Juan Luis Vasquez

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EDUCATION

Carnegie Mellon University — *GPA: 3.85/4.0*   Pittsburgh, PA
- M.S. in Mechanical Engineering - Advanced Study   May 2022
- Robotic and Control Systems Concentration

University of Southern California — *Cumulative GPA: 3.2/4.0*   Los Angeles, CA
- B.S. Electrical Engineering   May 2015

University of San Francisco   San Francisco, CA
- B.S. Physics   May 2013

PROFESSIONAL EXPERIENCE

Honeywell Scanning and Mobility   Fort Mill, SC
Graduate Student Intern   May 2021-August 2021
- Led test fixture design for Depth-of-Field testing for Honeywell scanners, which is now deployed globally
- Developed adaptable system architecture where all mechanical movements are driven via software
- Produced novel solution for commanding the scan engine of the devices by way of ADB commands from a terminal
- Drove software development in writing LabVIEW, Python and Android programs for full system automation

Lockheed Martin Rotary and Mission Systems   Moorestown, NJ
Radar Systems Engineer   April 2017-August 2020
- Contributed to design of a solid-state ground based radar for the MDA
- Supported R&D development of machine learning classification model using neural networks
- Led algorithm design and implementation for time sidelobe reduction via equalization algorithm
- Developed MATLAB and Python scripts to analyze radar data generated with high fidelity simulations
- Used high fidelity end-to-end C++ simulation tool to analyze and enhance capabilities of the radar
- Generated MATLAB model to determine parameter thresholds of radar to successfully meet requirements
- Worked on post-processing data analysis, extensive debugging, performance optimization, and automated testing

Lockheed Martin Space Systems Company   Sunnyvale, CA
Hardware Engineer   June 2015-April 2017
- Worked in specialty engineering as a hardware engineer for a defense missile program
- Became parts lead for R&D program ensuring all parts met requirements while maintaining performance
- Performed failure analysis of components across various programs, including FPGA's and crystal oscillators
- Communicated with manufacturers and testing facilities for adequate selection, testing, and procurement of parts
- Consulted subject matter experts (SME's) regarding different environmental tests to ensure mission success
- Conducted meetings with senior parts engineers, testing facilities, customers, and SME's
- Contributed to a closed-loop system design meant to facilitate and improve simulation capabilities of the missile

ACADEMIC PROJECTS

Moon Ranger, Carnegie Mellon University, 2021-2022   Pittsburgh, PA
- Participated in development of small autonomous robotic rover to be sent to the moon in search of lunar ice
- Supported avionics board designs, requirements and testing to ensure mission success
- Created test plans for all avionics boards to guarantee electronics endure the mission and perform as expected

CMU Build18 Hackathon: **CheGoChe,** Carnegie Mellon University, Spring 2022   Pittsburgh, PA
- Built an automated Go Board with computer vision, automated game logic, dispensers and a 2-link robotic arm
- Won "*Officer's Choice Award*" and "*NSA's Most Innovative Project, 2nd Place*"

Open Embroidery Machine, Carnegie Mellon University, Fall 2020   Pittsburgh, PA
- Built affordable, adaptable, open-source attachment to add embroidery capabilities to a sewing machine
- Lead Arduino software and python script development to coordinate movement of 2-axis linear system

SKILLS

Programming Languages: Python, Julia, C++, Objective C, Tensorflow, Keras, PyTorch, OpenCV, RTOS
Software: MATLAB, Simulink, LabVIEW, Arduino, Eclipse, Git, Solidworks
Operating Systems: Mac, Windows and Linux
Tools: Office 365 (Word, Powerpoint, Excel), Adobe Creative Suite (Photoshop, Illustrator, Premiere), Rhapsody
Languages: English (Native Speaker), Spanish (Native Speaker), French (Fluent)
Other: Laser cutting, 3D printing
Clearance: Secret Clearance
Professional Orgs: Professional Asian American Network, Hispanic Organization for Leadership and Awareness
Academic Orgs: Latino Graduate Student Association, Society of Hispanic Professional Engineers