Emilio A. Magaña

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Education

Oregon State University — September 2017 - Present
B.S. Department of Electrical and Computer Engineering
GPA: 3.42

Employment Experience

OSU, ECE Department — Corvallis, OR, January 2019 - March 2019
Teacher's Assistant/ Head TA

- Coordinated lab sessions for ECE 112: Introduction to Electrical and Computer Engineering.
- Made sure that students were on task in doing their lab work. Made weekly quizzes for the lab sections, and held office hours for students to come in and ask questions over the material covered in the lecture.

Qdoba — Corvallis, OR, August 2018 - December 2018
Crew Member

- Worked the line at a quick pace, serving customers and working the registers as well as answering phone calls. Other responsibilities included: taking inventory and keeping up the cleanliness of the store.

Papa Murphy's — Corvallis, OR, January 2018 - April 2018
Crew Member

- The main duties to the store were to: make fresh pizzas, work the register, answer phone calls, clean the store, prepare dough, as well as taking inventory.

Technical skills

EE: SystemVerilog, FPGA, Quartus, ModelSim

CS: C/C++, LaTex, Assembly, Python, Arduino

Projects

SCARA Robot Arm

- My team built and programmed a SCARA 2-link robot arm with the functionality of being able to draw a 10 inch straight line within 2.5 seconds along with a coin sorting algorithm using computer vision. The SCARA was controlled by an FPGA board (DE1-SoC Development Kit), an arduino, as well as a custom made pcb that our team designed.
- My contribution lied 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. Two different angles would be outputted and translated into steps for the stepper motors to take using inverse kinematics.
- The main challenge to coding the arm was figuring out how to control the speed of each of the motors so that the straight line would meet our engineering requirement of keeping the straight line within ±0.25 inches.

Relevant Courses

- Digital Logic and Design
- Electronics I/II
- Data Structures
- Signals and Systems I/II
- Junior Design I/II
- Transmission Lines

Achievements

- Dean's list spring term 2019
- Oregon Seal of Biliteracy

Extracurricular

- Treasurer for the Computer and Electrical Engineering Club at Oregon State
- Engineers Without Borders Member
- The Society of Hispanic Professional Engineers Member