JUSTIN KEROBO

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EDUCATION

Virginia Polytechnic Institute and State University

iPh.D. in Human-Centered Design   **Expected 2026**

- Dissertation: Designing Physiological Connections in Artificial Intelligence: Integration of an AI collaborator into a musical ensemble for group aesthetics and control using biofeedback with affective states

Wayne State University

MM in Music Composition and Theory   **May 2022**

- Thesis: Sounding Africanfuturism: Compositional Influence from Artificial Intelligence and Aesthetic Discernment for Biological Guide to the Stars – Binti
- This thesis documents the implementation of compositional techniques and computer-aided composition. With connections to artificial intelligence, Artificial Intelligence Augmentation (AIA) has benefits for musical creativity and computer-aided models in music composition developments in neural networks and deep learning. Aesthetic grounds in the interdisciplinary study of musical generation with AI take root in science fiction writings as a constant reimagining of how humans can better interface with synthetic systems for use. Synaptic, electric, and frenetic connections consistently inform a traditional humanoid vibrantly interfacing with technological connections on a sensible level and relating to the senses, if not biological. Philosophical inquiries into redefining and retaking the agency of the works made within futurism, specifically, Africanfuturism, breathe life into aesthetic imaginings of musical futurity.

Earlham College

BA in Computer Science and Music, focus on Computer Music, Integrated Pathway in Digital Arts   **May 2019**

- Thesis: "SonoSpatial Walk," a 3D audio sequencer in the form of a Max Collective, that allows for creating and editing soundscapes in a 3D space for sound and musical recognition. The collective uses MIDI, Jitter, and HOA Library.

AWARDS

ICAT Student SEAD Grant	2023 – 2024
Graduate School Master's Scholarship, Wayne State University	2021 – 2022
Activity Award Scholarship, Wayne State University	2021
Dean's Diversity Master's Scholarship, Wayne State University	2020 – 2021
Earlham Engagement Award, Earlham College	2018 – 2019
Cunningham Scholarship, Earlham College	2015 – 2019

TEACHING AND ADVISING

Virginia Polytechnic Institute and State University

Graduate Research Assistant – Office of Naval Research – VT Waves STEM Program   **2022 – Present**

- Organized field trips for K-12 students to visit Virginia Tech for research.
- Creation of Wave Physics and Music modules in Pd-L2Ork.
- Assistance in creating research reports submitted to the Office of Naval Research.
- Management of undergraduate students, teachers, and administrators.

Adjunct Faculty – Digital Sound Manipulation (MUS 3064) – School of Performing Arts – Spring 2026   **2026 – Present**

- Designed and taught an upper-division course focused on digital sound recording, editing, synthesis, and live sound manipulation, integrating technical skill development with creative practice.
- Developed curriculum addressing the historical, technical, and aesthetic impacts of digital sound technologies on electronic music, film, web audio, and live performance
- Instructed students in hands-on audio production workflows, including digital recording, editing, sequencing, mixing, and sound processing on personal computers.
- Taught visual and text-based programming approaches to sound synthesis and processing using open-source tools such as Pure Data and SuperCollider.
- Guided students in designing and building custom sound manipulation tools and instruments for creative applications.
- Supervised and assessed a range of creative projects, including fixed-media compositions, collaborative live performances, multimedia sound design, and student-defined final projects.

- Emphasized project-based learning through technical exercises, iterative creative assignments, and documented sound design portfolios.
- Integrated freely available and industry-relevant software (Audacity, Reaper, Pure Data, SuperCollider) to ensure accessibility and real-world applicability of course skills.
- Fostered interdisciplinary exploration by encouraging students to apply digital sound techniques to film, web media, performance, and individualized creative research.

Wayne State University
Graduate/Teaching Assistant – to Professor Ronald Kischuk "History and Styles of Rock 'n' Roll"   **2021**
- Observed lectures\discussions and reviewed and graded all discussion sessions.

Earlham College
Resident Assistant   **2016 – 2018**
- Mentored and managed students to make sure they thrived academically and socially.
- Required to be aware of what's going on for the safety and welfare of hundreds of students.
- Helped fulfill student requests that provided valuable culture in a classroom environment.

RELATED EXPERIENCE

Real Green Systems/WorkWave
Technical Support Technician   **2019 – 2022**
- Worked from October 2019 to August 2022
- Installs Service Assistant®, the number one service software and marketing tool for service industry companies created by Real Green Systems.
- Uses SQL databasing as the basis of the software and in correcting and troubleshooting customer problems and issues.

Earlham College
Independent Study (Pitch Shifting in MaxMSP)   **Fall 2018**
- Worked from August 2018 to December 2018
- Worked with Dr. Forrest Tobey, Professor of Music at Earlham College.
- Made multiple MaxMSP patches, all dealing with pitch shifting using various techniques that resolve sonic properties in a specific instance.
- Required immense knowledge of MaxMSP, audio synthesis properties, and Fourier Transform equations.

Earlham College
Automation/Production Manager (WECI 91.5 FM) – Richmond's Public Radio Station   **Fall 2016 – Spring 2018**
- Worked from August 2016 to May 2018
- Required to know all software and hardware in the Radio Station.
- Required to work on all the software and hardware in the Radio Station.
- Managed every aspect of the public radio, made playlists, and created promos.
- Must be on-call 24/7 to manage and help with requests to keep the station running smoothly.

PUBLICATIONS AND PAPERS

CONFERENCE PROCEEDINGS

- *J. Kerobo, "Computer Music as a Dispositif: The Compositional Influence of the Dispositif on Electro-Acoustic Works," Wayne State University, 2022, Detroit, Michigan.*
- *J. Kerobo, "A Wider Lens: Positing George Russell's Conception of Mode in a World Music Theory" Theorizing African American Music, Society for Music Theory, Case Western Reserve University, 2022, Cleveland, Ohio.*
- *J. Kerobo, I. Bukvic, "Exploring the Intersection of Affect and Musical Engagement to Define Affective Computing in Musical Collaboration," Psychology and Music – Interdisciplinary Encounters (PAM-IE 2024), 2024, Zagreb, Croatia.*
- *J. Kerobo, I. Bukvic, "Real-Time Human Classified Emotional MIDI Dataset Integration for Symbolic Music Generation," ICMLA 2024, 2024, Miami, Florida.*
- *I. Bukvic, *W. Furgerson, J. Kerobo, B. Davis, "Introducing WebPdL2Ork," International Conference on Auditory Displays (ICAD), 2025, Coimbra, Portugal.*
- *W. Furgerson, I. Bukvic, J. Kerobo, B. Davis, "WebPdL2Ork: Bringing the Linux Laptop Orchestra to the Browser," Linux Audio Conference, 2025, Lyon, France.*
- *I. Bukvic, W. Furgerson, B. Davis, J. Kerobo, "15 Years of L2Orkin' Around with Pd-L2Ork," PdMaxCon25, 2025, Urbana, Illinois.*

BOOK CHAPTERS

- *J. Kerobo, I. Bukvic, "Physiologically-Enhanced Emotional MIDI: Integrating Biometric Feedback with Symbolic Music Generation," Recent Advances in Deep Learning Applications, 2026, [in-review]*

COMPOSITIONS

- *CramRadio* – live telematic work for a laptop orchestra using L2Ork Tweeter software. 2025.
- *Interstellar* – live telematic work for a laptop orchestra using L2Ork Tweeter software, commissioned by the Alexandria, VA Office of the Arts. Involves projection mapping by Prof. Thomas Tucker. 2024.
- *Territorio Prismatico* – live telematic work for a laptop orchestra using L2Ork Tweeter. Retrieved from https://youtu.be/6oVbAWTlp-E?si=KUz6b2437q0IZ-hH. 2023.
- *8-Bit Petal* – live telematic work for a laptop orchestra using L2Ork Tweeter software. Retrieved from https://www.youtube.com/watch?v=hDMiE2OkGNA. 2023.
- *Transcontinental Grapevine* – interactive work for the Linux Laptop Orchestra's (L2Ork) L2Ork Tweeter platform that makes the work's strict EDM timing possible despite two groups of performers (total of 11) being over 5,000 miles apart (Blacksburg, VA, USA, and Buenos Aires, Argentina). A theme and variations based on the opening from Lane 8's "Grapevine" feat. Elderbrook. All the content is crowdsourced, or co-created by 11 participants, including instruments. 2022.

LANGUAGES

- English – native language
- Spanish – speak, read, and write with medium competence.

PROGRAMMING LANGUAGES

- C
- C#
- C++
- CSS
- HTML
- Java
- Javascript
- PHP
- Python
- SQL
- Lua
- MaxMSP
- Pure Data
- Pd-L2Ork

SOFTWARE

- MaxMSP
- Max for Live
- Jitter
- Pure Data
- MuseScore
- Reason
- Pro Tools
- Logic Pro
- Ableton Live
- Sibelius
- Ardour
- Lemur
- Pd-L2Ork

MEMBERSHIPS

Audio Engineering Society – Member
Society of Composers, Inc. – Member
Center for Human-Computer Interaction at Virginia Tech – Student Council President (2024 – 2026)

- CHCI 30th Anniversary Transportation Chair (Fall 2025)
- Oversaw the creation as a Virginia Tech Registered Student Organization. (Spring 2025 – Fall 2025)
- Ran the CHCI Student Council's Annual Research Symposium (Spring 2024 – Spring 2025)
- Ran the CHCI Hack-n-Yak (Spring 2024 – Fall 2025)
- Ran the CHCI Write Club (Spring 2024 – Fall 2025)
- Ran a student organization with over 30 graduate and undergraduate students.

Center for Human-Computer Interaction at Virginia Tech – Student Council Member/Advisor (2026 – Current)
L2Ork Tweeter Community – Member

Linux Laptop Orchestra at Virginia Tech – Member

- Assistant Manager/Teaching Assistant – Linux Laptop Orchestra at Virginia Tech – (Fall 2022 – Summer 2025)
- Managed the L2Ork Tweeter Hackathon – (Spring 2024 – Spring 2025)

Virginia Tech Black Male Excellence Network – Member

Black Graduate Student Organization – Member