Victor M. Lopez Rodriguez

• www.linkedin.com/in/VictorLopezRodriguez • https://vmlopezr.github.io/Portfolio
• (832) 341-5870 • vmlopez.r@outlook.com

Core Technical Skills

Front End: React.js, three.js, Angular, Ionic Framework, HTML5, CSS
Back end: Python, Node, SQLite
Other: C, C++, Shell script, Batch script, LabVIEW, TINA-TI, LTSpice

Engineering Experience

Summit ESP, A Halliburton Company — Controls Engineering Co-op
Tulsa, Oklahoma **August 2018 - May 2019**

- Developed a kivy python front-end application for test, validation and logging of up to 32 pressure transducers, reducing test completion time by 90% down to 1 hour. (Python, SQLite)
- Created a raspberry pi modbus server to store live pressure transducer data retrieved via SPI peripheral. (Python)
- Constructed a batch script that configures ethernet routers via SSH protocol to establish ethernet communications in multi-drive well-sites. (Batch Scriping, Teraterm)
- Built ladder logic on an Idec FC6A+ PLC to enable ModbusTCP in Summit Products for use in ethernet networks. (Ladder Logic)
- Redesigned the existing LabVIEW Product test to replace serial communications with ModbusTCP. Thus allowing stesting of the new company instrument and data logging to SQLite databases. (LabView, SQLite)

Lyondellbasell, Houston Refinery — Electrical Engineering Co-op
Houston, Texas **May 2019-August 2019**

- Developed an excel dashboard depicting the electrical sub-system to be used for capital and long term planning.
- Discovered the susceptibility of two critical 12KV motors to insulation failure by identifying increasing negative polarity trend in Partial Discharge monitoring data.

Projects

WS2812 Modular Display:
https://github.com/vmlopezr/modular-ws2812-display-esp32 **August 2019 - May 2020**

- Developed phone application that supplies real-time data to ESP32 microcontroller via websockets. (React Native)
- Established firmware to configure an ESP32 access point as well as led display driver state machine. (C++, ESP32)

RaspberryPi Dashcam:
https://github.com/vmlopezr/rpi-dashcam **August 2019 - Present**

- Constructed Shell script to configure a wireless Access Point and install the Real Time Clock. (Shell Script)
- Developed website application served from a raspberry pi which records videos and provides livestream via a NodeJS server. (TypeScript, Ionic Framework, Node JS)
- Created a docker image for easy installation on raspberry pi 3b/4b. (Docker)

OWI Robot Arm Model:
https://github.com/vmlopezr/owi-arm-model **April 2020 - May 2020**

- Designed a 3D model of a OWI robot arm to visualize the motion of a 4-rotation joint robot arm. (React.js, three.js)
- Vizualize forward kinematics by allowing control of the joint parameters/angles.

OWI Robot Arm Color Sorting:
https://github.com/vmlopezr/ECE5330_6311_Final_Project **November 2019 - December 2019**

- Developed embedded program controlling an OWI Robot arm with an STM32F4 microcontroller. (C, STM32)
- Developed OpenCV Python program for color detection. Camera positioning data transferred through USART peripheral via DMA controller. (Python)

Education

- **University of Houston** **May 2020**
  Dual Degree, B.S. Electrical Engineering, and B.S. Mathematics - **CGPA: 3.6, EGPA: 3.57, MGPA: 3.81** *Houston, TX*