

VERONICA MEDRANO

1807 Vaquero St. Friendswood, TX, 77546 (915)-740-6007 veronicanoe12490@gmail.com

LinkedIn: <https://www.linkedin.com/in/veronica-medrano-1b57a7112/>

Portfolio: <https://vnoelifant.github.io/>

PROFESSIONAL EXPERIENCE

QUALIFIED TECHNICAL SERVICES

Houston, TX

NASA Gateway L2 Flight Software Test Engineer

June 2022 – Present

- Developed a Python application to manipulate and merge over 200 test procedures in one file to enable efficient filtering of desired data; saved project 45 hours of manual test procedure assessment work
- Wrote 20+ Human-in-the-Loop (HITL) off-nominal integrated software test scenarios to increase software validation test coverage for the Lunar Gateway Space Station
- Presented solution to streamline software testing processes using pytest-bdd behavior-driven (BDD) framework that would cut the execution and setup time by 2x compared to previous projects
- Collaborated with external software development team to setup a RESTful API interface for test environment using an RPM (Red-Hat Package Manager); reduced lab environment setup time by 40 hours

MRI TECHNOLOGIES

Houston, TX

NASA Viper Rover Avionics Systems Engineer, FPGA Verification Lead

March 2020 – June 2022

- Received NASA Excellence Recognition Award for developing the Viper Rover Avionics ICD (Interface Control Document) and V&V (Verification and Validation) plan to meet aggressive project deadlines
- Developed and maintained automated workflow for verifying and validating Motor Controller FPGA design code using Jenkins Pipeline scripts, VUnit (HDL unit testing framework), and Subversion
- Entrusted by NASA customer lead with overseeing Avionics team of 20 during his 3-month leave; reported weekly status/schedule to Rover Project Management, managed staffing/tasking, drove technical issues to closure
- Streamlined task management processes using JIRA and Confluence integration

HARRIS CORPORATION, GEOSPATIAL SYSTEMS

Clifton, NJ

Software Systems Engineer

April 2017 – April 2018

- Developed test data generation scripts and SoapUI mock web service responses to verify display software for GPS OCX (Global Positioning System Next Generation Operation Control System)
- Wrote Gherkin-based human readable test procedures and associated Python code under a BDD (Behavior-driven development) framework
- Led 6 software engineers in successful completion of integration and test phase under tight schedule; assisted with debugging in the Front-End (User Interface) and Back-End (server/database)
- Wrote portable Python program to parse metric data log dates dynamically, measure plot times, and analyze statistics to verify a critical display software performance requirement

BOEING SATELLITE SYSTEMS

El Segundo, CA

Lead Systems Engineer, Integration and Test Engineer

January 2014 – April 2017

- Awarded for leading team of approximately 30 multi-discipline engineers to execute a hybrid (SRR, PDR, CDR) Technical Design Review within schedule and budget for a closed area program
- Developed innovative fail-safe in-orbit payload analysis for Intelsat 29e, influencing future Intelsat in-orbit test campaigns
- Led Intelsat 35e payload engineering test team in closure of unit integration test phase
- Reviewed and analyzed Inmarsat and Intelsat satellite payload test data and telemetry, contributing to successful data sell-offs
- Executed and debugged critical software-driven payload in-orbit and ground system tests for Mexsat-Morelos 3 satellite
- Tested various Mexsat terminal-types in fast-paced, on the field and testbed environments at customer sites in Mexico

L-3, MISSION INTEGRATION DIVISION

Greenville, TX

Co-op Electrical Design Engineer

January 2012 – August 2012

- Collaborated with a team of eight engineers to design the lighting system of a special mission aircraft

PROJECTS

PYBITES PDM (PYTHON MENTORING PROGRAM)

Houston, TX

Python Web Application Developer

September 2022 – Present

- Developed an application that enables users to easily search for a movie or TV Show to watch based on various criteria
- Developing an application that allows a user to conveniently search for charities based on philanthropic interests; created a heat map to highlight underserved regions using Python's Folium data visualization library

NAO AND COZMO, ROBOTS THAT INFER YOUR FEELINGS, MSR PROGRAM

Evanston, IL

Graduate Student Researcher, MSR Final Project

June 2019 – December 2019

- Developed a speech and tone recognition system on the Nao robot that successfully infers a human's feelings without having to ask the human directly; utilized Naoqi and IBM Watson APIs
- Enhanced final project by adding facial expression recognition and a smiley face on Cozmo's OLED screen

SAWYER, THE ARTIST, MSR PROGRAM

Evanston, IL

Graduate Student Researcher

December 2018

- Programmed Sawyer the Robot to detect and draw faces using ROS; team awarded first place in Robotics competition
- Developed the face detection algorithm using Python and Haar Classifiers in OpenCV

REAL-TIME MULTIMODAL SIGNAL PROCESSING

Evanston, IL

Graduate Student Researcher

May 2019

- Developed a Python application to process multimodal signals (physiological with audiovisual) into SSI (Social Signal Interpretation), a framework that offers tools to record and analyze human behavior in real-time
- Integrated a real-time emotion recognizer based on acoustic properties of speech using the tool emovoice

MINI ROBOT CAR WITH PYTHON AND RASPBERRY PI

Los Angeles, CA

Hobbyist

May 2015-July 2015

- Built and tested robot using Python and Raspberry Pi
- Implemented user control functionality by running device via keyboard and mobile device

EDUCATION

NORTHWESTERN UNIVERSITY, MS IN ROBOTICS, GPA: 3.27

Evanston, IL

September 2018 – September 2019

TEXAS A&M UNIVERSITY, BS IN ELECTRICAL ENGINEERING

College Station, TX

Graduated in top 10% with 3.4 GPA

September 2008 – December 2013

SKILLS/TOOLS

- Systems Engineering, Test Automation, Agile (Scrum), CI/CD, DevOps
- Python, Django, VHDL, Verilog, Gherkin, Batch/Bash Scripting, Groovy, SQL
- pytest, pytest-bdd, Jenkins, VUnit, RESTful Web Services, SoapUI, Gitlab
- Git, Github, Subversion (SVN)
- Jira, Confluence
- Robot Operating System (ROS), CMake, Gazebo, Rviz, V-REP, OpenCV, SSI (Social Signal Interpretation)
- Embedded Programming (PIC, Raspberry Pi, Arduino)
- HTML, CSS, JavaScript, Tailwind CSS, Bootstrap, jQuery
- Windows, Linux (Ubuntu, Red-Hat, CentOS)

ACTIVITIES/INTERNATIONAL EXPERIENCE

- Led Robotics team in demoing Sawyer, The Artist project to high school and middle school girls at Northwestern Career Day for Girls on February 23, 2019
- **New York/Chicago Cares:** Delivered meals to homeless/disabled communities, motivated children to prepare for Special Olympics, entertained homeless children of battered mothers seeking employment
- **The Green Program in Iceland:** Collaborated with diverse capstone team to design autonomous control system that would decrease the risk of electrocution from solar panels