Emilio A. Magaña

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EXPERIENCE

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.

Crew Member Aug. 2018 - Dec. 2018

Qdoba | Corvallis, OR

- Regular Restaurant responsibilities: maintaining store cleanliness, working the line at a quick pace, taking calls, using the register, and doing dishes in the back.

Crew Member Jan. 2018 - Apr. 2018

Papa Murphy's | Corvallis, OR

- Regular Restaurant responsibilities: maintaining store cleanliness, working the line at a quick pace, taking calls, using the register, and doing dishes in the back.

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 and Brake System Plausibility Device (BSPD).
  - As part of the shutdown circuit in keeping the driver safe from harm, the BSPD activates when too much power is delivered to the motors, and if the driver is pushing on the brakes past a certain threshold, communicating that there is a fault in the brakes, shutting the car down.
  - The DC-Link board contained a Powerstage, TSAL and Discharge modules, each with their own functionality.

SCARA Robot Arm Jan. 2020 - Mar. 2020

Junior Design | Corvallis, OR

- For Junior Design my teammates and I were tasked with building and programming a SCARA Robot Arm that would be controlled with an Arduino using a Jetson Nano for computer vision, along with a custom made PCB. The SCARA Robot Arm would have the functionality to draw a 10-inch straight line within 2.5 seconds (with a margin of error within ±0.25 inches) and be able to sort a single layer of US coins into their proper slots of the enclosure.
- My contribution was seen in the coding of the SCARA's motion, in Python Script and Arduino Ide, using coordinates from a Cartesian plane based on the area where the robot arm would be operating on as the input.

EDUCATION

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

- GPA: 3.52/4.0
- Minor in Computer Science

SKILLS & LANGUAGES

Languages: System Verilog, C/C++, Bash, LaTex, Python
Circuit building and testing: VLSI, CMOS, Power Electronics, RTL gate level design, Standard EE lab equipment
Simulation & PCB Design: LtSpice, Eagle CAD, Cadence
Conversational Languages: Spanish (fluent, Oregon Seal Of Biliteracy), German (Conversational)