Ryan Laur

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ELECTRICAL ENGINEERING

Seeking a full-time position in electronics, audio, FPGA, and embedded systems

Senior year BSEE student at the University of Florida, and President Emeritus of the Audio Engineering Society with well-developed experience in the fields of electronics, digital design, and audio. Highly driven to combine knowledge of electrical engineering, audio engineering, programming, and signal processing to further my career and passion.

EDUCATION

University of Florida — Gainesville, FL — Dec, 2023
BS Electrical Engineering — GPA: *3.40/4.00*

Miami Dade College — Miami, FL
AS Music Business/Creative Production

Relevant Coursework:
- Digital Design
- Electronic Circuits 2
- Real-time DSP App.
- Signals and Systems
- Microprocessing App.
- Reconfigurable Computing 2

Student Involvement: Teaching Assistant for Digital Design and C++, Liquid Propulsion Team

TECHNICAL SKILLS

Languages: SystemVerilog, VHDL, Verilog, C++, JUCE, MATLAB, Embedded C, Python, Assembly, Java, Bash, Unix-Shell

Skills: I2C, SPI, Oscilloscopes, DMM, DVM, Spice, LTSpice, Waveforms, UVM, Intel DevCloud, Arria 10 PAC, Timing Closure/Optimization, RTL Design, Xilinx Vivado, Modelsim Altera, Intel Quartus, Code Composer, Atmel Studio, Altium, Linux, Bash, Power Electronics, Scripting, Object Oriented Programming, Simulink, Audio Precision, Shell Scripting, Audio Precision, Machine Learning

PROFESSIONAL EXPERIENCE

Texas Instruments — Tucson, AZ
Digital Design Engineer Intern — Jun, 2023 - Sept, 2023
- Worked with the precision ADC team to create robust constrained random verification testcases in SystemVerilog
- Improved UVM infrastructure and achieved complete functional/code coverage for DV audit

Bose — Framingham, MA
Voice Acoustics/DSP Co-op — Jan, 2023 - Jun, 2023
- Researched earbud noise suppression and speech quality, using objective metrics to identify improvement areas
- Improved infrastructure and automation capabilities for Audio Precision measurements and listening tests, while expanding knowledge on beamforming and machine learning techniques

Miller Electric — Appleton, WI
Intern - Electrical Engineer, Power Electronics — May, 2022 - Aug, 2022
- Researched FSK/PSK modulation techniques with the development team
- Applied modulation over 300 ft. industrial weld cables using different power topologies
- Performed real-time signal processing and analyzed signal-to-noise vs. bit-error trade-offs

Deep in the Bass Clouds — Gainesville, FL
Technical Director — Jun, 2015 - Mar, 2021
- Handled investment, logistics, A/V technology concerns, and artist rider equipment acquisitions

The Kitchen — Miami, FL
Post-Production Audio Mixer (Dubbing) — May, 2013 - Dec, 2016
- Responsible for recording talent/mixing audio to specification (Cross-platform MAC OSX/Windows PC)
- Submitted finalized formats with special attention to regional loudness specifications and server hierarchy

PROJECTS

Genetic Algorithm - ARC Lab Research — Aug, 2022 - Nov, 2022
- Developed bitmask simplification and schematics for a fully compacted binary tree
- Performed timing optimizations, debug, and verification targeting a Stratix 10

1-D Time-Domain FPGA Convolution — Nov, 2021 - Dec, 2021
- Created a DRAM DMA Interface on the Zedboard FPGA across clock domains
- Implemented a convolution pipeline consisting of 16-bit multipliers and an adder tree
- Performed testbenching in simulation and emulation on the board using C++ via a remote server

Multi-band Harmonic Distortion — Nov, 2021 - Dec, 2021
- Created a harmonic distortion effect on the C2000 F2837xD with GUI controller via UART
- Designed a digital equalizer and applied distortion across bands based on a preset menu created with JUCE

Analog+Digital Modular Synthesizer — Apr, 2021 - Nov, 2021
- Created and led a hardware design team of 10 students to build a modular synthesizer
- Developed an oscillator and designed a PCB in Altium based on the SSI2130 IC

VST Plugin Design — Jun, 2021 - Jul, 2021
- Led a software development team to design VST plugins for audio processing applications
- Developed a cascading effects plugin with animated GUI in C++(JUCE)
- Placed top 5 in the 2021 AES Student Competition to build a VST plugin using MATLAB

LEADERSHIP EXPERIENCE

President of the UF Audio Engineering Society — Mar, 2021 - Apr, 2022
- Scheduled events and technical seminars focused on electrical/computer engineering and career readiness
- Managed hardware and software design teams, including social meetups and workshops