James Wenlock

jameswenlock.github.io
wenlojk@gmail.com

Education

University of Washington, Seattle WA
Major: Computational Auricular Acoustics
Minor: Digital Arts
Class: 2020 | **GPA:** 3.74

Relevant Coursework
    Sound in Space | DXARTS 567
    Digital Sound | DXARTS 460, 461, 462
    Mechatronics | DXARTS 470, 471, 472
    Computer Programming | CSE 142, 143
    Data Structures and Algorithms | CSE 373
    Programming Concepts and Tools | CSE 374
    Nature of Sound | SPHSC 261
    Hearing Science | SPHSC 461

Skills

- Software (Adept) -
React, Javascript, HTML5, CSS, Tone.js, Python, Java,
Supercollider, Reaper, Ambisonic Toolkit (ATK), Arduino,
Processing, Adobe Audition, Fl Studios

- Software (Familiar) -
D3.js, Pixi.js, C, Linux, Bash, C++, Python, JUCE, Git,
TensorFlow, Netlify, Flexbox, Bootstrap, Matlab, EEGStudio,
Photoshop, Pixlr, Digital Performer, Logic, Pro Tools, Adobe
Premiere, Ableton Live, Adobe Lightroom, Aperture, Photokey 8

- Digital Signal Processing -
Stereo Imaging, Ambisonics, FM/AM Synthesis, Delay Lines, Reverb
Structure, Additive/Subtractive/Granular Synthesis, Time Segment
Processing, Filter Design

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Experience

Encephalophone, Seattle WA
Audio Developer | Research Associate
August 2017 – Present

Device that turns brainwaves into music
- Featured on VICE news, TEDx, DR1, the Seattle times
- Built prototype system and GUI in supercollider that
  converted brain data into musical information that triggers
  either built-in instruments or external midi devices.
- Training algorithm that collects data on users note
  accuracy
- Wrote performance interface allowing for two parapalegic
  Ecephalophonists to play music live together and with
  musicians
- Currently developing VST that allows brain data to be
  transmitted as midi in any digital audio workstation

Cipher – Collectable Hip Hop, Milwaukee WA
React Front End Developer | Algorithmic Beat Maker
January 2021 – September 2021

Start up creating a platform for rappers to create and mint
hiphop NFTs on the Ethereum blockchain from their web browser
- Used tone.js and React to build user interface and backend
  for generative hip hop algorithm and MiniDAW (Mini Digital
  Audio Workstation).
- Features include:
    - Four genres of unique hip hop beats generated on the
      fly in browser
    - Voice recording
    - Interface for mixing, mastering, and vocal effects

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    - Wav file export

Star Sounder, Seattle WA
React Front End Developer | Research Assistant
January 2021 – Present

Interactive Star Sonifications
  - Wrote python script that resamples and sonifies time series
    data from Kepler telescope via direct synthesis process.
  - Built responsive website using react, netlify, D3.js and
    wavesurfer.js that allows users to explore and listen to
    over 1800 star sonifications. Features include:
      - Zoomable HRD diagram
      - Interactive waveform display
      - Search and filtering functionality
      - Adjustable volume and playback rate

Ventriloquist Ontology, Seattle WA
Research Associate
January 2021 – Present

Robotic dress that takes over the wearer's body and converts
them into a puppet with movement dictated by speech generated
via machine learning
  - Wrote script for scraping and processing legal data from
    the web
  - Developed software to hardware communication protocol using
    BLE (Bluetooth Low Energy)
  - Created GUI (Graphical User Interface) for controlling
    linear actuators on wearable dress
  - Made SuperCollider script for playing back text data
    generated via a Natural Language Processing model(GPT-2).

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RealMoreReal, Seattle WA
Community Organizer | Sous Chef |
June 2019 – Present

On the planning committee for various projects organized by the Real More Real Art Brand. *Sous Chef* for Cambient: Ambient Camping Sound Residency 2021.

1000 Words Events, Tacoma WA
Photobooth Technician
June 2017 – Present

Setup, teardown, and operation of various photobooths. Adept knowledge and usage of current digital imaging technologies.

Circularity Accounting, Seattle WA
Research Associate
July 2021 – December – 2021

Machine learning system designed to take an image of any object and determine the amount of carbon dioxide produced from its supply chain.
- Trained a seq2seq model that took strings of supply chain objects and converted them to carbon values
- Wrote python script for parsing training data

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Center for Digital Art and Experimental Media
Teaching Assistant
September 2017 – December 2020

Teacher's assistant for the digital sound series (DXARTS 460, 461, 462) and Introduction to New Media (DXARTS 200)
- Taught/assisted with classes on electroacoustic composition and other advanced synthesis
- Built MainParadigm: project management system for composable supercollider code

Voices and Voids , Seattle WA
Researcher
January 2020 – August 2020

A series of performative artifacts challenging AI and ML technologies
- Built supercollider script that allows for playback of mechanical turk workers speech recorded from dialog with Alexa and google devices.

We Are Made of Light, Seattle WA
Algorithmic Composer
June 2018 – December 2018

Perpetually generating ambisonic sound composition for interactive art installation.
- Featured in the Seattle Times, City Arts and the Stranger
- Winner of the **Lumen Prize** in the 3D/Interactive Category.

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Banya 5, Seattle WA
Spa Attendant | IT technician
August 2018 - June 2020

Maintained facilities, provided customer support, assisted with technical issues at the Banya 5 Urban Spa

University of Washington Recreation
Mindfulness Assistant
January 2018 - March 2019

Assistant for UW mindfulness program - a service which provides year round yoga and meditation classes to students and faculty.
- Responsibilities include: tabling, record keeping, and activity coordination for events in support of the program

DreamWorks, Eagle Rock CA
Assistant to Composer
July 2016 - May 2017

Audio editing and sound file organization for DreamWorks Netflix series, Veggie Tales: In The City

Awards

Lumen Prize - 3D/Interactive Award for We Are Made of Light
Europe's Third International Spatial Audio Competition - Finalist for 3rd order Ambisonic piece: Three Changes
Tacoma News Tribune 2015 All Star Graduate
Scottish Rite Scholar

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Performances/Installations

Music of Today - Until Spring - Ambisonic concert featuring: Three Changes
Music of Today - Performing with the Brain - Concert featuring two quadrapalegic performers making music with their brain via the Encephalophone and midi enabled grand piano backed by a jazz ensemble. (Designed interface and music technology)
Machines of Survival - Art exhibition exploring the topics of the anthropocene, transhumanism and non-human agents.
We Are Made of Light - Award winning interactive light installation featured at the Mad Art Exhibit in Seattle

Talks/Presentations/Papers

The New Music Ecosystem - Talk on brain music interfaces in relation to the business world.
Ambisonics and the ATK - Talk given for Audio Engineering Society on Ambisonic reverberator
Undergraduate Research Symposium - Poster on Ambisonic Tank Reverberator
User-Centered Design In and Beyond the Classroom: Toward an Accountable Practice - Paper reflecting on and arguing for use of user centered design in the classroom.

Projects

AmbiverbSC - Ambisonic tank reverberator built in the SuperCollider programing language using the the Ambisonic Toolkit
Bartholomew - Interactive sound sculpture that communicates via magnetism and vibration
Been Midnight - Wiley Soule - Debut EP - Mixing and audio editing
Cambient: Ambient Camping 2019 - Sound residency that brings together 22 people for 44 hours to conceptualize, produce, and record two sound art compositions in a natural setting
Look @ Me - Digital ecosystem composed of randomly generated profile picture amalgamations
SVF Filter - An implementation of the Chamberlain State Variable filter written in C++ using juce with assistance from Sean Costello (Valhalla DSP)

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PCE – Perpetually novel composing engine written in Supercollider

Mirror Bot – Autonomous robotic mirror that actively hides from onlookers

Meg and Siggy Go Swimming – **Short Film** – Mixing, mastering and audio editing

Three Changes – Award winning Holographic 3rd order Ambisonic composition

CMPFR.cc – Interactive Terminal built using react that allows for playback of a series of short stories depicting what the future might look like in the 22nd century