

Emmett Palaima

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Work Experience

Design Engineer and Programmer at J. Rockett Audio Designs

[08/17-Present]

Work remotely as a programmer and hardware engineer on design of effects pedals, including:

- Design and programming of DSP emulations of classic analog effects, including digital emulation of analog tape delay.
- Integration of analog and digital portions of designs, including modifying analog circuits such as preamps to work with digital elements.
- Skills Engaged: C, Microcontroller Programming (Sharc), KiCad, Electrical Engineering, Sound Design, Communication

Design Engineer and Programmer at Dwarfcraft Devices

[09/16-Present]

Work remotely as a programmer and hardware engineer on design of effects pedals and synthesizers, including:

- Design and programming of DSP based effects pedals, including phaser, ring mod, filter, and delay effects.
- Design and programming of modules for Dwarfcraft's flagship modular synthesis system, including a wave-shaping oscillator and a complex control signal generator.
- Design and programming of effects for Dwarfcraft installations, including phaser and delay programs for an interactive exhibit at the Children's Museum of Eau Claire.
- Design of digital components for integration into larger analog designs, including a wave-shaping LFO.
- Skills Engaged: C, Microcontroller Programming (Spin FV-1, PIC32, PIC16, STM32, ATmega), KiCad, Electrical Engineering, Sound Design, Communication

Berklee Electronic Production and Design Department Tutor

[01/17-07/17]

Worked as a tutor for the Electronic Production and Design (EPD) Department at Berklee College of Music including:

- Tutoring students in the EPD major in all areas of the curriculum, including use of Logic, ProTools and Ableton, as well as programming in Max/MSP, C and Csound.
- Tutoring first semester Berklee Students in concepts taught in music technology core curriculum including the use of Garageband and Reason.
- Skills Engaged: Logic, Garageband, Ableton, Pro Tools, Reason, Max/MSP, C, Csound, Communication, Instructional Skills

Programmer, Web Developer and Hardware Engineer at Point Motion

[09/16-07/17]

Worked on the development of Point Motion, a motion controlled music platform for music therapy, including:

- Design and programming audio features for the application, including effects rack with custom reverb, filter, delay and chorus effects.
- Designing and programming a data tracking backend for the application, which allows therapists to track their patients progress remotely
- Designing and programming a web based front end for data tracker
- Analog and digital design of a hardware controller for use with the application, and programming of the interface for communication between the application and the controller
- Leading a team of interns in projects relating to hardware design
- Skills Engaged: C++ (Including JUCE), JavaScript, React, Golang, SQL, Python, Linux, Electrical Engineering, Kicad, Communication, Team Leadership

Work Experience Continued

Design/Production Internship at Dwarfcraft Devices

[06/16-09/16]

Worked as a paid design intern at Dwarfcraft Devices, including:

- Beginning programming and design of modular synthesis project
- Soldering and wiring effects pedals from schematic diagram in production line
- Testing and repairing malfunctioning pedals returned by customers
- Skills Engaged: C, Microcontroller Programming, KiCad, Electrical Engineering, Sound Design, Soldering, Communication

Experimental Music Reviewer at MXDWN

[10/15-03/16]

Provided critical reviews of current experimental music albums for entertainment website MXDWN, including a review of David Bowie's final album, *Blackstar*.

Guitarist at Mother's Café and Garden Restaurant

[09/12-06/16]

Provided background music for patrons at Mother's Café and Garden, a local vegetarian restaurant, four nights a week.

Counselor at The Fantastic Magic Camp

[06/09-06/12]

Worked as a counselor at a non-profit summer camp specializing in inclusivity of special needs children, including:

- Directing a group of 10-15 campers in their daily activities and looking after their wellbeing
- Responding to parental concerns related to the individual needs of their children
- Skills Engaged: Team Leadership, Childcare, Providing for Special Needs Children, Communication

Additional Experience

The Returning of a One Who Must Be Loved

[2017]

Collaborated with Lane Shi on the design of a multimedia installation, which symbolically tells the story of the end of the world, beginning with the awakening of an ancient sea monster and culminating with the tears of a lost child. Contributions include design of a custom Raspberry Pi based motor automation system for moving projections and lighting in sync to music.

The Sound of Dreaming

[2017]

Took part in the production and performance of a piece entitled the "The Sound of Dreaming", headed by Nona Hendryx and Dr. Richard Boulanger, which premiered at Moogfest 2017 with a repeat performance at Mass MoCA. Contributions included developing a set of custom patches for my Csound based Vocal Effects Processor, which was prominently featured in the piece, as well as performing on bass and DJ equipment, learning and managing several alternate controller systems, and circuit-bending toys for use as sound-making props.

Reverb Plugin Design

[2017]

Designed and programmed a Reverb Plugin, implemented in Audio Unit and VST format. Included the design of a reverb algorithm and the creation of a unique feature set, as well as C++ implementation using the JUCE framework and the design of a custom GUI.

Additional Experience Continued

Firmware Programming for Csound Based Eurorack Module

[2017]

Programming of firmware on a Eurorack module that allows users to easily implement Csound patches in a hardware format, in collaboration with the modular synthesizer company Instruo, which provided the hardware design. Includes creation of an interface for easily uploading Csound patches, setting up control signal and audio input and output, as well as programming an LCD text display.

Design of Csound Based Multi-Effects Pedal for Guitar and Vocals

[2016]

Implemented the Csound audio programming language on the Raspberry Pi microware computer for processing audio in real time, a project which included designing appropriate amplification stages for both mic and line level input, setting up audio codec support, designing a custom midi controller to pass analog control values into Csound.

Education

Berklee College of Music, Boston, MA

[Graduated May 2017]

Graduated Summa Cum Laude with BM in Electronic Production and Design with a Minor in Acoustics and Electronics.

McCallum High School, Austin, Texas

[Graduated May 2013]

High school degree with music and performing arts concentration.

Skills

Programming

C, C++ (including JUCE Framework), Objective C, Javascript (including React framework), C# (including Unity), Golang, SQL, Python, Csound, Max/MSP, Linux (including Raspberry Pi), Assembly Language, HTML/CSS, Includes Experience Programming Microcontrollers and Embedded Processors (Sharc, SPIN FV-1, PIC32/16, STM32, ATmega, etc.)

Software

Proficient with Logic, Pro Tools, Ableton Live, Reason, Garageband, Xcode, Unity, Sigma Studio, TrueStudio, MPLAB X, Premiere, After Effects, Finale, Sibelius, Microsoft Office, Photoshop, GIMP

Music

Guitar (Electric and Acoustic), Vocals (lead and backup), Bass (Electric), Basic Keyboard, Production, Synthesis, Sound Design, DSP, Recording, Writing and Composition

Electronics

Circuit Board Layout, Production Line Experience with Soldering and Construction of Audio Hardware, Schematic and Circuit Board Reading, Oscilloscope Use, Effects Pedal Repair and Design, Guitar Electronics Repair, Microphone Construction, Studio Monitor Construction

Awards and Accolades

Hearst Scholarship

[2017]

Awarded the Berklee Electronic Production and Design Department Hearst Scholarship through faculty recommendation.

Berklee Achievement Scholarship

[2015-2017]

Awarded a scholarship in recognition of my musical, academic and extracurricular accomplishments at Berklee College of Music

Dean's List

[2013-2017]

Was selected for the Dean's List at Berklee College of Music for every semester attended