supermoon*. Shimmer Festival, Chapel Hill, NC. 2017. URL: https://polyzaar.com/installation#supermoon.

E. Polyak. *Word Wars*. Contemporary Art Museum, Raleigh, NC. 2016. URL: https://polyzaar.com/installation#wordwars.


## Peer-Reviewed Journal Articles and Curated Publications

E. Polyak. "Homeostasis". In: *DiVA: Digital, Interactive and Visual Arts* 50 (2021), p. 25. ISSN: 2189-0587. URL: https://art-science.org/diva/pdf/diva50-hq.pdf.

T. Berreth, E. Polyak, and P. FitzGerald. "'Story-Go-Round': Embracing Ambiguity by Integrating Art and Design". In: *ACM SIGGRAPH* (2020). URL: https://blog.siggraph.org/2020/07/story-go-round-embracing-ambiguity-by-integrating-art-and-design.html/.

E. Polyak. "'Homeostasis' and Human Interference". In: *ACM SIGGRAPH* (2020). URL: https://blog.siggraph.org/2020/04/homeostasis-and-human-interference.html/.

E. Polyak. "Mediating Public Space: Art and Technology That Goes Beyond the Frame Art Gallery". In: *Leonardo* 53.4 (2020), pp. 455–473. URL: https://direct.mit.edu/leon/article/53/4/455/96933/Mediating-Public-Space-Art-and-Technology-That.

X. Zhang et al. "Incorporating an Interactive 360 Degree Video Game Into a University-Level Biomanufacturing Lab Curriculum". In: *International Journal of Management and Applied Science (IJMAS)* 5.3 (2019), pp. 39–43. URL: https://iraj.doionline.org/dx/IJMAS-IRAJ-DOIONLINE-15266.

E. Polyak. "Playing for Credits: Teaching Art & Design with Board Games". In: *Casual Game Insider* (2016). URL: https://www.polyzaar.com/_files/ugd/298044_d1e6dd729ac043ba88afaab3a9842a78.pdf.

## Grants, Projects, and Intellectual Property

E. Polyak and R. Balkhyoor. *Digital Fidget: A Creative Input Device*. Provisional Patent Application. 2024. A novel input device designed to introduce boundless ambiguity into the creative process, enabling users to explore infinite possibilities through intuitive, tangible interactions.

E. Polyak and V. Mahadev. *Conversational OS: A Conversational AI-Centric Operating System*. Provisional Patent Application. 2024. An operating system environment reimagined to function entirely through conversational AI, replacing traditional user interfaces. This paradigm shifts software development to dynamic, user-driven interface generation, transforming how users interact with and develop software.

E. Polyak and K. Martin. *Fusion of Science and Art: Creating Interactive Digital Twins for Natural Science Education*. Museum Innovation Fund. 2024. Role: PI, $5,000.

E. Polyak and K. Martin. *Multispectral Imaging and 3D Gaussian Splatting for Advanced Digital Conservation of Textiles*. Submitted to the Sony Faculty Innovation Award Program. 2024. Status: Under Review, Requested Funding: $100,000.

N. Jushchyshyn, K. Martin, and E. Polyak. *Reflectance Transformation Imaging/Textile Collection*. Freddie Reisman Faculty Scholarly and Creative Activity Award. 2021. Role: Co-PI, $25,000.

K. Chen and E. Polyak. *Development and Assessment of a Biofeedback Integrated Virtual Reality System for Healthcare and Rehabilitation*. 2019. Role: Co-PI, $25,000.

E. Polyak. *Immersive Scholar Creative Residency*. Andrew W. Mellon Foundation. 2019. $7,000.

E. Polyak. *The Leading Strand*. Interdisciplinary Exhibition. 2019. $12,000.

E. Polyak. *Australian Safari*. Educational Game. 2018. $10,000.

E. Polyak. *Teaching and Learning Sustainability through Gamification*. 2018. $5,000.

N. Cosco and E. Polyak. *Gardening + Gaming: Science and Math Enrichment for K–12 Children in Aftercare Programs*. NSF-Unfunded. 2017. Role: Co-PI.

E. Polyak. *Induction System, Interactive Narratives, and Learning Metaphors*. Golden LEAF Biomanufacturing Training and Education Center. 2017. $10,000.

C. Stevenson and E. Polyak. *Food Safety Virtual Reality Outreach and Engagement*. NSF-Unfunded. 2017. Role: Co-PI, PI: Clint Stevenson.

B. Watson et al. *Creating an Educational Nexus: Improving Learning with Cognitive Diversity*. NSF-Unfunded. 2017. Role: Co-PI.

E. Polyak. *App for Gamification of Patient Engagement*. Public service-related outreach project. 2016.

E. Polyak. *Modeling Virtual Worlds for Katathym Imaginative Psychotherapy Using Medical Specimens*. Outreach Project, Unfunded. 2015.

## Open Source Script Publications

E. Polyak. *CameraRig 1.0.0*. Number of Downloads: 2324.

E. Polyak. *epCreateCamMask 1.0*. Number of Downloads: 730.

E. Polyak. *epCreateCamMaskHD 1.0*. Number of Downloads: 424.

E. Polyak. *Extrude Length Along Curve 1.0.1*. Number of Downloads: 4100.

E. Polyak. *QuickTime Playblast 1.0.1*. Number of Downloads: 2088.

E. Polyak. *Snap Me 1.0.0*. Number of Downloads: 882.

## Invited Talks

E. Polyak. DAUGHTER OF GOD - Workshop Panel Discussion. Curtis Institute for Music, Philadelphia, PA, 2024. Roundtable discussion for a new AI-themed chamber opera commissioned by LOAM Music creators, Micah Gleason (Opera Philadelphia, Glimmerglass Festival) and Joanne Evans (Aix en Provence Festival, Merola Opera Program).

E. Polyak. Reflectance Transformation Imaging. Longhouse Reserve, East Hampton, NY, 2022.

E. Polyak. Birds of Feather: Digital Twins. Panel Talk at ACM SIGGRAPH, 2022.

E. Polyak. Pecha Kucha Talk. PASEO Festival, Taos, NM, 2021.

E. Polyak. Teaching and Learning Creativity: Augmented Reality Storytelling in the Multidisciplinary Classroom. Foundations in Art: Theory and Education Conference (SECAC), 2021.

E. Polyak. Drexel 3rd Annual Westphal College Research and Creative Works Showcase. 2020.

E. Polyak. Games in Augmented Virtuality. East Coast Game Conference, Raleigh, NC, 2019.

E. Polyak. Immersive Scholar Presentation. 5th Liberact (Libraries and Interactive Technologies) Conference, 2019.

E. Polyak. Coffee and Viz – Introduction to 3D Modeling. Library Talk, 2017.

E. Polyak. Cloth Simulations in Animation. Presentation for Fashion Designers, NC State University, 2017.

E. Polyak. Science of the Unseen: Digital Art Perspectives. Panel Talk at ACM SIGGRAPH, 2016.

E. Polyak. Rhetoric and Digital Media – Circuits with Puppets. Collaborations, Humanities, Art and Technology Festival, University of North Carolina, 2016.

E. Polyak. Playing for Credits. Casual Game Insider, 2016. Article on Board Games.

E. Polyak. The Art and Design of Learning to Play. East Coast Game Conference, Raleigh, NC, 2016.

E. Polyak. Live 360° Video Stream via Unity Game Engine. East Coast Game Conference, Raleigh, NC, 2016.

E. Polyak. The Art and Design of Scientific Data. Data Science Initiative Symposium, Raleigh, NC, 2016.

E. Polyak. Interactive Design with Physical Computing. Presentation for HASBRO Inc., 2015.

E. Polyak. Cross–Disciplinary Experiences. Visual Experience Lab of NC State University, 2015.

E. Polyak. Virtual Puppeteering. Interactive Animation and Installation, ArtScience Museum, Singapore, 2013.

E. Polyak. Learning to Model with Kinect. Online Article, 2011.

E. Polyak. Automated Panoramic Image Acquisition. Online Article, 2008.

# Teaching

## Teaching Experience

Advanced Practice in Digital Media (DIGM I699). Drexel University.

Art & Science Synergy (DIGM I599). Drexel University.

Game Level Design (DIGM I599). Drexel University.

Interactive Health Media (DIGM I599). Drexel University.

Oat's Talk and Trails (DIGM I599). Drexel University.

Sonic Wearables (DIGM I599). Drexel University.

Spatiotemporal Data Capture (DIGM I599). Drexel University.

Advanced Tools for Virt. Prod. (DIGM I699). Drexel University.

Design for Social Media (DIGM I699). Drexel University.

Experimental New Media Research (DIGM I699). Drexel University.

Immersive Performance (DIGM I699). Drexel University.

Arcade Research (DIGM I699). Drexel University.

Digital Helpers (DIGM I699). Drexel University.

Geometry Nodes in Blender (DIGM I699). Drexel University.

PBR and Lighting (DIGM I499). Drexel University.

SciArt: Digital Twins (DIGM I699). Drexel University.

Scripting for Animation & VFX (ANIM 231). Drexel University.

VJing with Animation (ANIM T380/T580). Drexel University.

Tangible Interactivity (DIGM I599). Drexel University.

Immersive Art (DIGM I799). Drexel University.

Mixed-Media Art Installation (DIGM I699). Drexel University.

Advanced Live Event Virtual Production (DIGM I599). Drexel University.

Teaching Creatives (DIGM I599). Drexel University.

Learning With ChatGPT (DIGM I599). Drexel University.

Development RTI viewer Web UI (DIGM I599). Drexel University.

Ideation to Publication (DIGM I599). Drexel University.

Thesis Development (DIGM 680). Drexel University.

Designing for Interactivity (DIGM 510). Drexel University.

Interactivity 2 (DIGM 521). Drexel University.

Interactivity 1 (DIGM 520). Drexel University.

New Media Project (DIGM 540). Drexel University.

Undergraduate Research Lab (ANIM T380). Drexel University.

Immersive Media Workshop (DIGM T580). Drexel University.

Animation I (ANIM 211). Drexel University.

Digital Media Senior Project Studio (ANIM 491). Drexel University.

Digital Imaging for Animation and VFX (ANIM 110). Drexel University.

Advanced Lighting (ANIM 248). Drexel University.

Computer Graphics II (ANIM I399). Drexel University.

Introduction to Production with Animation and VFX (ANIM 115). Drexel University.

Designing Interactive Artifacts (IDM T380). Drexel University.

Coding for Animation (ADN 492–001). North Carolina State University.

Digital Modeling (ADN 423–001/502–001). North Carolina State University.

Visual Effects (ADN 411–003/502–005). North Carolina State University.

Interactive Studio (ADN 460–001). North Carolina State University.

Game Creation Studio (ADN 460–001). North Carolina State University.

Digital Illustration Workshop. Design Camp, North Carolina State University.

Stop Motion Animation Workshop. Design Camp, North Carolina State University.

Wire+Animation Workshop. NCSU Libraries.

Game Story Creation. Nanyang Polytechnic.

2D/3D Character Production. New York University.

Compositing. New York University.

Interactive Art. New York University.

Introduction to 3D. New York University.

Digital Fabrication Studio. New York University.

Games of Yesterday. New York University.

Advanced 3D Production and Research. Media Design School.

3D Animation. Lifeway College.

## Graduate Students' Supervision

Alhamdan, Abdulrahman. PhD Research. Drexel University, 2022–present.

Woodland, Darren. PhD Research. Drexel University, 2022–present.

Balkhyoor, Rghad. PhD Research. Drexel University, 2021–present.

James, Chelsea. MS Thesis. Drexel University, 2023–present.

Pak, Kevin. MS Thesis. Drexel University, 2023–present.

Nuchprayoon, Panote. MS Thesis. Drexel University, 2023–present.

Johnson, Josiah. MS Thesis. Drexel University, 2023–present.

Anand, Ayaan. "Exploring the Applications and Limitations of Large Language Models: A Focus on ChatGPT in Virtual NPC Interactions." Drexel University, 2023.

Bornmann, Malcolm. "Augmented Reality Character Companions in Theme Parks: A Speculative Design Project." Drexel University, 2022.

HuaiLiang, Deirdre Liu. "Performance of the Female: The Vtuber Phenomena." Drexel University, 2022.

Rogers, Anjelikal. "Generative Pictorial Expressions: Synthesizing Ideas Through Text-To-Image Generation." Drexel University, 2022.

Wang, Erjun. "Creating an Augmented Reality Museum Experience for Cultural Heritage Using a Textile-based Capacitive Sensor as the Interactive Input." Drexel University, 2021.

Stein, Abigail. "Human-Computer Interaction: Exploring Creativity with a Visual Collaborative Tool." Drexel University, 2021.

Sun, Lerong. "Design Healing Spaces for Augmented Reality Experiences During Social Isolation." Drexel University, 2021.

Singzon, Schuyler. "Virtual Memory Palaces: A Discursive Design to Improve Recall in Older Adults." Drexel University, 2020.

Gert, Godfree. "Behavior Trees as a Movement Notation System for the Animation of Salsa Dancing." North Carolina State University, 2019.

Shipway, Connor. "Rocket Builder: Educational Video Game for Physics Class." North Carolina State University, 2019.

Huang, Stephanie. "Fossil Foundations: Virtual Fossil Preparation Exhibit for Museums." North Carolina State University, 2019.

Hall, Candida. "Othering: A Documentary Installation." North Carolina State University, 2019.

Kah, Dawoda. "Learning and Play: Teaching Through a Virtual Reality Game That Allows Collecting 3D Physical Artifacts." North Carolina State University, 2019.

Mohan, Bhargavi. "Illumination: An Animated Story to Raise Awareness on Fake Gurus and Godmen in India." North Carolina State University, 2018.

DiarBakerli, Rakan. "The Celtic Arab: An Interactive Game on Cross-Cultural Moral Concepts." North Carolina State University, 2018.

Juras, Kate. "Vezna: Embodying the Inner Critic; Enough is Enough: Live Action Puppetry." North Carolina State University, 2018.

Ma, Yu. "Lotus Pond: A Creative Experiment to Reintroduce Traditional Chinese Ink Wash Painting Using Virtual Reality." North Carolina State University, 2017.

Roberts, Jeremiah David. "Experiencing in Pieces: An Audible and Visual Study in Reactive Spaces." North Carolina State University, 2017.

Sotoamaya, Jennifer. "What Goes Up: Acting in Animation: Investigation of Storytelling as a Nonverbal Narrative Conveyed Through Acting, Music, and Sound." North Carolina State University, 2017.

Adamek, Frank Ryan. "An Interactive Demonstration of Solar Power." North Carolina State University, 2015.

Barrett, Alyssa Beatrice. "The Power of Play: Disseminating Narrative as Branded Entertainment Utilizing 3D Animation." North Carolina State University, 2015.

Campbell, Elias Mauricio Clarke. "Suspension of Disbelief through Personal Struggle in Hybrid Media." North Carolina State University, 2015.

Katz, Alisa. "Sharing in the Common Life: Interactive Experiences to Enhance Storytelling and Learning in Public Spaces." North Carolina State University, 2015.


## Undergraduate Research Supervision

Alcancia, Anthony. "Positional Tracking For Medical Applications With Augmented Reality." Drexel University, 2021. *Presented at: American Association for the Advancement of Science (AAAS), National Conference on Undergraduate Research, Harvard University National Collegiate Research Conference, 2022.*

Rogers, Anjelikal. "A Concept for Procedurally Generated Narrative based on User Engagement and its Practical Applications." Drexel University, 2020. *Presented at: National Conference on Undergraduate Research, Harvard University National Collegiate Research Conference, 2021.*

Dickman, Elliot. "Practical Applications of Strange Attractors in Generative Design." Drexel University, 2020. *Presented at: National Conference on Undergraduate Research, Harvard University National Collegiate Research Conference, 2021.*

Aiken, Alexus. "Study of the Industry Potential of Real-Time Virtual LED Sets as Compared to Traditional Film Sets for Future VFX Professionals." Drexel University, 2020. *Presented at: National Conference on Undergraduate Research, Harvard University National Collegiate Research Conference, 2021.*

Abraham, Stephen. "The Dawn of Real-Time Rendering Solutions: An Exploration into the Integration of Real-Time Rendering Solutions in the Pipeline for Production." Drexel University, 2020. *Presented at: National Conference on Undergraduate Research, Harvard University National Collegiate Research Conference, 2021.*

Plum, Maggie. "Analysis on Effective Horror Movies." Drexel University, 2020. *Presented at: National Conference on Undergraduate Research, 2021.*

## Service

Member of the Illinois Arts Council Agency. 2024.

Member of the Senate Committee on Academic Affairs (SCAA). Drexel University, 2022–present.

Program Director: Master of Science in Digital Media program. Drexel University, 2021–present.

Member of the Caucus Committee on Academic Affairs (CCAA). Drexel University, 2021–present.

Member of the Caucus Committee on Faculty Affairs (CCFA). Drexel University, 2020–present.

Consultant for Kennett Library. Drexel University, 2023–present.

Digital Media Tenure Committee. Drexel University, 2023.

Digital Media Faculty Search Committee. Drexel University, 2023.

Workshop for high school students: STEM+arts. Taos Academy, Taos, New Mexico, 2022.

Educational collaboration with the Philadelphia Collaborative Arts Consortium (PHLCAC), including African American Museum in Philadelphia, The Fabric Workshop and Museum, Philadelphia Contemporary, Taller Puerrtoriqueño, and Woodmere Art Museum. Drexel University, 2022.

Member of the Faculty Search Committee for the Fashion Program. Drexel University, 2021–2022.

Member of the Graduate Programs, Lifelong Learning & Certificate Committee (GLLC). Drexel University, 2021–present.

Undergraduate Applied Research Lab as co-op during COVID. Drexel University, 2020–2021.

Outreach, free public lecture for "Bit Project", a 501(c)(3) nonprofit providing free, hands-on learning experiences to underserved students around the world. Drexel University, 2020.

Member of the Doctor of Design steering committee. North Carolina State University, 2017–2019.

Member of the Art+Design curriculum undergraduate and graduate taskforce. North Carolina State University, 2019.

Co-director of the graduate program in Art+Design. North Carolina State University, 2018–2019.

Member of the University Diversity Advisory Committee. North Carolina State University, 2017–2019.

Member of the University Standing Committee on Group Insurance & Benefits. North Carolina State University, 2019.

Member of the University Standing Committee on Library. North Carolina State University, 2018–2019.

Libraries Departmental Representative. North Carolina State University, 2016–2018.

Member of the Student Publication Advisory Board. North Carolina State University, 2017–2018.

Art 2 Wear fashion show video production supervisor. North Carolina State University, 2018.

Member of the Sustainability Council administrative advisory committee. North Carolina State University, 2016–2018.

Member of the Advisory Board for the Assistant, Associate, and Full Professors' Communities. North Carolina State University, 2017–2019.

## Memberships

Foundation in Art: Theory and Education (FATE). Member.

VR/AR Association (VRARA). Member.

ACM SIGGRAPH. Pioneer Member.

New Media Caucus. Member.

College Arts Association. Member.

National Art Education Association. Member.

IBM Academic Initiative. Member.

Interaction Design Association. Member.

## Research Interests

Interactive design and performance in mixed reality.

Computational creativity.

Education methods in creative fields.

Cross-disciplinary art and design.

## Languages

English (Professional fluency).

Hungarian (Native).

Serbian/Croatian (Native-like fluency).