VERONICA MEDRANO

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PROFESSIONAL EXPERIENCE

MRI TECHNOLOGIES **Houston, TX**
Viper Rover Avionics Systems Engineer, FPGA Verification Lead *March 2020 – Present*

- 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

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)
- Python, Groovy, VHDL, Verilog, Gherkin, Batch/Bash Scripting, SQL
- Jenkins, VUnit, Cucumber, SoapUI
- Git, Github, Subversion (SVN)
- Jira, Confluence
- Robot Operating System (ROS), Gazebo, Rviz, V-REP, OpenCV, SSI (Social Signal Interpretation)
- Embedded Programming (PIC, Raspberry Pi, Arduino)
- Windows, Linux (Ubuntu)

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