

Lucas Burkholder

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SUMMARY:

Engineer experienced designing software & hardware, seeking product 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 I and II, Data Structures, Programming, Digital Logic Design, Circuit Theory, Processors: Hardware, Software, & Interfacing, and Algorithms (Fall 2022)
- **Technical Skills:** Proficient in: Simulink, real-time digital signal processing (MATLAB, C), object-oriented programming (C++, Python), Audio Plugin Development (JUCE/C++), embedded programming, (ARM, Qualcomm Hexagon), ARM assembly programming, audio recording/mixing (Pro Tools)

WORK & LEADERSHIP EXPERIENCE

Bose Corporation (<https://www.bose.com/>)

Framingham, MA

DSP Engineer - Consumer Products

August 2024 - Present

- Wrote DSP algorithms for wearable and out-loud products in C and MATLAB
- Designed and developed internal software tools to facilitate product DSP and firmware development
- Develop firmware/DSP for ADAPTiQ, a room acoustics correction algorithm on the next generation soundbar

Algorithms Software Engineer Co-op

January 2024 - August 2024

- Profiled new implementations of Simulink DSP blocks to assess the potential for improved performance
- Adjusted MATLAB code generation tools, optimizing algorithms to use vectorization and buffer re-use

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: bass guitar effect pedal, stereo widener plugin, hybrid digital/analog synthesizer, physical model-based guitar synthesizer 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 and building a training website for the iBOT® PMD

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

Interests: Music Production, Game Programming, Electronic Circuit Design