Search Committee
Tenured/Tenure-line Positions in Interdisciplinary Research/AI
The Pennsylvania State University

Dear Members of the Search Committee,

I am writing to apply to Penn State's Interdisciplinary Research AI cluster hire, with the *AI in Education for Workforce and Creative Industries* focus and a preferred tenure home in the School of Music (College of Arts & Architecture), in close collaboration with the Institute for Computational and Data Sciences (ICDS). I am a composer-performer, educator, and builder of open creative infrastructure, currently a DMA Performer-Composer candidate (ABD) at the California Institute of the Arts (degree expected May 2026) and a Lecturer in the Herb Alpert School of Music. My research/creative practice treats AI as a learning environment: a system whose constraints, affordances, and failure modes must be taught, tested, documented, and made accountable, especially in the contexts where creative industries and workforce training already deploy these tools at scale.

My agenda is to develop human-AI co-creative systems for music learning and professional training that are rigorous in method, version controlled, legible in outcomes, and grounded in operational ethics. Across my teaching and tool-building, I focus on a practical problem: AI-mediated creative work is often assessed by polish or novelty rather than by traceable process, transferable skill, or responsible practice. There is also, of course, the unbearable weight of the term itself, which encompasses a wide array of of (useful to less useful to harmful) fields and technological processes which necessitate disentanglement. To address this, I build and study pedagogical workflows that make creative reasoning visible through structured process logs, reproducible toolchains, and critique protocols that produce analyzable decisions about authorship, data provenance, bias, and interpretive control. My aim is a research program that generates publishable scholarship and deployable infrastructure: curricula, open tools, consent-forward archives, and performance/research artifacts that can be studied longitudinally across cohorts and contexts.

A key foundation for this work is my experience building equitable creative infrastructure at real scale. As Artistic Director of Dex Digital Sample Library, I founded and lead a CC-BY 4.0 nonprofit archive publishing approximately 5TB of curated recordings and performances by 25 artists, supported by grant funding that enabled $10,000 in direct artist support. I have also built the organization's public-facing infrastructure and access pathways, reaching roughly 250K annual ad impressions, 25K yearly site visits, and 20K Drive engagement events (2024–2025). Dex is more than just a repository, it is a working model of how ethical media practice can be enforced through licensing, attribution norms, consent-forward collection, and transparent documentation – exactly the kind of provenance-centered infrastructure that creative AI education requires if it is to be non-extractive and replicable beyond a single classroom or lab.

In parallel, I develop open tooling that treats documentation, reproducibility, and accessibility as design constraints. I have authored multiple software systems intended for creative pedagogy and professional practice, including an [interactive portfolio]/ work console that synchronizes audio with score PDFs, a reactive [document-oriented programming environment] for autonomous scores and workflows, and a [recursive prompting protocol] rooted in cybernetic practice. These projects are motivated by the same problem Penn State's cluster identifies: powerful systems are being adopted faster than the institutional habits needed to evaluate them. My work insists on tooling that can be critiqued, where outputs are never treated as authoritative, where process can be audited, and where students learn to articulate not only what a system produced, but what they changed, why, and with what consequences.

ICDS is central to how I would scale this work at Penn State. The educational impact of AI in the creative industries will not be understood through isolated demonstrations; it requires sustained deployments, careful instrumentation, and reproducible evaluation. With ICDS resources and collaborators across learning sciences, human-centered AI, and computing, I would expand this work into multi-section, multi-semester studies that examine how students learn creative judgment with AI systems:

how they develop discernment about model failure, how they internalize disclosure and provenance norms, and how different workflow designs affect equity in participation and outcomes. I am particularly interested in evaluation approaches that move beyond output quality toward evidence of learning: transferable skills in listening, revision, documentation, and ethical reasoning that remain durable when toolchains change.

My teaching record is directly aligned with this agenda. Since 2023 I have served as Lecturer at CalArts, leading the BFA Composers' Forum (approximately twenty students), teaching a graduate seminar in Writing for Percussion (approximately twelve students), and mentoring five to ten BFA/MFA composers per semester in individual lessons and independent studies. In these roles, I redesigned critique structures using dialogic protocols that privilege student agency, clarity, and actionable inquiry over performative confidence. In my studio lessons, my students and I use AI, MLOps, and machine learning to create and analyse datasets, perform live with artificial accompaniment, and better structure their projects to maintain, disclose, and deploy longterm. In creating a studio-lab culture within my teaching, a particular moment wherein my composition students and I used the campus as a sound source generator perfectly represents the particular learning conditions I aim to set out. I build courses with accessibility defaults so that unequal equipment, time, or prior exposure does not become the hidden curriculum: each assignment includes a minimum viable pathway that does not require specialized hardware or a paid stack; advanced compute appears as an optional tier or shared resource rather than a gate. Students can demonstrate learning through multimodal submissions (scores, recordings, installations, documentation, and short reflections) evaluated with rubrics that reward coherence of method, iteration, and transparency. This studio-lab pedagogy is precisely where Penn State's aims converge: integrating AI into curricula while protecting access, agency, and responsibility.

At Penn State, I would contribute immediately to undergraduate and graduate teaching that integrates AI into creative learning with clear learning outcomes and professional norms. I envision courses that combine practice with accountability – human– AI co-creativity labs where students move from generated suggestion to intentional composition with documented deltas; curriculum on provenance and disclosure where dataset documentation and licensing are treated as craft; and project-based studios where students build interactive systems and learn to test them against failure modes, bias artifacts, and plausible misuse. Across these offerings, the point is not to normalize AI as inevitable, but to teach students how to understand and govern it: how to build with it in novel, anti-extraction ways and maintain legitimacy, authorship, and transparency.

My service and governance experience also prepares me for the collaborative, cross-institute work this cluster requires. At CalArts I serve on the Ethical Investment Committee and helped draft and ratify an institute-level ESG policy in collaboration with senior leadership and investment partners – experience that translates to the policy-aware, long-horizon thinking needed when AI integration has institutional consequences. I have also led production and mentorship structures that move student work from idea to public presentation, coordinating performers, rehearsal logistics, and technical teams. These roles reflect how I approach Penn State's values as actionable mechanisms: integrity through provenance and disclosure practices; respect through consent and non-extractive archives; responsibility through risk review and harm-aware dissemination; discovery through rigorous experimentation and reproducible systems; excellence through disciplined craft and evaluation; and community through shared infrastructure that expands who can participate and thrive.

Thank you for considering my application. I would welcome the opportunity to join Penn State's School of Music within the AI in Education for Workforce and Creative Industries focus, and to contribute an interdisciplinary research and teaching program – collaborative with ICDS – that makes AI in creative learning rigorous, accountable, and genuinely accessible.

Sincerely,

Sebastian Suarez-Solis
DMA Candidate (ABD), Performer-Composer Specialization – California Institute of the Arts
Lecturer in Composition, Herb Alpert School of Music, CalArts
email: ssuarezsolis@calarts.edu
tel: +1 (407) 922-9622

ssuarezsolis@calarts.edu   *+1 (407) - 922 - 9622*

Profile

Composer-performer working at the intersection of percussion, interactive media, and spatialized electroacoustic practice.

Education

Sept 2023 - May 2026	DMA Performer-Composer (expected May 2026, ABD Sep 2025) California Institute of the Arts Topic Driven Research portfolio: "EMBODIED MANIFESTATIONS of SPACE: cybernetics, immanence, and productions of space in contemporary artmaking" - *submitted 10/27/25* *Supervisors: Tim Feeney, Nicholas England Chair in Music; Volker Straebel, Dean Emeritus, Richard Seaver Distinguished Chair in Music, and; Andrew Grueschow, Co-director, World Music Performance*
Sept 2021 - May 2023	M.M. – Music Composition The Peabody Institute of The Johns Hopkins University Thesis: "Cybernetics, dialectics, and phenomenology in the works of Sebastian Suarez-Solis composed during 2022-2023" *Supervisors: Sky Macklay, Associate Professor, composition; Oscar Bettison, Chair of Composition Department; Felipe Lara, Chair of Composition Department*
Sept 2017 - May 2021	B.M. – Music Performance, Percussion The University of Central Florida *Supervisors: Thad Anderson, Director of Percussion Studies; Kirk Gay, Director of Undergraduate Admission; Jeff Moore, Dean of the College of Arts and Humanities*

Academic & Professional Appointments

Sept 2023 - May 2026	*Lecturer (DMA Performer–Composer), Herb Alpert School of Music, California Institute of the Arts; .5 FTE* • *Led BFA Composers' Forum (UG, ~20) and Writing for Percussion (GR, ~12), developing syllabi, assignments, and assessment rubrics.* • *Integrated Max/MSP and digital-forward composition methods; supported student work across score-based, electroacoustic, and interdisciplinary practices.* • *Curated and produced the BFA Composers' Concert series (2023–2025) and supervised 5–10 individual-lesson students per semester.*
May 2024 - Jan 2026	*Instructor, West Coast Music Academy* • *Taught ~40 students weekly (ages 6–20) across multiple instruments; delivered individualized lesson plans and skill progression.* • *Developed and iterated curricula emphasizing transferable technique between instruments.* • *Coordinated with parents and program leadership; prepared students for winter and spring recital programs.*
Apr 2022 - Feb 2026	*Artistic Director, Dex Digital Sample Library* • *Founded and directed a CC-BY 4.0 digital sample library, publishing 5TB of curated recordings and performances by 25 artists.* • *Secured federal nonprofit status and administered local grant funding, distributing $5,000 in*

artist support.
- *Built audience reach through Google for Nonprofits, generating ~250K annual ad impressions, ~25K yearly site visits, and ~20K Drive engagement events (2024–2025).*

Sept 2021 - May 2023   *Librarian Assistant (PT), Arthur Friedheim Music Library, Peabody Institute*
- *Developed strategies for reorganizing one of the largest university equipment cages in the US, moved to receipt based API model.*
- *Helped manage a music collection of over 120,000 physical items*
- *Digital encoding of materials with best practices for archival; bookbinding and sewing*

Teaching Experience   Writing for Percussion, GR, California Institute of the Arts, Spring 2026
- *Led a graduate-level seminar in percussion writing for 12 composition students, using a transfer-based framework that maps shared concepts and muscle groups across disparate instruments to build idiomatic fluency across the percussion family.*
- *Structured the course around iterative score labs and four in-class reading sessions with percussionists, emphasizing revision cycles, notation clarity, and playability as core compositional skills.*
- *Integrated detailed setup diagrams, part preparation, and rehearsal logistics into assignments so students learned to translate conceptual ideas into practical, performer-friendly materials for studio, ensemble, and stage contexts.*
- *Incorporated 20th- and 21st-century percussion masterworks (e.g., Xenakis, Rzewski, Gordon, Hurel, Akiho, Hennies) as analytical and performative reference points, enabling students to situate original composition within established contemporary practice.*

BFA Composers' Forum, UG, California Institute of the Arts, Fall 2023-2025
- *Redesigned course structure around the Lerman/Borstel Creative Response Process, replacing traditional critique with dialogic and asynchronous feedback models that prioritize student agency and depth of reflection*
- *Instituted a bifurcated 2-hour format – lecture plus student presentation –fostering both conceptual study and professional presentation practice*
- *Launched and curated the BFA Composers' Concert series, organizing all aspects of production, livestreaming, and faculty liaison work to showcase student projects across media*
- *Integrated creative coding, Max/MSP, Fmod, and VCV Rack into project workflows; students produced scores, installations, films, and game-audio works connecting composition with contemporary media*

Independent Study - Suarez-Solis, Spring 2025, Fall 2025, Spring 2026
- *Supervised MFA students on individual longform composition projects: game soundtracks, albums, films.*
- *Guided students as they worked with developers and studios to deliver files in commercial environments*

MFA Composers' Forum, Spring 2024
- *Revised syllabus; 25 students*
- *Provided-realworld industry development through guest lectures*
- *Co-taught with senior faculty Vinny Golia.*

BFA Half Hour/Hour Lesson & MFA Half Hour/Hour Lesson, Spring 2024-
- *Mentor ~10 BFA and MFA composers through individualized, dialectical instruction, emphasizing composition as inquiry –linking phenomenology, systems thinking, and technique*
- *Employ constructivist models of dialogue, centering reflection on why musical phenomena*

> *operate rather than rote replication of harmonic devices*
> - *Integrate technology-forward practices including Max/MSP, TouchDesigner, and LeapMotion sensors; guide students in cross-media composition, installation, and interactive performance*
> - *Support student projects across performance, recording, and installation contexts, supervising portfolio reviews and recital preparation both within and beyond CalArts*
> - *Cultivate self-directed learning and artistic identity development; adapt teaching dynamically to each student's evolving ontology of making and performing*

Guest lectures

Large Format Composition, UG/PG Herb Alpert School of Music Project Week, CalArts, Spring 2025
- *3-hour workshop on recent large format (longer than an hour or bigger than A3/Tabloid) compositions*
- *Led hands-on case studies with demonstrations of project files and compositional methodology*
- *Digital-first approach, pushing programs (and students) to create documents not in manufacture-intended use case*

New Music Ensemble, UG/PG, University of Central Florida, 2023, guest lecture

Research Profile

Gramscian and Lefebvrian analysis of embodied social proctices as manifestations of the production of space. Musicological, ethnographical, and cybernetic approaches to research methodology. Subjects include genremaking in Venezuela and West Africa, ontologies of performance in the arts, cybernetics and eigenvalues in art and artmaking.

Creative Works

Selected Compositions / Installations

2025 – Organum quadruplum "lux nova", for bowed dalle de verre glass and four exciter-amplified pianos

2025 – St(i)ng, interactive surveillance-art installation (stop-sign sculpture + Raspberry Pi Wi-Fi probe + multichannel density imaging); in progress, forthcming Summer 2026, CalArts, Los Angeles.

2025 – GPTOSC, ChatGPT-generated modular acousmatic piece for solo VCVRack through OSC, python, and OpenAI tokens.

2025 – CONSTRUCTIONS, set of 6 oversized kinetic scultures exlploiting LED, incandescent and monochromatic low-pressure sodium vapor street lighting, plus associated eponymous chamber symphony performed with sculptures as light-based percussion instruments. Premiere, CalArts Wild Beast, Los Angeles.

2024 – Amplifications, one movement in a suite of works from AMPLIFICATIONS (2023); Marimba solo, uses piano resonant body amplication to create live modified reverb. Los Angeles.

2023 – musica sublimata, score for solo electronics, waterphone and dry ice; premiered at Cohen Davenson Family Theatre, Peabody Institute, Baltimore

2022 – String Quartet No. 2 "soundnoisemusic" 24-tone hybrid graphic/notated score for PARKER Quartet. Premiered in Residence at Leith Symington Griswold Hall, Peabody Institute, Baltimore.

2022 – Sonata for Saxophones, graphic saxophone quartet; written for Alba Music Festival and Estrella Consort. Premiered in Citta di Alba, Italy.

2022 – Seven Sounds for Strings, prepared harpsichord solo; curated in Score Follower's Follow My Score 2022 series; premiered at Cohen Davenson Family Theatre, Peabody Institute, Baltimore.

2021 – Toma Aire, flute solo performed in one breath; written for Kathryn Williams. Premiered at

Leeds University, Leeds.

2020 – Dynamo, chamber piece for open instrumentation; 5-meter scrolling tapestry score, using cell-based composition to mirror RPG platforming conventions. Premiered by Mind on Fire in Baltimore.

Selected Recordings / Releases

2024 – feedback music, album of music exploiting feedback; Bandcamp; digital disc.

2023-2025 (forthcoming 2026) – 25HUNDRED, interactive electroacoustic 10-album compendium

2023 – Amplifications, piano body resonator album; Bandcamp; digital disc.

2023 – Free Temper, prepared harpsichord album I; Bandcamp; digital disc

Performances

2026 –WaveCave Installation, "THE TUB", California Institute of the Arts, Los Angeles, CA

2025 –Paul Yorke, Mid-Residency recital, California Institute of the Arts, Los Angeles, CA

2025 – CalArts African Dance; 51st Annual World Music and Dance Festival; Bamaaya; Sharon Disney Lund Theatre, Los Angeles, CA.

2025 – CalArts Advanced African Ensemble, CalArts 51st Annual World Music and Dance Festival; Afa, Tokue, Horsetail Atsia; Axatse, Kagan, Kidi, Sogo; Sharon Disney Lund Theatre, Los Angeles, CA.

2025 – Fontomfrom; Boma, Gankogui; CalArts 51st Annual World Music and Dance Festival; CalArts Ex-Box, Los Angeles, CA.

2025 – CalArts Percussion Ensemble, Young "Just Water, No Lemon" and Hennies "Growing Block", percussion; Roy O. Disney Family Theatre, Los Angeles, CA.

2025 – Premiere, CONSTRUCTIONS, vibraphone, snare drum; Wild Beast, Los Angeles, CA.

2024 – dexFest 2024, cyber-theremin; LA Artcore, Los Angeles, CA.

2024 – Treglia "THE DRAGONS IN MY LIFE", prepared amplified harpsichord in free temperament, conductor, world premiere at Oracle Egg BROILER Residency, Los Angeles, CA.

2024 –Solo show, Coaxial Arts Foundation, Los Angeles, CA

2023 – Amplifications: MARIMBAIdeefixe, musical installation demonstration at CalArts Doctoral Showcase, Roy O. Disney Family Theatre, Los Angeles, CA.

2023 – Encore, Cameron Church; durational artwork involving controlled waterboarding of consenting performer based on audience participation, stanford experiment for the concert hall; premiered at Leith Symington Griswold Hall, Peabody Institute, Baltimore, MD.

2023 – Critical Error Takes over Peabody, weeklong festival of performances in residency at Peabody Institute during graduation week. Baltimore, MD.

2023 – Pentomino (2022), Cameron Church, bass viola da gamba, Cohen Davenson Family Theatre, Peabody Institute, Baltimore, MD.

2022 – Tile the Plane, Cameron Church; 144-channel laptop quartet, Virginia Tech New Music + Technology Festival at the Cube, Blacksburg,VA.

2022 – Live Election Bingo, Thomas Milovac, Tyler Jordan, Sebastian Suarez-Solis, Baltimore tour; premiere at An Die Musik Live, Baltimore MD.

2022 – madre, de mar, darme, improvised conducting for commissioned piece for Common Tone New Music Festival, Moscow, WA.

2021 – Khan Variations, Alejandro Viñao, McCormick Marimba Festival, University of South Florida Concert Hall, Tampa, FL.

2020 – Solo Concert, Viñao, De Visee, Bach, Suarez-Solis, University of Central Florida Rehearsal (Recital) Hall, Orlando, FL.

2018 – Bernstein's MASS; UCF Symphony Orchestra, UCF Celebrates the Arts; Walt Disney Theater, Dr. Phillips Performing Arts Center, Orlando, FL.

Performance Experience

Laptop

2023 – Creation of "Cyber-Theremin" feedback engine and several feedback patches for laptop, performance practice and methodology of laptop feedback

2022 – critical error, 5 member laptop ensemble formed at Peabody Conservatory (under the supervi-

sion of Niloufar Nourbakhsh)
2021-2022 – Peabody Conservatory Laptop Orchestra
Percussion
2024-2025 – Fontomfrom, Yeko Ladzepko-Cole and Kevin Moran
2023-2026 – Ewe drumming, Yeko Ladzepko-Cole and Andrew Grueschow
2023 – Electronic Percussion, lessons, Amy Knoles
2018-2021 – UCF Percussion Studio, Thad Anderson, Kirk Gay, Jeff Moore
- *Major lessons Snare & Multi-Percussion I-IV, Drumset I-IV, Mallet I-IV*
- *UCF Percussion Ensemble*
- *UCF Symphony Orchestra*
- *UCF Wind Ensemble, Principal Percussion*
- *Solo Recital: De Visee "Suite pour lute et theorbe" , Suarez-Solis "Meditations on the Nature of Change", Viñao "Khan Variations", Bach BWV 1004 Chaconne, Aperghis "Le Corpe a Corps", Young "Compositions 1960", Rollins "St. Thomas", Noble "Cherokee"*
- *Masterclass with The Percussion Collective at UCF*
- *UCF Steel Pan Ensemble "Black Steel" Bass Pan*
- *UCF Theatre & UCF Opera*
2017-2021 – Florida Symphony Youth Orchestra, Principal Percussion,
- *Europe tour, Salzburg, Vienna, Prague, Munich, Regensberg*
- *US tours, Charleston, DC, New York City*

Viol
2021-2023 – John Moran Studio
- *Viol consort at Peabody Conservatory*
- *Viol free improvisation, contemporary viol collaborative improvisation; Pentomino (2022) by Cameron Church, improvised viola da gamba*

Harpsichord
Adam Pearl, continuo, harpsichord tuning and maintenance
Premiered prepared harpsichord solo "Seven Sounds for Strings" at Peabody Conservatory

Conducting
2024 – Trevor Treglia Ensemble, THE DRAGONS IN MY LIFE, BROILER Residency at Oracle Egg
2022 – TORCH Collective, improvised conducting for premiere of "madre, de mar, darme" at Common Tone New Music Festival.

Visuals & Theatrics
2025 – CONSTRUCTIONS, lighting design and conceptualization
2023 – Critical Error takes over Peabody, 4 weeklong graduation week performance installations throughout Peabody Institute;
2022 – Action painting, action scultping at An Die Musik, Baltimore
2022 – Action sculpting at Peabody Conservatory
2022 – meta-improvisation no. 1, visual installation for gamba
2022-2023 – theatric recitals with critical error, 5 person laptop ensemble
2018-2021 – Rzewski "To the Earth", Aperghis "Le Corps a Corps", Evan Chapman "Buttonwood", Sebastian Suarez-Solis "Meditations on the Nature of Change", La Monte Young "Compositions 1960" at University of Central Florida under Jeff Moore and Thad R. Anderson.

Funding & Awards   2023-2025 – Dean's Discretionary Fund, Herb Alpert School of Music, CalArts
- *3x $2,000 awards for doctoral performance research*

2024 – Zeffy/Individual Donors
- *$3000 in donations raised as professional support for 33 Strings, a local organisation, through funding drives, festivals and concerts*
- *~$500 in in-kind business merchandise donations or sponsorships*

2024, –Google for Nonprofits' Google Ad Grants (in-kind)
- *$120,000 in yearly ad credits for Dex Digital Sample Library project*

2023 – Peabody Institute/ LAUNCHPad Peabody Launch Grant
- *$5,000 award as seed funding for Dex Digital Sample Library project*

2023 – Alba Commission Competition Award Winner
- *$300 prize, commission by Alba Music Festival for Transient Canvas*

2022 – Common Tone New Music Festival
- *Fellowship, $750 stipend*

Service   *Governance*
2024-2025 – Ethical Investment Committee (EIC), Office of the President, CalArts
- *Appointed to a student-led institute committee reporting directly to the Institute Council and President to overhaul the school's investment policy.*
- *Co-led the drafting and ratification of CalArts' ESG Policy alongside leadership and investment partners.*

Teaching Service
2025 – CalArts HASOM Project Week, guest lecture, Dizzy Gillespie Digital Recording Studio
- *Volunteered a self-designed lecture module on large format compositions*

2023 – CalArts Artist in Residence (AiR) Week, Host
- *Opened AiR week with a curated Q/A session with guest artists Pamela Z, Attah Poku, Ela Orleans, Cory Smythe, and Yosvanny Terry*
- *Hosted AiR week's final concert and reception at the Wild Beast*

Engagement   *Outreach*
2023 – UCF Recruitment Zoom Call-in, UCF New Music Ensemble/Dr. Thad Anderson

Publications   2025 – Topic Driven Research portfolio (thesis), California Institute of the Arts: "EMBODIED MANIFESTATIONS of SPACE in ARTWORKS"
        ——— *"CONCERNING HUMAN UNDERSTANDING: The Case for a Radical Constructivist Approach in Music and Aesthetic Theory" LEONARDO LABS, under review (submitted 10 Feb 2026)*
        ——— *"IMMANENT PRACTICE: The Metaontology of Percussion Performance" LEONARDO LABS, under review (submitted 10 Feb 2026)*
        ——— *"Afro-Venezuelan Music Rituals in Carribbean Venezuela and their diasporic connection to Ewe Music" LEONARDO LABS, under review (submitted 10 Feb 2026)*
2025 – *"Fulia as an embodied product of space and placemaking" (in preparation)*
2024 – *"NO NEUTRAL SPACES: How Placehood Creates Subjectivities" (in preparation)*
2023 – *"Miles Davis, Paul Buckmaster, and Teo Macero at 50: A Retrospective Reclamation of 'Jazz's Most Hated Record' (with Enrico Merlin)" (in preparation)*

2023 – MM Music Composition, Peabody Institute of the Johns Hopkins University "*Cybernetics, dialectics, and phenomenology in the works of Sebastian Suarez-Solis composed during 2022-2023*", Johns Hopkins Libraries, https://catalyst.library.jhu.edu/permalink/01JHU_INST/t3c16/alma991060710320007861

Composition Appendix

2025 – Organum quadruplum "lux nova", for bowed dalle de verre glass and four exciter-amplified pianos

2025 – GPTOSC, OSC protocol for ChatGPT-generated chamber score; performance score and installation instructions

2025 – CONSTRUCTIONS, six sculpture performance installation; sod, steel, glass, plastic, grass, douglas fir timber, LED/incandescent/low-pressure sodium-vapor light bulbs, LA streetlight fixtures c. 1970-2010; performance installation chamber symphony

2024 – AMPLIFICATIONS: I. marimbaideefixe, for solo piano-amplified marimba

2023 – ▮▮▮▮▮*, open chamber graphic score based on redactions of other texts*

2023 – SYNESDOCHESYNTHESTHESIS, tactile visual score based on Messiaen's Modes of Limited Transposition

2023 – Light Study A, temporary parthenon sculpture modification; stochastic light sculpture

2023 – Light Study B, stochastic light sculpture

2022 – meta-improvisation no. 1, video installation remixing gamba samples

2022 – Rasga for theorbo

2022 – Seven Sounds for Strings for prepared harpsichord

2022 – pasos invisibles, sculpture score for continuo and at least one other player

2022 – LIVE ELECTION BINGO, fixed composition of a week's worth of music, sculpture, and painting

2022 – Hapax Legomenon, for lipsynching ensemble

2022 – mere particle of a machine, with less will, for acoustic instrument & MaxMSP patch (1-2 players)

2022 – String Quartet No. 2 "soundnoisemusic"

2022 – great dane, piano trio

2022 – String Quartet No. 1

2022 – madre, de mar, darme, suite for jazz orchestra and improvisatory conductor

2022 – Sonata for Saxophones, saxophone quartet

2022 – MALLET QUARTET No. 1 "Corriente", graphic quartet for two vibraphones & two marimbas

2022 – Double Concerto for Violin and Percussion "Sonata da Camera" (2022-), for violin, 3 percussionists

on 6 amplified film cameras, film technicians, and orchestra

2022 – $20 Symphony, a game of greed for any large group

2022 – Meditation for orchestra

2021 – Toma Aire for flute, to be performed in one breath

2021 – socorro for soprano saxophone

2021 – GEMS, twelve theatrics for any soloist

2021 – dynamo for 3 or more players with the help of 2 assistants

2021 – PRISMA: Book of Moves, a suite for theatrical quartet

2021 – Meditations on the Nature of Change, concerto for a theatrical percussionist

2021 – Synchrony: A Symphony of Theatrics for any large group

2020 – Films from Wooded Landscapes for prepared vibraphone and film

2020 – A Scene and Fantasy for horn

2020 – alma mater for piano and twelve obbligato instruments

Recording Appendix

2023-2025 (forthcoming 2026) – 25HUNDRED, Bandcamp

2024 – feedback music, Bandcamp

2024 – Amplifications, Bandcamp
2023 – valence, Bandcamp
2023 – String theory, Bandcamp
2023 – SHORT DRONES, Bandcamp
2023 – Free Temper, Bandcamp
2022 – Seven Sounds for Strings, YouTube, Follow My Score series
2022 – MALLET QUARTET No. 1 "Corriente", graphic quartet for two vibraphones and two marimbas, YouTube, Ben Giroux
2021 – Summer Knights, UCF Steel Pan Ensemble "Black Steel", Bass Pan; Flying Horse Records
2019 – Zodiac Concerto, UCF Wind Ensemble, Percussion; Flying Horse Records

Software

Laguages and environments
flux, a programming language, command-line interface, and developer environment for creating and playing autonomous, reactive scores; https://fluxspec.org
Praetorius, a developer environment and command-line interface for creating responsive artist portfolios with audio-linked PDFs; https://cbassuarez.github.io/praetorius
Viable Prompt Protocol, an MLOps-based recursive protocol for prompting language and tokenizing models, founded on cybernetic practice; https://viableprompt.org

iOS/macOS
Tenney, a just intonation tuner and lattice for ratios up to 31 limit; https://tenneyapp.com
SyncTimer, a synced stopwatch for timed event pieces; https://synctimerapp.com

Open-source libraries
microrimba, a microtonal marimba sound library; https://cbassuarez.github.io/microrimba
Dex Digital Sample Library, open-access digital sample library non-profit; https://dexdsl.org

Skills &Technical Abilities

Software and Programming
Max/MSP, SuperCollider, Python, Swift, TypeScript/JavaScript, Chuck, tone.js, three.js
Pro Tools, Logic Pro, VCVRack, Pro Tools, Ableton Live;

Theory
Just intonation (study under Andrew McIntosh/Wolfgang von Schweinitz)

Fabrication
Wood, metal (aluminum, steel), acrylic/plexiglass, soldering, electrical, coatings

Instruments
Percussion (concentrations: marimba, multi-percussion, theatrical percussion, Ewe and Ashanti drumming) drum set, laptop, cybertheremin (proprietary acoustic laptop feedback engine), harpsichord, viol, experimental conducting

References

Sky Macklay – Associate Professor of Composition, The Peabody Institute of The Johns Hopkins University, smackla1@jhu.edu, +1 (507)-521-0548
Tim Feeney – Nicholas England Chair in Music, California Institute of the Arts, tfeeney@calarts.edu, +1 (661) 554-9808 x6483
Jeff Moore – Dean of the College of Arts & Humanities, University of Central Florida, jeffrey.moore@ucf.edu, +1 (407)-823-2573
Andrew Grueschow – Director, World Music Performance, California Institute of the Arts, agruesch@calarts.edu, +1 (661) 554-9421 x6404

Last updated 11 Feb 2026

Teaching Plan My teaching is built around a simple premise: technologies become educational when they become *legible*. That legibility is not only technical (how a system works) but also musical (what it affords and constrains), ethical (what it assumes about data, labor, and authorship), and social (who can participate and under what conditions). In the context of Penn State University's multi-year AI cluster initiative, my teaching plan treats AI not as a novelty topic but as a durable set of methods that must be taught with rigor, accountability, and access by design. I arrive with teaching experience that already aligns with this framing: studio-lab pedagogy, iterative critique cycles, project-based assessment, and hybrid/asynchronous feedback systems that prioritize evidence of learning over "polish." In my composition forums and lessons, I guide students from early sketches to performance-ready outputs, while teaching them to document creative process, revise deliberately, and communicate methods professionally. At Penn State, I would extend that same studio-lab infrastructure to AI-mediated music learning, with particular attention to workforce-facing competencies: reproducible workflows, responsible disclosure, collaboration protocols, and ethical data practice that students can carry into creative industries where AI tools are already widely deployed.

My signature model is a studio cycle that repeats consistently across modalities: prompt and constraints, prototype, critique, revision, reflection, then publication. Students develop durable craft when they are asked to produce early drafts, test them against constraints, and revise with explicit priorities. This model also creates equity: it reduces the advantage of prior access by valuing iteration, documentation, and reflective decision-making as core indicators of mastery. Critique within this model is not a taste verdict session; I structure critique as a learnable method: description before judgment, intent before prescription, actionable options over performance confidence. Students learn to articulate what they are trying to do, what evidence suggests about whether it is working, and what to do next. In AI-mediated contexts, this is crucial: critique becomes a way to separate "the model did something interesting" from "the artist designed a coherent system," and to surface questions of authorship, provenance, and impact as part of musical craft rather than as after-the-fact moral commentary.

Because the cluster hire anticipates teaching across in-person, hybrid, and potentially distance modalities, I design the studio cycle so it can survive format changes. In practice that means concise, repeatable weekly structures; recorded micro-demos for key techniques; asynchronous critique pathways for students who cannot always attend live; and clear rubrics that make expectations stable and transparent regardless of delivery mode. Guidance from Cornell Center for Teaching Innovation on inclusive online and hybrid teaching reinforces a principle I treat as non-negotiable: students are not automatically prepared for online learning just because they are "digital natives," and instructors often need to be more directive facilitators in synchronous online sessions to support equitable participation. I can reaffirm this wholeheartdly: as a student, online courses always came with their own unique set of challenges.

In music, "AI literacy" becomes meaningful only when it is situated in the lived problem of making and learning: how students develop musical judgment, refine intent, and build practice that transfers across tools. The AI cluster description explicitly emphasizes teaching and workforce development in environments where AI tools are deployed at scale without adequate pedagogical research or ethical frameworks. My course design responds to that gap by making AI auditable. Students learn to treat models as systems with constraints, assumptions, and failure modes that can be tested, documented, and shaped through design. I teach AI-mediated practice through three kinds of studio work:

- First, co-creative prototyping: students use lightweight generative tools (text-to-audio sketching, minimal generative structures, or LLM-assisted planning) only as a first draft, and are required to demonstrate interpretive control through editing, recomposition, or re-synthesis. The learning objective is not "content generation," but the ability to translate an ambiguous model output into an intentional musical structure with clear constraints.

- Second, machine listening as a compositional partner: students build simple listening pipelines (feature extraction, segmentation, mapping) and learn to ask what the system can and cannot "hear," how microphone choice and environment shape outcomes, and where misclassification becomes material. This turns AI from an image of intelligence into a concrete interface between signal, interpretation, and design – making it teachable in the same way orchestration is teachable:

through limits, tests, and craft.

- Third, dataset practice as composition: students build or curate small datasets with explicit boundaries, write dataset documentation (what is included, what is excluded, why), and identify potential bias and risk. From there, they implement constrained generative structures that reveal how data and structure co-produce aesthetics. This makes ethics inseparable from technique. Students learn that provenance, licensing, consent, and attribution are musical infrastructure – they decide what can be made, what can be shared, and what harms can be avoided.Across these assignments, students maintain a process trace (prompt logs, dataset notes, version histories, revision memos).

A Penn State teaching plan must treat access and belonging as part of excellence, not as accommodation after the fact. I therefore adopt Universal Design for Learning as a baseline design framework. Operationally, this translates into "access defaults" I apply from day one: every assignment includes a minimum viable pathway that does not require specialized hardware, paid plugins, or advanced compute; advanced workflows appear as optional tiers or shared-lab opportunities rather than as gates. Students can demonstrate learning through multimodal submissions – artifact plus documentation plus reflection – so that disability, anxiety, or unequal access to production resources does not determine who can show mastery. UDL's emphasis on honoring multiple forms of expression and communication directly supports this design: students learn the same core concepts while choosing media and workflow that match their circumstances and strengths.

In AI-mediated work, inclusion also requires strict ethical safeguards. I teach consent-forward data practice, clear attribution norms, and harm-aware critique within an extraction-averse studio routine. These practices operationalize integrity and responsibility without functioning as punitive form of surveillance: students learn how to cite tools and datasets, how to describe model limitations, and how to assess potential misuse when work is shared publicly, adding rigor to their work. Penn State already offers a strong foundation for this work through its music technology ecosystem through the ROARS studio program and the Music Technology minor. My contribution would be to build a coherent bridge between that infrastructure and the cluster's AI-in-learning mandate. In practical terms, I would aim to develop courses and modules that serve multiple student populations: music majors; music technology minors; students in theatre sound, integrative arts, film, and IST-adjacent programs; and graduate students whose research intersects AI, creativity, and pedagogy. I am particularly interested in courses that make AI literacy measurable and transferable, such as a Human–AI Co-Creativity Lab (composition/production systems with documented iteration), a Generative Systems for Sound and Story (ethics + practice across audio, text, and interactive media), and an AI Literacy for Creative Industries course that situates provenance, disclosure, and workflow reproducibility as professional competencies. This approach aligns with the cluster hire's explicit expectation that faculty will collaborate to develop courses integrating AI into curricula across disciplines.

Assessment in my courses is designed to reward what higher education should reward: learning that persists beyond the semester. That means evaluation centered on clarity of intent, coherence of method, evidence of iteration, and quality of reflection, rather than on the aesthetic surface of the final output. Students are graded on the quality of their musical and technical decision-making as demonstrated through drafts, documentation, and revision trajectories. This iterative evaluative frame supports both rigor and equity: it recognizes that excellence is built through process, and it flattens the structural advantage of students who arrive with more equipment, time, or prior exposure. Mentoring is therefore not an add-on to teaching; it is the core mechanism by which students learn to sustain practice and achieve excellence. I support students in building project roadmaps, planning collaborations, preparing portfolios, and translating studio work into professional materials and public presentations. In the Penn State context – where the cluster hire anticipates graduate mentoring, interdisciplinary research collaboration, and course development across units – my mentoring model would extend naturally into research groups and cross-listed studios that help students move from prototype to publishable work, regardless of form or genre.

+1 (407)-922-9622   ssuarezsolis@calarts.edu

Research Plan This research plan is designed to advance the goals of Penn State University's interdisciplinary AI cluster hire, with a preferred tenure home in the School of Music and active collaboration with the Institute for Computational and Data Sciences. The cluster call is explicit that successful candidates must develop nationally recognized programs, secure external funding, and integrate AI across undergraduate and graduate curricula through interdisciplinary research and course development. My central claim is that AI in music education and creative-industry training becomes transformative only when it is treated as a learning environment, not a plug-in: a socio-technical system whose constraints, incentives, and failure modes must be taught, measured, and governed. That orientation aligns closely with the School of Music emphasis in the cluster posting – AI-assisted composition and performance systems, human–AI co-creativity, and ethical, equitable applications in professional training – and it matches Penn State's broader goal of integrating AI into curricula in ways that are durable beyond a single model or platform.

Across a multi-year agenda, I will build and study co-creative musical systems that **(a)** improve how students learn musical judgment and craft, **(b)** operationalize reproducibility and evaluation as core educational outcomes, and **(c)** embed provenance and trustworthiness mechanisms as first-class design features. These three pillars are mutually reinforcing: co-creative systems generate rich learning interactions; MLOps-grade instrumentation makes them measurable and maintainable; and provenance/trust frameworks ensure that the work remains ethical, accessible, and reusable as it scales.

The first pillar asks a foundational question: How do co-creative AI systems change musical learning – especially students' revision habits, creative decision-making, and sense of ownership – when the systems are designed to maximize user control and reflective practice? Recent synthesis work in human–AI co-creativity emphasizes that high user control is consistently associated with greater satisfaction, trust, and ownership, and it identifies design considerations such as encouraging users to externalize their thoughts and increasing transparency to support collaboration. This literature motivates a research program that studies not merely "AI output quality," but the formation of durable musical practice: how students learn to set constraints, evaluate alternatives, revise intentionally, and communicate methods and intent. Methodologically, this pillar combines system-building with learning-science evaluation. I will develop a sequence of co-creative musical environments that support different phases of the creative process (ideation, development, and implementation) while explicitly instrumenting user control and editability. Co-creativity studies point to the importance of phase-specific support and to gaps in tooling for early phases such as problem clarification and task framing. In music education, that gap becomes tangible: many students can generate material quickly but struggle to articulate the question a piece is answering, or to revise a draft into a coherent form. The systems I build will therefore prioritize "learning-to-revise" scaffolds: constraint templates, recursive and extended prompting environments, prompt engineering and prompting protocols, comparative listening tools, and structured reflection logs that make creative reasoning inspectable.

To ground this work technically and artistically, I will leverage and extend existing capabilities in generative audio and symbolic generation as research substrates. The current landscape of generative music models demonstrates that long-range structure and high-fidelity audio generation are tractable at scale (e.g., transformer-based symbolic generation and raw-audio generation). For education, the research problem is not only "can the system generate?" but "can learners steer, critique, and meaningfully transform what is generated?" This is where co-creative design becomes the research contribution: the system's interface, control pathways, and reflective prompts become the mechanism by which musical cognition and craft develop. Evaluation will be conducted through mixed methods across multiple cohorts and contexts: structured analysis of version histories and revision trajectories; interaction logs; student reflections; and performance- or portfolio-based assessments. Learning analytics provides an established frame for collecting and interpreting learner data in order to generate actionable insights that enhance learning and teaching. I will use this frame carefully, emphasizing transparency and consent, and focusing on learning evidence that matters for creative practice: changes in revision depth, constraint specificity, documentation clarity, and the ability to articulate intent and method.

The second pillar treats the reliability of creative AI systems as both a research problem and an educational outcome. The ML-systems literature warns that it is dangerous to treat ML "quick wins" as free: real-world systems accumulate hidden technical debt through entanglement, data dependencies, hidden feedback loops, and configuration complexity. This risk is magnified in education and creative training environments, where toolchains change rapidly and where students often inherit opaque workflows that they cannot reproduce or responsibly critique. My research addresses this by making "MLOps literacy" part of the core research design: every deployed co-creative system is built with reproducible pipelines, versioned artifacts, and evaluation harnesses that can survive model updates and cross-cohort comparisons. In practice, this means building a research infrastructure that treats experimentation, deployment, and monitoring as a continuous loop. Industry-grade overviews of MLOps describe the goal as unifying development and operations through automation and monitoring across integration, testing, deployment, and maintenance. Scholarly work similarly frames ML operations as requiring continuous automation practices to reduce maintenance burden and improve reliability. Within my program, these ideas become tractable research artifacts: containerized environments for course and lab deployments; dataset/version registries; test suites that capture expected behaviors (including failure cases); and structured logging that supports both pedagogical reflection and research analysis.

This pillar produces two kinds of scholarship. First, empirical findings about how workflow design affects learning outcomes and equity: for example, whether requiring versioned process traces changes students' revision behavior; or whether "minimum viable workflows" reduce performance gaps associated with unequal access to compute and paid tools. Second, reusable infrastructure contributions: open templates for reproducible creative ML projects; standardized documentation patterns for student-facing model use; and evaluation protocols that align creative outcomes with measurable learning outcomes. These are not add-ons; they are the core mechanism by which co-creative systems become teachable, and the mechanism by which research becomes scalable and fundable.

The third pillar operationalizes ethics as structured system design. NIST's *AI Risk Management Framework* (AI RMF 1.0) is explicitly intended to help developers, users, and evaluators manage risks across the AI lifecycle, and it enumerates trustworthiness characteristics such as valid and reliable, safe, secure and resilient, accountable and transparent, explainable and interpretable, privacy-enhanced, and fair with harmful bias managed. This framework provides a rigorous backbone for creative-industry training contexts where AI is already deployed without adequate governance: it shifts ethics from abstract values to lifecycle practices that can be taught, audited, and iterated. A practical research consequence is that provenance and documentation become core technical objects. *Model Cards for Model Reporting* proposes standardized documentation for trained models (intended use, evaluation procedures, performance across conditions), while *Datasheets for Datasets* proposes standardized dataset documentation (motivation, composition, collection, recommended uses) to increase transparency and accountability and to mitigate unwanted biases. These artifacts align unusually well with music and creative practice, because music pedagogy already depends on paratext: program notes, production credits, instrumentation lists, and methodological commentary. My research formalizes that parallel by building "dataset cards" and "model cards" directly into creative training and evaluation – making responsible practice a measurable learning outcome rather than an optional add-on.

This pillar also engages the known risk that educational and learner-facing AI systems can encode and amplify inequities. Research syntheses in AI-in-education document that fairness must be evaluated contextually, that bias mitigation is a pipeline-wide problem, and that educational use cases (performance prediction, dropout prediction, recommender systems) are especially vulnerable to reproducing existing structural disparities if fairness is not explicitly assessed. My program therefore treats bias and harm as part of system evaluation, including in creative domains: representation skews in training data, stylistic exclusions, and differential performance across user populations and contexts. This work complements the AI RMF emphasis on fairness and accountability and makes it concrete for creative and educational deployments.

Expected outputs and funding trajectory
This agenda is designed such that is produces publishable scholarship, fundable infrastructure, and visible creative outcomes. On the scholarship side, I will target venues spanning human–AI interaction and learning sciences (co-creativity design/ evaluation), music technology and cognition (music learning and musicality under co-creative constraints), and ML systems/ AI governance (provenance-first workflows and accountability mechanisms). This is consistent with the cluster's requirement that faculty contribute to nationally recognized research and to curricular integration across disciplines. On the infrastructure side, the program will produce reusable assets aligned with the FAIR Guiding Principles (Findable, Accessible, Interoperable, and Reusable): versioned datasets with clear licensing and documentation; model cards and dataset datasheets as standard

deliverables; reproducible pipelines and evaluation harnesses; and student-facing pedagogical toolkits that can be adopted across units. On the creative side, the research will generate performances and installations that function as "living experiments": public-facing proofs of concept that make system design legible and that create a feedback loop between artistic practice and learning research. This aligns with the School of Music posting's emphasis on connecting musical expression, learning, and human development through emerging AI technologies.

The external funding landscape maps cleanly onto this agenda. For workforce-facing, human-technology partnership research, the National Science Foundation Future of Work at the Human-Technology Frontier program explicitly calls for convergent research integrating learning sciences and adult learning/workforce training with intelligent technologies, emphasizing inclusive participation and mitigating inequity. For human-centered AI design as a core research contribution, NSF's Human-Centered Computing program supports interdisciplinary HCI research to design technologies that amplify human capabilities and to assess benefits, effects, and risks. For learning-technology development grounded in learning sciences, NSF's Cyberlearning and Future Learning Technologies framing emphasizes integrating emerging technologies with what is known about how people learn to invent next-generation learning technologies and to study learning in technology-rich environments.

For provenance-forward digital infrastructure and public-facing knowledge networks, the National Endowment for the Humanities Office of Digital Humanities frames its programs as supporting experimental digital methodologies for research, teaching/learning, public engagement, and scholarly communications, with explicit attention to accessibility, openness, replicability, and sustainability. The Digital Humanities Advancement Grants program (a joint NEH–IMLS effort) explicitly supports innovative and computationally challenging digital projects across lifecycle stages. In parallel, Institute of Museum and Library Services National Leadership Grants for Libraries supports replicable tools, models, and practices that strengthen library and archival services and expand access and preservation – an especially strong fit for consent-forward creative datasets and documentation-first infrastructures. Together, these programs support a coherent funding trajectory including early-stage prototypes and evaluation studies (NSF HCC/Cyberlearning), scale-up to multi-cohort workforce and creative-industry training contexts (NSF FW-HTF), and extensive parallel support for open, sustainable cultural/educational infrastructures (NEH ODH/DHAG, IMLS NLG-L).

Values Statement

How I operationalize values in AI-mediated teaching and research

I understand the Penn State University Values as a set of design requirements for how we teach, build, evaluate, and share work. In an AI-in-education and creative-industries context, "contributing to values" becomes concrete when values are expressed as mechanisms: documentation norms that make claims auditable; critique structures that make civil discourse teachable; risk-management routines that anticipate harms and misuse; and open, consent-forward infrastructures that broaden access to learning and creative participation. My contribution to a cluster anchored in the Institute for Computational and Data Sciences and the School of Music is to treat AI systems as socio-technical learning environments, systems that must be measurable, governable, and inclusive if they are to be used responsibly in workforce training and creative professional education.

Integrity

For me, integrity in AI-mediated music learning is synonymous with provenance; the ability for a student, collaborator, or reviewer to understand what happened, why it happened, and what was changed by human judgment is invaluable in this burgeoning modality. Penn State's values language frames integrity as acting with honesty and the highest academic and professional standards; in AI contexts, the practical translation of that standard is *no black boxes by default.*

Mechanistically, I operationalize integrity through documentation discipline. I treat disclosure as a professional craft practice: students must record what tools and models were used, under what conditions, and what decisions were made to transform outputs into authored work. I align this with established accountability interventions from machine learning practice: Model Cards, which propose standardized reporting on intended use and performance characteristics of trained models, and Datasheets for Datasets, which propose standardized documentation of dataset motivation, composition, collection, and recommended use to improve transparency and accountability. Integrity also requires workflows that can be reproduced and re-audited over time. I therefore design assignments so that process artifacts (version histories, prompts/parameters, dataset notes, and revision memos) are not ancillary paperwork but the evidence by which learning is assessed. This approach is consistent with NIST's framing of trustworthiness as lifecycle work: documentation and evaluation practices are not a one-time step but a continuous requirement across design, development, deployment, use, and re-evaluation.

Respect

Respect becomes a real institutional tenet when classroom structures reliably produce civil discourse and reduce gatekeeping. Penn State frames respect as honoring dignity, embracing civil discourse, and fostering a diverse and inclusive community; in studio and lab settings, that means building critique and participation systems that do not reward performative confidence, prior jargon, or expensive tool access.

My core mechanism here is structured critique. I use facilitation models derived from the work of Liz Lerman and John Borstel, whose Critical Response Process is designed to give makers an active role in critique through a supportive structure of steps that move from statements of meaning, to artist questions, to neutral questions, to permissioned opinions. This helps students learn critique as a learnable practice of listening, inquiry, and dialogue rather than judgment. Respect also requires access as a principal part of design, not an afterthought or a set of boxes to be checked. I explicitly ground course design in Universal Design for Learning principles, which emphasize reducing barriers by providing multiple means of engagement, representation, and action/expression, and whose latest update foregrounds shared practice, belonging, collective learning, and challenging exclusionary practices. Practically, this schema supports multimodal ways to demonstrate learning, flexible pathways through technical tasks, and intentional representation in materials and case studies so that students can bring their full identities and contexts into the learning environment.

Responsibility

In this context, responsibility means being accountable not only for what a system can do, but for what it can do under fore-

seeable misuse, bias, or misunderstanding. In AI-mediated education and creative professional training, the most responsible posture is not a blanket ban or blanket embrace, but a risk-managed approach that teaches students how to anticipate consequences and encode safeguards in their workflows. I align my responsible practice mechanisms with the National Institute of Standards and Technology AI Risk Management Framework, which explicitly frames trustworthy AI characteristics (valid and reliable, safe, secure and resilient, accountable and transparent, explainable and interpretable, privacy-enhanced, and fair with harmful bias managed) and organizes risk work into govern, map, measure, and manage functions across the AI lifecycle. This provides a concrete template for classroom and lab practice: projects begin with governance questions (roles, boundaries, acceptable use), map risks and stakeholders, measure performance and failure modes (including bias artifacts), and manage mitigations, disclosures, and safe decommissioning when appropriate. I also draw from international AI governance principles that emphasize transparency, human oversight, and fairness. UNESCO's Recommendation on the Ethics of AI highlights risks of discrimination, digital divides, and the need for transparency regarding algorithms and training data, while the OECD AI Principles emphasize human-centered values, robustness and safety, accountability, and traceability across datasets, processes, and decisions. These frameworks reinforce a core point for creative training: ethical practice must be embedded in lifecycle routines.

Discovery

I view discovery as the coupling of creative practice with publishable, reusable knowledge: building new co-creative instruments and learning environments, and producing research that clarifies how constraints, feedback loops, and documentation practices shape musical learning and professional formation. My contribution to discovery is to treat co-creative AI systems as research sites where we can study musicality and learning with methodological rigor. That includes designing systems that foreground user control and reflective practice, and building instrumentation that makes learning evidence visible (version traces, revision depth, constraint specificity, model-failure analysis). This approach aligns naturally with ICDS's vision to advance computational and data science through next-generation tools, methods, cyberinfrastructure, and talent – an environment where research artifacts can be shared, iterated, and studied across cohorts and collaborators.

Excellence

Excellence is not only the quality of an artifact; it is the rigor of the method that produced it and the durability of what students can do next. To make excellence measurable, I draw from the Society for Learning Analytics Research definition of learning analytics as the collection, analysis, interpretation, and communication of learner data to produce theoretically relevant, actionable insights that enhance learning and teaching. I use this orientation selectively and transparently: emphasizing consent, minimizing data collection to what supports learning, and prioritizing evidence that students can understand and use (clear revision rubrics, reflective memos, process demonstrations). Excellence in AI systems also depends on reliability over time. ML systems research cautions that "quick wins" in machine learning can produce hidden technical debt and long-term maintenance costs when system design ignores entanglement, data dependencies, overfitting, feedback loops, and configuration complexity. Treating reproducibility, testing, and documentation as core learning outcomes is therefore both an educational and an engineering excellence practice: it builds students who can thrive in real creative-industry toolchains where models and platforms change quickly, and where reliable practice depends on method, not on tooling fashion.

Community

Community is where my values become public infrastructure. Penn State's values language frames community as working together for the betterment of the university, the communities served, and the world; for AI in creative industries, that means building and stewarding resources that expand access without extracting labor or erasing attribution. I have practiced this through the creation and stewardship of Dex Digital Sample Library, a nonprofit open-access library that commissions and curates audiovisual recordings under a CC-BY 4.0 license and explicitly frames its mission as reducing barriers created by paywalled, for-profit sample ecosystems and institutional gatekeeping. Dex's public-facing documentation specifies patron rights and responsibilities under CC-BY 4.0 – including conspicuous attribution and no added restrictions – and is paired with practical guidance for crediting artists and tracing materials. This is my model for community contribution at Penn State: build shared, consent-forward, credit-forward infrastructures that students and collaborators can use in coursework, research, and public-facing creative projects. In the context of Penn State's land-grant mission and the AI cluster's emphasis on workforce and creative industries, I see community as a design principle: projects should increase the shareability and accountability of AI-mediated practice, not only within a lab, but across departments, into regional creative communities, and into professional ecosystems where students will work.