BRIAN A. MILLER

Curriculum Vitae

Ypsilanti, MI bmllr@umich.edu

EDUCATION

Yale University

Ph.D. in Music | Theory concentration 2020
Dissertation: "Enminded, Embodied, Embedded: The Concept of Musical Style from Leonard Meyer to Machine Learning"
Advisor: Brian Kane

M.Phil. in Music Theory 2017
M.A. in Music Theory 2016

University of Kansas

M.M. in Music Theory 2014
Thesis: "Exploring Tonal Substitutions in Schubert's Late Sonata Forms"
Advisor: Scott Murphy

B.S. in Computer Engineering 2011

PROFESSIONAL APPOINTMENTS

Lecturer I, Program in Computing for the Arts and Sciences, University of Michigan 2023–present

General Programmer/Analyst, University of Michigan Institute for Social Research 2021–2023

Lecturer, Department of Music, Yale University 2020–2021

PUBLICATIONS

"Language, Gesture, Style: Adorno's Theory of Musical Reproduction between Musicology and Art History." In *Dialektik der Schrift. Zu Adornos Theorie der musikalischen Reproduktion*, Julia Freund, Matteo Nanni, Jakob M. Schermann, and Nikolaus Urbanek, eds. Wilhelm Fink-Verlag. 2022

"Digital Scores, Algorithmic Agents, Encoded Ontologies: On the objects of musical computation." In *Material Cultures of Music Notation: New Perspectives on Musical Inscription*. Floris Schuiling and Emily Payne, eds. Routledge. 2022

"Leonard Meyer's Theory of Musical Style, from Pragmatism to Information Theory." *Resonance* 2.4, special series on music and cybernetics edited by Eric Drott and Christopher Haworth. 2021

"'All of the rules of jazz': Stylistic Models and Algorithmic Creativity in Human-Computer Improvisation." *Music Theory Online* 26.3 (September 2020). 2020

"Rethinking Replication in Leonard Meyer's Theory of Musical Style." In *The Oxford Handbook of Music and Corpus Studies*. Edited by Daniel Shanahan, Ashley Burgoyne, and Ian Quinn. NY: Oxford University Press. forthcoming

CONFERENCE PRESENTATIONS

"Provocations from music on human-AI interaction." Machine as Medium Symposium: Mind and Spirit. Yale Center for Collaborative Arts and Media. New Haven, CT 2023

"Leonard Meyer's Theory of Musical Style, from Pragmatism to Information Theory." Special session on Music and Cybernetics, American Musicological Society Annual Meeting (online due to COVID-19) 2021

"Open Source Creativity: Google as Computer Music Institution." Society for American Music Annual Conference. Tacoma, WA (online due to COVID-19) 2021

"The Puzzle of Style: On Leonard Meyer's Unlikely Replications." Society for Music Theory National Conference. Columbus, OH 2019

"From Pragmatism to Information Theory: Leonard Meyer, Musical Style, and the Origins of Corpus Studies." Recursions: Music and Cybernetics in Historical Perspective. Edinburgh, UK 2019

"Language, Gesture, Style: Adorno's Theory of Musical Reproduction between Musicology and Art History." Music, Writing, Difference: An Interdisciplinary Conference on Adorno's Theory of Musical Reproduction. Vienna, Austria 2019

"Jazz, but with Robots: Style and Aesthetics in Human-Computer Improvisation." Society for American Music Annual Conference. New Orleans, LA *(winner of the Mark Tucker Award for outstanding student paper)* 2019

"Algorithmic Agents, Musical Objects, and Mediated Styles: Reframing Computational Music Theory." Society for Music Theory National Conference. San Antonio, TX 2018

"On the Turing Test and the Entailments of Style: Jazz Robots, Metapragmatics, and Improvisation." Midwest Music Research Collective Fall Conference. Lawrence, KS 2018

"Algorithmic Agents, Encoded Ontologies, and Digital Corpora: On the Objects of Computational Music Theory." Material Cultures of Music Notation: An Interdisciplinary Conference. Utrecht, Netherlands 2018

"Meter and Continuity in Stravinsky's *Symphonies of Wind Instruments."* Buffalo Graduate Music Symposium. Buffalo, NY 2015

"Coding Schenker: Case Studies in Cadence Detection" (poster). Fourth International Conference on Mathematics and Computation in Music. Montreal, QC — 2013

"Coding Schenker: Case Studies in Cadence Detection" (paper). Midwestern Music Cognition Symposium. Columbus, OH — 2013

INVITED PRESENTATIONS AND WORKSHOPS

"Jazz with Robots: AI and Improvisation". Invited expert contribution to "AI for Creative Work" MOOC, U-M Center for Academic Innovation. *In production* — 2024

Teaching Digital Arts Online: Integrating Programming and Graphic Design to Foster Creative Expression. Harmonize Webinar, online, April 2024 — 2024

LSA Faculty Roundtable: GenAI, Ethics, and the Future of Education. University of Michigan, online, April 2024 — 2024

"Making music with AI: an introduction to tools and platforms". Technology Meets Creativity: A Workshop on AI and Creative Arts. University of Michigan Arts Initiative and MIDAS. Ann Arbor, MI, March 2024 — 2024

"Music and AI". Guest presentation for COMPFOR 101 – The Transistor Disruption, Prof. August Evrard, University of Michigan, November 2023 — 2023

The Future of Musical Knowledge in the Age of Machine Learning, Workshop participant. Center for Interdisciplinary Research, University of Bielefeld, Germany, April 2023 — 2023

TEACHING

University of Michigan

COMPFOR 111 – Computing's impact on justice: from text to the web — 2023-2024

COMPFOR 121 – Computing for creative expression — 2023-2024

COMPFOR 304 – Synthesis to Streaming: Music in Digital Culture — 2024

Yale University

MUSI 210 & 211 – Studies in Analysis and Composition I & II — 2016–2017
Tonal music theory sequence covering harmony, part-writing, form, model composition

MUSI 218 – Elementary Musicianship I — 2017
Aural skills and keyboard lab

MUSI 110 – Introduction to the Elements of Music — 2019
Notation, rhythm, scales, keys, melodies, and chords, including writing, analysis, singing, and dictation. Western popular and art music

MUSI 172 – Music in Words: Controversy, Critique, Invective — 2020

A writing seminar examining controversies over questions of musical authenticity and identity in popular music, Western art music, and jazz.

As teaching fellow and/or lab instructor:

MUSI 450 – Music and Multimedia 2018
Focusing on Max/MSP and related technologies

MUSI 100 – Melody, Rhythm, and Notation in Global Context 2020
Develops skills in singing, hearing, and writing music through repertory-based case studies of improvised and written melody in global ritual song traditions

University of Kansas

MEMT 116 | *primary instructor* 2012–2014
Introduction to music technology, covering production software (iMovie, GarageBand), notation software, and basic web design

HONORS, AWARDS, AND GRANTS

Race & Ethnicity Course Development Summer Grant, University of Michigan, LSA DEI Office and LSA Curriculum Committee 2024

5x5 Humanities Collaboratory grant: Music and AI, University of Michigan 2024-2025

LEO Professional Development Fund, University of Michigan 2023

Finalist, Society for Music Theory Emerging Scholar Award (article) - "'All of the rules of jazz'" in *MTO* 26.3 2021

Yale University Graduate School Alumni Fellow 2020–2021

Society for American Music, Mark Tucker Award for outstanding student paper 2019

Whitney and Betty MacMillan Center for International and Area Studies at Yale Conference Travel Grant (x2) 2019

Yale Graduate School of Arts and Sciences Conference Travel Fellowship (x3) 2018, 2019

Andrew W. Mellon Foundation Summer Writing-in-Residence Dissertation Working Group and professional development grant, Yale University 2018

M.M. Oral Exam passed with distinction, University of Kansas 2014

Rummer Design Award for best undergraduate senior design project in computer engineering, University of Kansas 2011

WORKING GROUPS AND COLLABORATIVE RESEARCH PROJECTS

Sound and Technology Working Group, Consortium for the History of Science, Technology, and Medicine | *co-convener* 2021–2024

Yale Sound Studies Working Group | *co-convener* 2016–2020

Yale Black Sound and the Archive Working Group | *member* 2017–2019

"Black Sound, Improvisation, and Computer Music." 2018
An ongoing digital archive for Yale's Black Sound and the Archive Working Group. https://blacksound.yale.edu/bsaw-exhibition-start-here/black-sound-improvisation-and-computer-music-brian-miller/

The Lost Voices Project | http://digitalduchemin.org 2015
Coding and data management for similarity network visualizations, comparing cadences in a book of 16th-century polyphonic songs.

Duet-on-Pitch: Dual pitch-tracking technology 2010–2014
The University of Kansas Information and Telecommunication Technology Center
Programming support (Java, Objective C), iPhone app development, musical arrangements and encoding. Supervised by Prof. David Petr.

SERVICE

U-M Program in Computing for the Arts and Sciences Curriculum Committee 2024–present

Peer reviewer, *Music Theory Online* 2021–present

Society for Music Theory Professional Development Committee | *member* 2019–2022

Yale Office of Career Strategy, Graduate Professional Development Program Manager 2021

Fundamentals of Teaching Music workshop, Yale Center for Teaching and Learning | *participant* 2017

Yale Department of Music Professional Development Committee 2016–2017

Yale Department of Music Guest Lecture Committee 2017–2020

Yale Graduate Music Symposium | *Program Committee, Website and program design* 2018

Yale Graduate Music Symposium | *Session Chair and Program Committee* 2016

OTHER SKILLS

Languages

- French: reading knowledge and basic proficiency
- German: reading knowledge

Qualifying exam areas

- Computational and corpus-based approaches to music
- Critical theory, and Adorno's reception in music scholarship

Computer programming and data science

Python (including music21, tensorflow, pandas), Snap!, Stata, C/C++, Javascript, Max/MSP, and various other languages.