

Curriculum Vitae

Steven Lewis

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Education

**Doctor of Philosophy: Integrated Composition
Improvisation and Technology**
University of California, Irvine

September 2020 - June 2023
Irvine, CA

Research Dissertation:

*The Cybernetic “Trap” Kit: Augmenting the Mechanical Assemblage through an Engagement
with Computer Vision Technologies*

Advisor: Professor Michael Dessen

Areas of Specialization:

- Designing Interactive Performance Systems for Nonlinear Gestural Augmentation
- Designing New Interfaces and Virtual Instruments with Computer Vision and Artificial Intelligence Technologies
- Multimodal Performance Through Real-Time Audio and Visual Processing

Master of Music: Music Technology
New York University

July 2018 - May 2020
New York, NY

Graduate Research Thesis:

*Conceptualizing Game Environments as a New Medium for Procedurally Interactive
Computer Music*

Advisor: Professor Robert Rowe

Master of Music: Jazz Studies and Studio Music Production
University of Miami

August 2011 - May 2013
Coral Gables, FL

Graduate Research Thesis:

*Combining Live Sound Processing with the North Indian Percussive Tradition as the Basis
for an Experimental Jazz Drumset Vocabulary*

Advisor: Professor Stephen Rucker

Bachelor of Music: Jazz Studies
University of South Florida

August 2007 - May, 2011
Tampa, FL

Areas of Expertise

Audio and Visual Software Fluencies

- Max/Msp~/Jitter
- Ableton Live
- Reaper
- Gen
- Max For Live
- Soundation
- Resolume Avenue
- Logic Pro X
- Audacity
- TouchDesigner
- Pro Tools

Video Game-Related Software Knowledge

- Unity Game Engine
- Wwise Middleware
- Unreal Engine 5
- Tsugi Procedural Audio Synth
- Unreal Blueprints Visual Scripting

Relevant Programming Languages and Libraries Experience

- C#
- Max/Msp~/Jitter
- Javascript
- Python
- HTML/CSS
- Google Magenta
- Processing
- OpenCV

Research Topics of Interest

- Music Production for Linear and Non-linear Mediums
- Musical Cybernetics
- Electro-acoustic Instrumental Performance
- Live Digital Audio and Visual Signal Processing
- Musical Applications for Computer Vision Technologies
- New Interfaces for Musical Expression
- Building Interactive Audio Systems
- Nonlinear, Procedural Audio Design
- Game Audio Implementation
- Networked Audio Systems

Publications

Lewis, Steven. (2023, October). *The Cybernetic "Trap" Kit: Interface Design Considerations for Virtual Augmentation*. In *49th International Computer Music Conference Proceedings* (vol 2023).

Lewis, Steven. (2022, July). *Improvising Avatars: Conceptualizing Game Environments as a New Medium for Procedurally Interactive Computer Music*. In *48th International Computer Music Conference Proceedings* (vol 2022).

Lewis, Steven. (2022, June). *Designing Interactive Systems for Non-Linear Drumset Improvisation*. In *New York City Electroacoustic Music Festival Proceedings, NYCEMF 2022*.

Lewis, Steven (2020, March) *The Effect of Environmental Noise Pollution on Aesthetic Soundscape Preferences in Urban Environments*. In *Society of Electro-Acoustic Musicians in the United States Proceedings, SEAMUS 2020*.

Selected Conference Appearances

International Computer Music Conference 2023

October 2023
Shenzhen, China

Paper Title:

*The Cybernetic “Trap” Kit:
Interface Design Considerations for Virtual Augmentation*

Society for Electro-Acoustic Music in the United States Conference 2023

April 2023
New York, NY

Composition Title:

[*Ephemeral Frontiers*](#)

International Computer Music Conference 2022

July 2022
Limerick, Ireland

Composition Title:

[*Welcome to the Wilderness*](#)

International Computer Music Conference 2022

July 2022
Limerick, Ireland

Paper Title:

*Conceptualizing Game Environments as a
New Medium for Procedurally Interactive Computer Music
and Virtual Performer Hybridity*

New York Electro-Acoustic Music Festival 2022

June 2022
New York, NY

Composition Title:

[*Ephemeral Particulate:
Motion Controlled Acoustic Augmentation for Drumset*](#)

Society for Electro-Acoustic Music in the United States Conference 2022

March 2022
Kalamazoo, MI

Composition Title:

[*A Certain Way of Discourse: Multimodal Motion Tracking
for Live Instrumental Processing*](#)

New York Electro-Acoustic Music Festival 2021

June 2021
New York, NY

Composition Title:

[*Mutual Arising: Experimenting with remote
performance practices using motion tracking, graphic score notation, and interpretive
improvisation.*](#)

International Computer Music Conference 2021

July 2021
Santiago, Chile

Title:

[*Algorithmic Composition: Their Spirits Dwell in Mainframes*](#)

Game Sound Con 2020

October 2020
Los Angeles, CA

Paper Title:

*Conceptualizing Game Environments as a
New Medium for Procedurally Interactive Computer Music
and Virtual Performer Hybridity*

New York Electro-Acoustic Music Festival 2020

June 2020
New York, NY

Composition Title:

*Think of One: Constructing Experimental Sound Materials From
a Jazz Drumset Vocabulary*

Game Sound Con 2019

October 2019
Los Angeles, CA

Paper Title:

*Aesthetic Considerations and Technical Optimizations for
Procedural Sound Prototyping*

Commissions

University of Toronto

Toronto, CA

School of Music, [TaPIR Lab](#)

[Resident Creative Technologist](#)

September 2022 - May 2023

Title:

The Illusion of Separateness

- Directly collaborated with percussion students at the University of Toronto to realize a composition that used computer vision and real-time audio processing technologies within an interactive music system.

University of California, Irvine

Irvine, CA

Claire Trevor School of the Arts, *School of Music*

[Medici Circle Scholar](#)

June 2023 - September 2023

Title:

The Cybernetic "Trap" Kit

- Developed a sensor-based, interactive music system that leverages emergent computer vision and machine learning technologies to create a virtual augmentation of the drumset. The broader goal of this project was to help establish partnerships between progressive musicians and skilled technologists so that both parties can explore the sonic potentialities of working with cutting edge, emergent technologies.
- Collaborators included [Mark Ferber](#), [Jason Harnell](#), [Tina Raymond](#), and [Rodolfo Zuniga](#).

Selected Teaching Experience

Atlantic Music Festival

Waterville, MA

AMF Institute at Colby College, *Future Music Lab*

Resident Music Technology Instructor

July 2022 - July 2023

- Provided instruction for Max/Msp~ programming, Max 4 Live, and Ableton to advanced performers and composers.
- Demonstrated concepts to integrate micro-controllers and sensors into students' personal performance practices
- Consulted with advanced students on specific designs for their upcoming interactive performances premiering at the festival.

University of California, Irvine

Irvine, CA

School of Music, *Claire Trevor School of the Arts*

Teaching Associate/Instructor of Record

January 2024 - April 2024

MUSIC 47: Interactive Performance Systems

- This course is focused on class programming computational systems specifically designed to automate musical processes that reflect West, South, and East African rhythmic patterns and musical practices.

Teaching Assistant

May 2020 - June 2023

Music Courses:

MUSIC 3: Introduction to Music (4 terms, Summer 2022, Fall 2022, Summer 2023 Session 1 & Session 2)

MUSIC 48: Music of Africa (1 term, Winter 2021)

MUSIC 51: Music and Computers (2 terms, Fall 2020, Fall 2021)

MUSIC 147: Computer Music Programming (1 term, Spring 2021)

MUSIC 147: Introduction to Max Programming (1 term, Winter 2022)

Art Courses:

ART 12a: Art and Electronic Culture (1 term, Winter 2023)

New York University

New York, NY

Steinhardt School of Education, Culture, and Human Development

Teaching Assistant

January 2020 - May 2020

Courses:

Seminar in Composition: Composing for Piano Trio and Electronics

Associate Audio Production Technician
Clive Davis Institute of Recorded Music (NYU)

May 2018 - May 2020

- Provided audio recording assistance and instruction to undergraduate students, including software and hardware recording, signal-flow troubleshooting, and post-production assistance in stereo, 7.1 surround sound, and Dolby Atmos formats.
- Facilitated the recording experience for undergraduate classroom projects using Neve 5088, API 2448, and SSL K-Series mixing consoles.
- Conducted workshops in
- Maintain facility's recording schedule and equipment inventory lists.

Appointments and Fellowships

Graduate Student Researcher

Irvine, CA

University of California, Irvine, *Claire Trevor School of the Arts*

Gassmann Production Assistant

January 2020 - June 2024

- Collaborated with the Head of the [Gassmann Music Series](#) and other Graduate Student Researchers to provide technical support for live musical events, and to improve the technological infrastructure related to the Gassmann Music Series and other music production research facilities at the Claire Trevor School of the Arts.

[21st Century Art and Research Grant](#)

Irvine, CA

University of California Irvine, *Claire Trevor School of the Arts and the Beall Center for Art and Technology*

Student Grant Recipient

January 2021 - March 2023

- Worked with the Unity Game engine, Max/Msp~, and the Rokoko Smart Gloves to create an immersive environment for the purposes of interactive improvisation between live musicians and digital avatars.

[DTEI Graduate Fellowship](#)

Irvine, CA

University of California, Irvine, *Division of Teaching Excellence and Innovation*

Summer Graduate Fellow

June 2022 - September 2022

- Collaborated with graduate students and faculty mentors at UCI to discuss best practices in inclusive teaching and learning, develop course curriculum that cultivates equitable learning environments through innovative engagements with technology.
- With the guidance of my faculty mentor, Professor Mari Kimura, I programmed a package of 20 modular audio processing software devices intended to be used with the Mugic® Microcontroller in Max/Msp~ and Javascript, including all digital signal processing and interface designs.
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[Graduate Dean's Dissertation Fellowship](#)

Irvine, CA

University of California, Irvine, *Division of Graduate Studies*

Fellowship Recipient

July 2023 - September 2023