# 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, 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.

**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 US coins into their proper slots of the enclosure 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, 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 Biliteracy), German (Conversational)