Nathan St. Pierre
Curriculum Vitae

nathan.stpierre@gmail.com   +1-xxx-xxx-7559   https://www.linkedin.com/in/doctorn8/

Education

Doctor of Philosophy (Ph.D.) in Music Education | 2017
- George Mason University, Fairfax, Virginia
  Dissertation: *Using Achievement Goal Theory to Investigate Pre-Service Music Teachers' Attitudes Toward Grading Practices*

Master of Education (M.Ed.) in Kodály Music Education | 2011
- Loyola University Maryland, Baltimore, Maryland
  Master's Thesis: *An Indexed Collection of Pedagogical Songs, Part-work, and Vocal Warm-up Activities*

Bachelor of Music (B.M.) in Music Education, *Magna Cum Laude* | 2007
- The Hartt School, University of Hartford, West Hartford, Connecticut
  Emphasis: Vocal Music Education

Additional Certifications & Specializations

- Instructional Design Foundations and Applications, University of Illinois Urbana-Champaign
- User Experience Research and Design Specialization, University of Michigan
- Prompt Engineering for LLMs Certificate, Vanderbilt University
- Data Visualization with Tableau Specialization, University of California, Davis
- Excel Skills for Business Specialization, Macquarie University, Australia
- Google Data Analytics Professional Certificate, Coursera
- School Administration Endorsement Certificate (In Progress), James Madison University

Professional Experience

Learning and Research Analyst | ABK Learning Solutions | May 2022 – Present

Training Development

- Developed comprehensive training content for Boeing 737 aircraft systems, including air conditioning, pressurization, and bleed air systems in compliance with FAA requirements
- Created and formatted 200+ detailed aviation training modules with timing-annotated narration scripts and feedback-driven assessments
- Implemented standardized instructional design templates enhancing content clarity and learner comprehension
- Transformed complex technical documentation (FCOM) into structured learning modules with clear objectives and interactive assessments
- Collaborated with SMEs to ensure accurate translation of technical manual references into targeted learning objectives
- Demonstrated expertise in aviation technical documentation interpretation, microlearning storyboard development, and complex systems training design

Technical Development & AI Solutions

- Engineered automated data collection system processing 670+ business records using Python and BeautifulSoup4

- Developed sophisticated web scraping algorithms with advanced error handling and rate limiting capabilities
- Implemented intelligent text parsing using regex patterns to extract and validate email addresses
- Created multi-stage verification system to filter and clean extracted data, improving accuracy by eliminating false positives
- Built automated CSV processing pipeline with encoding detection and flexible data handling
- Integrated custom validation rules to ensure data quality and consistency across multiple web formats
- Successfully extracted 200+ previously uncollected email addresses, enabling direct business communication
- Developed modular code architecture allowing for easy maintenance and future enhancements
- Implemented rate limiting and ethical web scraping practices to ensure responsible data collection

Instructional Design & AI Integration

- Developed and implemented AI-driven instructional design solutions, including detailed visual descriptions for educational materials, resulting in a 25% increase in content comprehension and retention
- Developed detailed storyboards for training videos and ensured compliance with industry safety standards, reducing compliance incidents by 20%
- Extensive work with Python scripts leveraging AI techniques, machine learning models for predictive analytics, and AI-driven recommendation systems
- Developed custom AI instructions and prompts, resulting in a 25% increase in quality and relevance of AI-generated outputs
- Developed and implemented Python scripts leveraging AI techniques to merge and restructure client data from multiple JSON sources, resulting in a 50% reduction in manual data processing time and improving data consistency by 30%
- Enhanced data quality and streamlined resume creation process with advanced error handling and automated file naming, reducing data loss incidents by 90%
- Developed AI-driven scenario-based training modules, enhancing learner engagement and retention by 35%
- Developed custom NLP solutions to analyze and categorize textual data
- Utilized transfer learning and fine-tuning of pre-trained models to optimize performance
- Integrated AI-driven recommendation systems, increasing user engagement by 15%
- Developed custom prompts and templates for LLMs including GPT-2/3/4, QWEN, Llama, Claude, Mistral, and Gemini
- Created impactful data visualizations enhancing stakeholder understanding
- Led UX data analysis examining data from multiple sources
- Utilized qualitative techniques including in-depth interviews and focus groups
- Managed user testing for new modules

Instructional Design Specialist | Learning Mate | December 2024 – February 2025

- Developed and published four Kadal AI agents for structured learning content generation, including AI activity storyboards, module assessments, topic video briefs, and lesson outlines
- Created two comprehensive Learning Modules for Practical AI for Healthcare Administration focusing on AI Operational Effectiveness and Human-AI Integration

- Drafted 12+ detailed video scripts incorporating technical demonstrations, healthcare workflow insights, and AI tool utilization strategies
- Developed 150+ interactive AI activities across professional training programs while maintaining 95% SME approval rate
- Reduced content creation time by 40% through strategic AI tool implementation
- Created comprehensive learning modules including 8 distinct learning activities and 12 knowledge check assessments
- Supported training of 500+ professionals through innovative learning solutions
- Demonstrated expertise in:
    - AI content generation tools and Kadal AI agent development
    - Learning management system (LMS) design
    - Prompt engineering for AI learning tools
    - Adaptive learning strategy development
    - Content quality assurance and learning objective alignment

Team Leader, Researcher | Good To Great Schools Australia | November 2023 – June 2024

- Created step-by-step guide for ethical best practices using generative AI
- Used AI speech synthesis to translate lesson content into multiple languages
- Managed team of 3 developers in Agile environment remotely
- Contributed to development of Creative Arts Songwriting, Bible Literacy, and Mnemonics programs
- Conducted comprehensive research on student wellbeing and character strengths
- Used Excel to develop and maintain centralized research register
- Edited and adapted 250+ Bible stories for age-appropriateness
- Led creative teams across multiple time zones using "The Playbook" system
- Successfully orchestrated collaboration between content creators and departments
- Presented winning executive guide on mnemonic techniques
- Managed comprehensive sign-off processes while maintaining creative vision

Python Development & Programming

- **Advanced RAG Systems & NLP:** Engineered production-ready RAG systems using FAISS, sentence transformers, and sophisticated document retrieval mechanisms. Implemented comprehensive evaluation frameworks measuring both retrieval accuracy and response quality. Developed robust error handling and monitoring capabilities for NLP pipelines. Created modular architectures for handling multiple data sources with type-safe development practices [1,8].
- **Cloud Architecture & Deployment:** Designed and implemented serverless deployment architectures using AWS Lambda with comprehensive monitoring capabilities. Created production-ready deployment configurations including memory optimization, timeout handling, and concurrent request management. Implemented sophisticated logging systems and performance metrics tracking for cloud-based educational applications [1,3,6].
- **API Development & Backend Systems:** Engineered production-ready REST APIs using FastAPI with comprehensive validation, error handling, and documentation. Implemented sophisticated database integrations using SQLAlchemy ORM with PostgreSQL, including connection pooling and transaction management. Developed robust middleware solutions, comprehensive logging systems, and type-safe validation frameworks. Created scalable backend architectures with focus on performance, security, and maintainability [6].

- **Machine Learning & AI Integration:** Developed sophisticated machine learning systems utilizing PyTorch and TensorFlow frameworks [1,2]. Implemented production-ready NLP systems, computer vision solutions, and adaptive learning platforms using transformer models and modern deep learning techniques. Created scalable machine learning pipelines with comprehensive error handling and monitoring capabilities [1,3,5,8,10,11].
- **Data Collection & Processing Systems:** Engineered automated data collection system processing 670+ business records using Python and BeautifulSoup4. Implemented sophisticated web scraping with advanced error handling and rate limiting. Built automated CSV processing pipeline with encoding detection and multi-stage verification system. Successfully extracted 200+ previously uncollected email addresses while maintaining ethical web scraping practices [7].
- **Educational Technology Development:** Engineered adaptive learning systems with real-time performance tracking, personalized study recommendations, and cluster-based analytics [2,5]. Implemented sophisticated question banks and assessment systems with machine learning-based feedback mechanisms and immediate/delayed feedback modes. Developed comprehensive educational data analytics platforms with performance monitoring and personalization capabilities [2,5,6].
- **Production System Architecture:** Implemented scalable system architectures with comprehensive monitoring, logging, and error handling capabilities. Designed modular components for maintainability and future expansion. Created robust deployment strategies with focus on performance optimization and resource management [1,3,6,8].
- **Database & Authentication Systems:** Designed and implemented secure database architectures using PostgreSQL and SQLAlchemy with connection pooling, comprehensive error handling, and atomic transactions. Created robust data persistence layers with type-safe development practices and sophisticated error recovery mechanisms. Implemented secure user authentication systems using cryptographic hashing (SHA-256) with comprehensive security protocols [5,6].
- **Deep Learning & Computer Vision:** Developed CNN-based image generation systems and implemented transformer-based language models [2]. Created custom neural network architectures for specific use cases using PyTorch and TensorFlow. Implemented sophisticated computer vision solutions with advanced processing capabilities and real-time performance optimization [1,2].
- **Vector Database & NLP Systems:** Engineered vector storage solutions and NLP pipelines using ChromaDB, spaCy, and transformer models [1,8]. Implemented efficient document retrieval systems with advanced processing capabilities. Developed sophisticated natural language processing systems with focus on performance and accuracy [1,3,8].
- **Full Stack AI Development:** Integrated AI/ML systems with web interfaces, REST APIs, and automation abilities [1,2,3,5,6,10,11]. Developed end-to-end solutions combining data processing, machine learning, and user interfaces. Created comprehensive development frameworks with focus on modularity and maintainability [1,4,5,6,7,10,11].
- **Historical Document Processing Systems:** Developed comprehensive AI/ML pipeline for digitizing historical documents using OpenCV, PyTorch, and FastAI frameworks [9]. Implemented advanced image processing techniques, custom neural networks, and specialized knowledge base systems. Created modular architecture for handling complex document analysis tasks including symbol detection, layout analysis, and handwriting recognition [9].

Technical Proficiencies

Libraries & Frameworks:

- Web Frameworks: FastAPI [6], CORS middleware [6], uvicorn [6]
- Database: SQLAlchemy [6], PostgreSQL [6], sqlite3 [5]
- Validation: Pydantic [6]
- Deep Learning: PyTorch [1,9], TensorFlow [2], Keras [2], FastAI [9]
- Machine Learning: ChromaDB [1], spaCy [1], Transformers [1,2]
- NLP: GPT-2 [2], SentenceTransformers [1,8], tiktoken [1], Qwen [5], Llama [1]
- Computer Vision: Conv2D [2], MaxPooling2D [2], OpenCV [9]
- Data Processing: pandas [1,3,4,7,10,11], numpy [2], BeautifulSoup4 [7]
- Vector Databases: HNSW [1], Cosine Similarity [1], FAISS [8]
- Image Processing: ImageDataGenerator [2], Pillow [4,9], pytesseract [9]
- Web & API: pathlib [5,6], typing [5,6], datetime [5,6], requests [7]
- Data Validation: regex [7]
- Cryptography: hashlib [5]
- JSON Processing: json [5,6]
- Testing: unittest [9]

Core Competencies:

- RAG System Development [8]
- Cloud Architecture Design [1,3,6]
- REST API Development [6]
- Database Architecture & ORM [6]
- Document Retrieval Systems [8]
- Type-Safe Development [6]
- Deep Learning Model Development [1,2]
- Neural Network Architecture Design [2]
- Educational Technology Systems [2,5,6]
- Adaptive Learning Algorithms [2,5]
- Web Scraping & Data Collection [7]
- Performance Analytics [1,2,5]
- Vector Embedding & Retrieval [1]
- Real-time Feedback Systems [2,5]
- Authentication & Security [5]
- Database Design & Management [5,6]
- RESTful API Integration [5,6]
- Historical Document Processing [9]
- Image Enhancement & Processing [9]
- Layout Analysis & Recognition [9]
- Symbol Detection Systems [9]
- Handwriting Analysis [9]
- Knowledge Base Development [9]
- Serverless Deployment [1,3,6]
- Production System Monitoring [1,3,6,8]

Project References

[1] AI-Powered Resume Generator (2024)

- RAG-based system using ChromaDB and transformer models (Llama)
- Implemented sophisticated document processing and retrieval

- Built production-ready NLP pipeline with advanced error handling

[2] Adaptive Learning Platform (2024)

- Educational technology system with ML-based assessment
- Integrated PyTorch and TensorFlow for personalized learning
- Developed custom CNN architecture for image generation

[3] Document Processing Pipeline (2024)

- Automated PDF processing and format conversion system
- Implemented robust error handling and retry mechanisms
- Built scalable document management solutions

[4] Media Processing Suite (2024)

- Developed comprehensive image and document conversion abilities
- Implemented format transformation pipelines
- Created automated web content extraction systems

[5] AI Enhanced Quiz System (2024)

- Engineered adaptive learning platform with real-time performance analytics and personalized study recommendations
- Implemented SQLite-backed user authentication and progress tracking system using SHA-256 encryption
- Developed cluster-based learning analytics for performance monitoring across topic areas
- Built AI integration layer using Qwen model for dynamic study plan generation
- Created modular architecture separating quiz management, user tracking, and AI components
- Implemented immediate vs. delayed feedback modes for different learning scenarios

[6] Advanced Quiz API System (2024)

- Developed production-grade REST API using FastAPI with comprehensive validation and error handling
- Implemented sophisticated database architecture using SQLAlchemy ORM with PostgreSQL
- Created robust connection pooling, transaction management, and error recovery systems
- Built type-safe development framework with Pydantic validation
- Implemented comprehensive logging and configuration management

[7] Email Extraction System (2024)

- Developed automated data collection system for 670+ business records
- Implemented web scraping with error handling and rate limiting
- Created multi-stage verification system for data validation
- Built automated CSV processing pipeline with encoding detection
- Successfully extracted 200+ previously uncollected email addresses

<u>[8] Educational Content Assistant (2025)</u>

- Developed RAG-based educational content system using transformers and FAISS for semantic search
- Implemented sophisticated document retrieval system with advanced error handling and monitoring
- Created modular architecture for handling multiple data sources and response generation
- Built comprehensive evaluation framework for testing retrieval and generation quality

<u>[9] Historical Document Processing Framework (2025)</u>

- Engineered comprehensive AI/ML pipeline for digitizing historical Masonic Lodge meeting minutes
- Implemented advanced image processing with OpenCV for handwritten text recognition
- Developed specialized knowledge base system for Masonic terminology and symbol detection
- Created modular architecture integrating document preprocessing, symbol detection, and layout analysis
- Built comprehensive documentation and testing framework

<u>[10] Predicting Program Acceptance (2025)</u>

- Developed a machine learning pipeline to predict student placement in VMEA Honor Choir using Python and scikit-learn.
- Implemented data preprocessing, feature engineering, and model evaluation techniques to optimize prediction accuracy.
- Created a Jupyter Notebook showcasing the end-to-end process, including data visualization, model training, and performance metrics.
- Designed the project to be modular and reusable for similar ensemble placement predictions.
- Focused on interpretability and usability for educators and administrators.

<u>[11] Backpack Price Prediction Challenge (2025)</u>

- Developed a machine learning pipeline to predict backpack prices based on product features as part of Kaggle's Code playground Series.
- Implemented advanced data preprocessing techniques, including handling missing values, feature encoding, and aligning datasets for model compatibility.
- Engineered and evaluated multiple regression models, including XGBoost, to optimize performance using Root Mean Squared Error (RMSE) as the evaluation metric.
- Designed a modular pipeline for data loading, feature engineering, model training, and prediction, ensuring scalability and reusability for similar pricing challenges.
- Focused on interpretability and practical applications, such as dynamic pricing strategies and inventory management for e-commerce platforms.
- Delivered a complete solution with a Jupyter Notebook showcasing data visualization, feature correlation analysis, and model performance metrics.

Non-Profit Leadership

Vice-President, Board of Directors | Lake Ridge Chorale | 2021-2023

- Led strategic planning and organizational development initiatives
- Managed board governance and policy development

- Oversaw financial planning and resource allocation

Master (Chief Executive) | Masonic Lodge | 2014-2018

- Served 4.5 consecutive years as chief executive officer
- Led organizational operations and strategic initiatives
- Managed membership development and community outreach
- Oversaw budget and resource allocation

President | DC Area Alumni Association, Phi Mu Alpha | 2010, 2012

- Led alumni organization operations and events
- Managed member engagement and communications
- Coordinated fundraising and community service initiatives

Academic Positions

Adjunct Professor | George Mason University | 2016 – 2019

Courses Taught:

- Aural Skills I
- Introduction to Classical Music

Responsibilities:

- Acquired teaching materials and resources
- Built discussions into lessons with active participation tracking
- Developed curriculum standards, lesson plans, and syllabi
- Employed LMS for attendance and grades
- Engaged students with insightful classroom discussions
- Explained music theory, aural skills and fundamental concepts
- Organized time, space and resources effectively
- Prepared and revised course material
- Responded to student communications promptly
- Used exams, quizzes and assignments for assessment
- Worked cooperatively with faculty and staff

Graduate Teaching Assistant | George Mason University | 2014 – 2016

Courses Taught:

- Music Administration and Management
- Healing Arts Ensemble

Responsibilities:

- Analyzed statistical data using modern and traditional methods
- Assisted faculty with data collection for academic publications
- Conducted literature reviews on assessment in music education
- Contributed Social Science research manuscripts
- Designed effective questionnaires and data entry procedures
- Evaluated potential study participants
- Created representative graphs and charts for presentations

- Identified research methodologies and experimental designs
- Interpreted data and made recommendations
- Performed quantitative, qualitative, and mixed-methods research
- Prepared materials for reports and peer-reviewed publications
- Provided relevant and timely feedback on student assignments
- Recorded data following good documentation practices
- Specialized in hypothesis testing, cluster analysis, and regression modeling
- Used SPSS and statistical software for data analysis
- Worked with principal investigators on qualitative research
- Wrote and edited data collection forms and questionnaires

K-12 Education Experience

Department Chair & Choral Director | Gar-Field Senior High School | 2018 – 2023

Courses Taught:

- Women's Chamber Chorus
- Advanced Treble Chorus
- Tenor/Bass Choir
- Concert Choir
- Show Choir
- Class Guitar
- Class Ukulele
- Class Piano

Leadership Responsibilities:

- Led data-driven projects to optimize processes
- Implemented machine learning for learning outcome prediction
- Created Tableau dashboards for achievement tracking
- Managed department budget and resources
- Coordinated performances and events
- Supervised music department staff
- Advised Tri-M Music Honor Society
- Served on multiple school committees

Choral Director | Ronald Reagan Middle School | 2012 – 2018

Courses Taught:

- 6th Grade Treble Choir
- 7th Grade Men's Choir
- 7th Grade Women's Choir
- 8th Grade Advanced Choir
- 8th Grade Intermediate Choir

Additional Roles:

- Assistant Football Coach (Wide Receivers and Special Teams)
- Olweus/RIDER Committee Member
- Tri-M Music Honor Society Advisor

Music Teacher | Montclair Elementary School | 2008 – 2012

Positions:

- General Music Teacher (K-5)
- Encore Team Leader
- Grade 3-5 Chorus Director

Theater Teacher | Smith Middle School | 2007 – 2008

- Taught Grade 8 Theater Arts

General Music Teacher | Hopewell Elementary School | 2007 – 2008

- Taught General Music (Grades K, 1, 3, 4, 5)
- Directed Grade 4 and 5 Choruses

Publications

Books and Book Chapters

In Press & Contracted Works

- St. Pierre, N.A.. (2024). *Harmony in the Hive: A Vibrant Vision for Freemasonry's Future*. Washington, DC: Plumbstone.
- St. Pierre, N.A., & Eyer, S. (under contract). *Sing the Art Divine: A Traditional Masonic Songster*. Washington, DC: Plumbstone.

Published Works

- St. Pierre, N.A. (2017). Genius of Masonry: The Preservation of Masonic Tradition in the Songs of the Freemasons. In C.B. Murphy & S. Eyer (Eds.), *Exploring Early Grand Lodge Freemasonry: Studies in Honor of the Tricentennial of the Establishment of the Grand Lodge of England*. Washington, DC: Plumbstone.

Peer-Reviewed Journal Articles

- St. Pierre, N. (2024). Whilst We Enchant All Ears with Musick of the Spheres: The Esoteric Significance of "The New Fairies: Or, The Fellow-Craft's Song". *Philalethes*, *77*(1), 6–21.
- St. Pierre, N.A., & Wuttke, B.C. (2015). Standards-Based Grading Practices Among Practicing Music Educators: Prevalence and Rationale. *Update: Applications of Research in Music Education*, 1–8. doi:10.1177/8755123315604468
- St. Pierre, N. (2017). For All This Lodge is Holy Ground: The Symbolism of the Floor of the Lodge. *Philalethes*, *70*(3), 123–127.
- St. Pierre, N. (2014). The Symbol of the Seven Stars: Ascending the Masonic Ladder. *Philalethes*, *67*(2), 78–81.
- St. Pierre, N. (2013). The Theological Ladder: The Virtues as a Path of Ascent. *Philalethes*, *66*(3), 122–125.

Conference Proceedings & Academic Works

- Wuttke, B.C., & St. Pierre, N.A. (2016). The Effects of Instruction and Experience on Preservice Teacher Attitudes Toward Accepting a Standards-Based Grading Paradigm. In

T.S. Brophy, J. Marlatt, & G.K. Ritcher (Eds.), *Connecting practice, measurement, and evaluation: selected papers from the Fifth International Symposium on Assessment in Music Education* (pp. 415–425). Chicago, IL: GIA Publications, Inc.

- St. Pierre, N.A. (2017). *Using Achievement Goal Theory to Investigate Pre-service Music Teachers' Attitudes toward Grading Practices* (Doctoral dissertation). Retrieved from ProQuest. (10685644)
- St. Pierre, N.A. (2011). *An Indexed Collection of Pedagogical Songs, Part-work, and Vocal Warm-up Activities* (Unpublished Master's Thesis). Loyola University Maryland, Baltimore, MD.

Presentations and Workshops

International/National Presentations

- **2015** International Symposium on Assessment in Music Education, Williamsburg, VA
  "The Effects of Instruction and Experience on Preservice Teacher Attitudes toward Accepting a Standards-based Grading Paradigm"
- **2014** NAfME National In-Service Conference, Nashville, TN
  "Standards-based Grading: Using Assessment to Truly Tell Students How They are Doing"
- **2014** NAfME Music Research & Teacher Education National Conference, St. Louis, MO
  "Standards-Based Grading Practices Among Practicing Music Educators"

State/Regional Presentations

- **2021** Unity Braxton Middle School Music Department, Manassas, VA
  "Standards-based grading for music educators"
- **2020** Prince William County Schools Elementary School Honor Choir, Manassas, VA
  Guest clinician and conductor
- **2017** Assembly of the Philalethes Society, Bloomington, MN
  "*Genius of Masonry*: The Preservation of Masonic Tradition in the Songs of the Early Freemasons"
- **2017** VMEA Professional Development Conference, Hot Springs, VA
  "Using Achievement Goal Theory to Investigate Pre-service Music Teachers' Attitudes toward Grading Practices"
- **2016** Prince William County Schools In-Service Workshop, Dumfries, VA
  "Standards-based grading for choral music educators"
- **2012** Connecticut Music Educators Association Conference, Hartford, CT
  "I Know Where I'm Going, but How Do I Get There: Scaffolding in the General Music Classroom"
- **2011** Prince William County Schools In-Service Workshop, Dumfries, VA
  "Building on Prior Learning with Tonal Syllables, Rhythm Syllables, and Movement Activities"
- **2010** Maryland United Specialists in Kodály, Baltimore, MD
  "How Do Get to Carnegie Hall: Ways to Practice in the General Music Classroom"
- **2009** Prince William County Schools In-Service Workshop, Manassas, VA
  "Improving Music Literacy with Tonal and Rhythm Syllables"

Professional Service

Music Adjudication Experience

State-Level Adjudication

- Virginia Music Educators Association Honor Choir Adjudicator (2008-present)
- Virginia Department of Education Governor's School Adjudicator (2016-present)
- Connecticut Music Educators Association Certified Adjudicator (2004-2008)

Regional Adjudication

- Lions Club of Virginia, Bland Music Competition (2011)

Committee Service

Institutional Committees

- Gar-Field Senior High School
  - Continuous Improvement Planning Council (2019-present)
  - Positive Behavioral Interventions and Supports (PBIS) Committee (2020-present)
  - Collaborative Learning Teams (CLTs) Committee (2020-present)
  - Music Production Club Advisor (2022-present)
  - Tri-M Music Honor Society Advisor (2018-present)
- Ronald Reagan Middle School
  - Olweus/RIDER Committee (2016-2018)
  - Athletics - Assistant Football Coach (2016-2018)

District/State Level

- Virginia Department of Education, Standards of Learning Review Committee (2019)
  - Reviewed 2013 Fine Arts Standards of Learning
  - Proposed revisions and evaluated public comment
  - Made additional revision proposals
- Prince William County Schools
  - Music Curriculum Team (2015-2016)
  - Collaborated on 2016 PWCS Secondary Choral Music Curriculum

Professional Memberships

National Organizations

- National Association for Music Education
- American Choral Directors Association
- National Educators Association
- Organization of American Kodály Educators
- Phi Mu Alpha Sinfonia Fraternity

State/Regional Organizations

- Virginia Music Educators Association (VMEA)
- Virginia Choral Directors Association (VCDA)
- VA-ACDA (Virginia Chapter)
- Connecticut Music Educators Association (CMEA)
- Connecticut Chapter of American Orff-Schulwerk Association (CT-AOSA)

Awards and Honors

- The Recording Academy GRAMMY Music Educator Award Nomination (2020)
- Inside NoVA Best of Prince William County Nomination (2017, 2018)
- Magna Cum Laude, The Hartt School, University of Hartford (2007)
- Citations in 20+ peer-reviewed publications for academic contributions

Technical Skills

Programming & Data Analysis

- Python (ML, NLP, Data Processing)
- R Programming
- SQL
- SPSS Statistics
- Tableau
- Excel (Advanced Analytics)

Research & Analysis Tools

- NVivo (Qualitative Data Analysis)
- Statistical Analysis Software
- Data Visualization Tools
- Survey Design & Analysis Tools

Instructional Design & E-Learning Technologies

- Articulate Storyline 360
- Adobe Captivate
- Camtasia
- Audacity
- iMovie
- Interactive Content Design Tools
- Learning Management Systems (Canvas, Blackboard)
- Video Production & Editing Suites
- Digital Assessment Platforms
- Process Automation Tools
- AI-Powered Content Generation Tools
- Online Course Authoring Platforms
- Virtual Learning Environment Management
- Interactive Whiteboard Software (ActiveInspire)

Music & Media Production

- MakeMusic Finale
- Digital Audio Workstations (DAWs)
- ScanScore
- Noteflight
- Exact Audio Copy
- Adobe Premiere Pro

Productivity & Collaboration

- Microsoft Office Suite
- Google Workspace
- Airtable
- Dropbox
- Evernote
- Zotero
- Project Management Tools

Web & Multimedia

- Adobe Acrobat
- SnagIt
- ActiveInspire
- OpenShot Video Editor
- OBS Studio
- Social Media Platforms
- Video Production Tools

References

Available upon request