Ezenia Diaz-Lembert

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EDUCATION

Harvard University | Cambridge, MA | GPA: 3.549 *Sep 2020-Mar 2025*
Bachelor of Science in Electrical Engineering
IES Abroad - Music History and Performance Program | Vienna, Austria *May 2023-Jul 2023*

Relevant Coursework: "Design of VLSI Circuits and Systems", "Advanced Mixed-Signal CMOS Circuits", "Computer Hardware", "Signals and Communication", "Engineering the Acoustical World", "Circuits, Devices, and Transduction"

TECHNICAL PROJECTS AND SKILLS

Programs: SystemVerilog, Virtuoso, Allegro System Capture, Cadence (Layout), LTspice, MATLAB, Simulink, Python

Dynamic Equalization Algorithm *Jan 2024-Dec 2024*

- Designed a real-time adaptive filter for personalized music equalization as a senior capstone project.
- Used a Convolutional Neural Network and spectral feature extraction on input audio signals for dynamic equalization.

MIPS Multicycle Processor *Jan 2023-May 2023*

- Designed and implemented a datapath and control unit for a multicycle processor in SystemVerilog.
- Tested stimulation and created testbenches, and synthesized onto an FPGA.

WORK EXPERIENCE

BOSE Corporation | Framingham, MA *Jan 2025-Present*
Global R&D Consumer Systems and Architecture Co-op

- Designing Simulink models for FPGA simulation and synthesis in Linux environment.
- Designing biquad filter models to emulate headset fits for FPGA-in-the-loop applications in testing and automation.
- Integrating external high-speed converters onto FPGA design for real time testing.
- Validating Simulink model FPGA deployment with an oscilloscope and waveform generator.

Eaton Corporation | Moon Township, PA *Jun 2024-Aug 2024*
Electrical Engineering Intern

- Developed C code in IAR Tool to improve Total Harmonic Distortion computation accuracy from 7th to 39th current harmonics for the PCD-Air Circuit Breaker team.

BAE Systems | Merrimack, NH *Sep 2023-Jan 2024*
Electrical Engineering Intern

- Conducted analog circuit design and analysis, simulations, and PCB layout for the Mixed Signal Integrated Circuit department.

Halo Braid | Cambridge, MA *Aug 2023-Sep 2023*
Electrical Engineering Intern

- Developed a motor control system using an Arduino for an automatic hair braiding system for black hair.
- Leveraged encoders and mechanical rotation device parameters to optimize braiding pace, improving efficiency by 50%.

LEADERSHIP, COMMUNITY INVOLVEMENTS, AND MEMBERSHIPS

The Harvard-Radcliffe Veritones | Cambridge, MA *Nov 2021-Aug 2024*
Social Chair/Alumni Coordinator

- Organized events such as a 35th anniversary concert for more than 75 alumni and members of the a cappella group. Won first place at the International Championship of Collegiate A Cappella 2023 Quarterfinals Competition.

Harvard SEAS Society of Hispanic Professional Engineers | Cambridge, MA *Sep 2020-Dec 2023*
Corporate Liaison Officer

- Organized accessible events and group initiatives for the Harvard SHPE chapter, including Latinx underclassmen/upperclassmen STEM talks and Problem Set nights. Managed communications with corporate partners.

Harvard First Year Retreat Experience (FYRE) | Cambridge, MA *Aug 2021-Nov 2021*
Team Leader

- Oriented 12 incoming first-generation/low-income students on Harvard's academic and support resources as they transitioned into college. Solidified community by leading group activities over a 4-month period.