

Emilio A. Magaña

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EDUCATION

Oregon State University | Bachelor of Science in Electrical and Computer Engineering Graduated June 2021

- ❖ GPA: 3.52/4.0
- ❖ [Minor in Computer Science](#)
- ❖ *Related Coursework:* Power Electronics, Digital Logic Design, VLSI, CMOS, Computer Architecture, Signal and Systems

EXPERIENCE

Product Engineer Oct. 2021 - Jan. 2024

[Lattice Semiconductor](#) | Hillsboro, OR

- My main role consisted of being in charge of validating and characterizing IP associated with our product. This included:
 - Wrote documentation of methodology for validation and characterization.
 - Worked Closely with all aspects of FPGA IPs but mainly on: I/O's, PLL's, OSC's.
 - Development of behavioral patterns using Verilog through our in-house design software: Radiant.
 - Bringup, maintenance, and automatization (Python) of bench.
 - Created detailed statistical visuals between spec and performance of product using R.
 - Interpreted Chip and PCB layouts for testing.
- As part of the PDE team, Worked with Customer issues/JIRA (internal and external) in providing solutions and data.
- Small Projects involving:
 - BSCAN/JTAG, Thermal Studies

Teacher's Assistant/Head TA Jan. 2019 - Mar. 2019

[OSU, ECE Department](#) | Corvallis, OR

- Coordinated lab sessions for ECE 112: Introduction to Electrical and Computer Engineering. Made sure that students were on task in doing their lab work, along with creating weekly quizzes and holding office hours.

PROJECTS

HV Peripherals Oct. 2020 - Mar. 2021

[Global Formula Racing](#) | Corvallis, OR

- As part of my capstone, I joined the Global Formula Racing team at Oregon state. The Global formula racing team is a joint effort between OSU and DHBW Ravensburg, and competes every year by building a race car to compete in FS and FSAE competitions. I contributed to the following aspects of the project:
 - The High voltage peripherals for the ePowertrain sub-team within GFR, which included updating the cars DC-Link board and Brake System Plausibility Device (BSPD).
 - The DCL board was able to discharge the maximum system current **2627% faster** than the allotted maximum given time under FS regulations and **50% faster** under FSAE regulations (max. time for both rule sets is 15s).
 - The BSPD was able to **"restart the car" 11.6s** after no implausibility being present under FS rules (min. time being 10s) and remained indefinitely turned off under FSAE rules.

SCARA Robot Arm Jan. 2020 - Mar. 2020

[Junior Design](#) | Corvallis, OR

- Programmed a SCARA Robot Arm, with three other classmates, capable of drawing a 10-inch straight line within 2.5 seconds and being able to sort a single layer of coins using an Arduino, a Jetson Nano, and a custom made PCB.
- My contribution lay in the coding of the SCARA's motion, using Python and Arduino Ide.

SKILLS & LANGUAGES

Languages: Python, SystemVerilog, Verilog, R, C/C++, Bash, LaTeX, Tcl

Lab Equipment Proficiency: DTG, Oscilloscope, Voltage Supply, Thermal Oven/Stream, DMM

EDA tools: Eagle CAD, LtSpice, Cadence

Conversational Languages: Spanish (fluent, Oregon Seal Of Bilingual), German (Conversational)