NANCY MORALES

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EDUCATION

Oregon State University - Bachelor of Science, Electrical and Computer Engineering September 2017 - Present
Anticipated Graduation Date: June 2021
Relevant Courses: Data Structures, Electrical Fundamentals 1-3, Electronics 1 and 2, Signal and Systems 1 and 2, Intro to Computer Networks, Transmission Lines, Power Electronics, Power System Analysis, Electromechanical Energy Conversion, Electric Vehicles

TECHNICAL STRENGTHS

Hardware: Oscilloscopes, Digital Multimeter, Soldering, Electronic Load Machine, Frequency Response Machine, Digital Logic and Design, AC and DC Analysis
Software: C++, C, Python, Latex, Microsoft Office Suite, System Verilog, MATLAB, R
Fluent Languages: English and Spanish

WORK EXPERIENCE

Bonneville Power Administration - United States Department of Energy Vancouver, WA
Student Trainee (Electrical Engineer) *June 2020 - Present*

- Analyzed forecast accuracy for Variable Energy Resources within BPA territory and created technical document on improvements
- Assisted team member with data organization of wind plants within Bonneville Power
- Tested solar calculator that measures the irradiance and potential KW production for the Las Vegas Area
- Researched other forms of renewable energy in the Pacific Northwest such as the PACWave project
- Conducted 12 informational interviews and attend 9 meet and greet meetings

Oregon State University - School of Electrical and Computer Engineering Corvallis, OR
Undergraduate Teaching Assistant *January 2019 - December 2019, March 2020 - June 2020*

- Lectured two courses every week with topics ranging from basic circuit terminology to analysis of a DC circuit using batteries, capacitors, inductors, and resistors
- Graded 24 quizzes on weeks there was no lab. There were 3 labs each term with students working in pairs of two, thus 12 lab packets were graded during the week 3, 5 and 7.
- Delivered each lecture by adjusting language and pace for each topic depending on the class
- Prepped the lab room with materials and equipment when needed
- Was there whenever students needed help understanding what to do for a lab, explained topics students were unsure of, or help with their homework during office hours

Energy Trust of Oregon Portland, OR
Solar Program Intern *June 2019 - September 2019*

- Reviewed solar application process and identified unnecessary steps. Utilized that information to update program implementation manual
- Reviewed solar application for completeness and compliance with Energy Trust Solar Program requirements. Entered project information into Solar program's project tracking and customer relationship software. Evaluated residential solar payments to ensure the check went to the correct solar contractor
- Identified errors and made data corrections to internal project tracking and customer relationship systems
- Connected with 30 employees through informational interviews

Migrant Leadership Institute Corvallis, OR
Migrant Leadership Assistant *June 2018 - July 2018*

- Informed migrant high school students from the state of Oregon during this weekly summer bridge program about what it takes to be a leader for themselves and their community.
- Provided encouragement to students to complete high school and start thinking about higher education as one of their next steps after high school
- Led a small tech activity each week for every session to provide exposure for students on how to use editing software for storytelling. The basis of the tech activity was that the students had to tell their story in English or Spanish about what they learned from attending the leadership institute
- Corresponded with parents of the 30-40 students attending the leadership institute that week to ensure that their child was still attending and any last-minute questions or concerns they had about the program

PROJECTS

Surface Mounted Power Supply
Installed components to board as an example of a well designed PCB, provide a platform for testing and characterization, and to allow for building skills in PCB assembly and modification

Persistence of Vision Wand
Developed and implemented a POV system powered by a microcontroller and LED's that can display a 7+ word in a group.

Audio Band Visualizer
Designed and built an audio visualizer system that will take in an audio signal from a microphone and display its signal strength in at least 3 bands.

Bombus: The Box That Buzzes
Designed and tested power regulation on music box that contained RGB LEDs, a speaker, and MAX10 FPGA with ADC, DAC, and SDRAM onboard. Also developed audio input for system to collect tones of user via singing or playing an instrument.

Energy Efficient Digital Tap Handle
Main programmer of the prototype of a digital tap handle that takes in accelerometer data of the handle and transmits the data via Bluetooth Low Energy to a hub. From there the data is sent to a web server as a .CSV file.

HONORS AND AWARDS

Educational Opportunities/College Assistance Migrant Program Honor Roll — Fall 2017 - Present

EXTRA-CURRICULAR

Member of Louis Stokes Alliance for Minority Participation — (2017 - Present)
Member of Educational Opportunities Program — (2017 - Present)
Member of the Society of Hispanic Professional Engineers — (2017 - Present)
Volunteer at Oregon State Resi-Store — (2018 - 2020)
Emerging Leaders Intern Alumni — (2019 Cohort)
College Assistance Migrant Program Alumni — (2017 - 2018 Cohort)