

EDUARDO ISMAEL VACA

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EDUCATION

California State University, Fullerton

Bachelor of Science in Electrical Engineering.

Fullerton, CA

Expected in Fall 2026

Coursework: Calculus I-III, Linear Algebra, Physics I-III, C++, Circuit Analysis, Differential Equations, Field Theory, Transmission Lines

ENGINEERING EXPERIENCE

Naval Air Warfare Center Weapons Division (NAWCWD)

Electrical Engineering Intern

Point Mugu, CA

Jun 2026 – Aug 2026

- Conducting high-G testing on electronics using oscilloscopes to verify signal timing and switch operation.
- Updating engineering test procedures by observing test operations and documenting current processes.
- Conducting functional and threshold tests using specialized electronic test sets

Anaheim Public Utilities

Substation Group Intern

Anaheim, CA

Jan 2026 - Present

- Updated and maintained electrical substation drawings in AutoCAD using historical project records.
- Performed analysis of fuse size, protection coordination, and relay settings using ASPEN.
- Supported substation field visits to verify equipment and gain experience in utility operations.

Titan Rover

California State University, Fullerton, Controls Lead

Fullerton, CA

Jan 2025 – Dec 2025

- Led coordination across controls subteams to ensure reliable system performance and clear communication across electrical and software interfaces during rover development.
- Contributed to the design of the battery management system (BMS) with configurations of LiPo batteries to optimize power distribution and efficiency.
- Assisted in wiring and electrical integration for the rover prototype, ensuring proper connections and signal integrity with electrical multimeters across subsystems.

NOAA & Meteor M2-4 Weather Satellite Image Capture

Independent Project

Anaheim, CA

July 2025

- Designed and built a 137 MHz V-dipole antenna, achieving a 13 dB ($\approx 19\times$ increase) SNR improvement over a double-cross antenna baseline.
- Configured RTL-SDR with Gpredict for orbital tracking and used SatDump to decode NOAA APT (analog) and Meteor M2-4 LRPT (digital) images.
- Integrated LNAs and RF filters to reduce noise and improve signal quality across satellite passes.
- Captured and processed high-resolution weather imagery from NOAA APT and Meteor M2-4 LRPT satellites, validating antenna performance improvements.

PROFESSIONAL EXPERIENCE

Ray Roberts Realty

Leasing Agent

Los Alamitos, CA

Oct 2022 - Present

- Managed tenant communications and scheduling, improving efficiency of move-in/move-out processes.
- Coordinated inspections and vendor work, ensuring compliance with deadlines and requirements.

SKILLS

Programming Languages

C/C++ (embedded systems)

Tools & Platforms

AutoCAD, ASPEN, Arduino IDE, ESP32, Ansys HFSS, RTL-SDR, SatDump, GQRX, KiCad, GitHub, LabVIEW

Lab & Test Equipment

Spectrum Analyzers, Network Analyzers, Soldering, Oscilloscopes, Function Generators, Multimeters

INTERESTS

Research Interests: RF Engineering, Software-Defined Radios, Satellite Communications (NOAA, Meteor, GOES), Photonics, Optical Communications, Aerospace Systems, Remote Sensing, Embedded Systems, PCB Design

Personal Interests: Space and Satellite Tracking, Antennas