

Lucas Burkholder

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SUMMARY:

Engineer experienced designing audio software & hardware, seeking software development opportunities

EDUCATION

University of Miami, Coral Gables, FL

May 2023, **GPA: 3.9 / 4.0**

Bachelor of Science: Music Engineering Technology

Minor: Computer Engineering

- **Honors:** President's Scholarship, Provost's Honor Roll and Dean's List
- **Relevant Coursework:** Audio Signal Processing, Audio Software Development I and II, Algorithms, Computer Architecture, Microprocessors: Hardware, Software, & Interfacing, Data Structures, Transducer Theory, Audio Electronics and Digital Logic Design
- **Technical Skills:** Proficient in: Audio Plugin Development (JUCE/C++), object-oriented programming (C/C++, Java, Python), digital signal processing, embedded programming (Arduino, Teensy, Daisy Seed), MATLAB, Git, Verilog HDL, ARM assembly programming, audio recording/mixing (Pro Tools), video editing with Adobe Premiere, and web design.

WORK & LEADERSHIP EXPERIENCE

Contract Audio Software Developer

July 2023 – Present

- Designed digital model of an analog Pultec EQP-1A, including audio processing and GUI
- Wrote DSP framework using FFT-based fast convolution with impulse responses
- Modeled amplifier nonlinearities using MATLAB analysis of recorded test signals

Audio Software/Hardware Design Projects (<https://lucasburkholder.github.io/projects.html>)

- Created a variety of audio processing devices and plugins using JUCE, RackAFX, and microcontrollers
- Wrote DSP objects in C++ to be used in multiple projects
- Examples: hybrid digital/analog synthesizer, physical model-based guitar synthesizer plugin, digital bass guitar effect pedal, stereo widener plugin, RISC CPU design in Verilog HDL
- 2023 Audio Engineering Society Student Design Competition – Silver Award

Alert Innovation (<https://www.alertinnovation.com/>)

Andover, MA

Manufacturing Test Engineer Intern

June 2022 - August 2022

- Improved documentation for configuration and provisioning of Product IT server
- Helped contract manufacturer to streamline receiving of IT products

Mobius Mobility (<https://mobiusmobility.com/>)

Manchester, NH

Audio/Video Intern

May 2021 - June 2022

- Work with video contractors, capturing footage to be used in iBOT® PMD user training videos
- Set up a training website using LearnDash, helping expand the iBOT training program nationwide

Website Designer (example: <http://maffamusic.com/>)

March 2019 - Present

- Designed responsive websites for businesses and individuals, helping their brand come to life
- Used HTML5, JavaScript, and CSS with the Bootstrap framework, implementing contact forms with PHP and SQL

NextLVL Music

Lexington, MA

- Started successful DJ, Music Production, and Recording business with several repeat clients
- Hire and train DJs and Emcees to put on larger events and ensure they run smoothly

University of Miami Recording Services

Coral Gables, FL

Lead Recording Engineer

September 2019 – May 2023

- Record and mix live recitals and concerts, helping musicians get their best possible sound

AWARDS, ACTIVITIES & INTERESTS

Awards: Eagle Scout Award, AES Student Design Competition 2023 (Silver Award)

Activities: Social Fraternity Alpha Sigma Phi, Music Production/DJ Club