

Antonio Anzora Jr

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EDUCATION

California State University, Northridge

Northridge, CA

B.S. in Computer Engineering

Aug 2021 – Dec 2025

M.S. in Computer Engineering

Jan 2026 – Expected May 2028

TECHNICAL SKILLS

- **Programming:** C, C++, MATLAB, VHDL, MIP32 Assembly, Git/GitHub
- **Design and Tools:** KiCad, Fusion 360, GNU Radio, PSpice
- **Lab Equipment and Embedded Systems:** Oscilloscope, Function Generator, Digital Multimeter, ESP32, TM4C123

PROFESSIONAL EXPERIENCE

Research Assistant — SFS² Program

California State University, Northridge

June 2025 - Sep 2025

- **Simple Digital Communication System using Software-Defined Radio (USRP N210)**
 - Designed and implemented a digital communication signal chain in GNU Radio, including modulation, filtering, synchronization, and demodulation blocks
 - Analyzed signal distortion using time- and frequency-domain DSP techniques, improving demodulation reliability and link stability
 - Validated performance using SDR hardware and RF lab instrumentation
 - Evaluated MATLAB/Simulink and GNU Radio toolchains for SDR system modeling; selected GNU Radio for hardware compatibility and real-time testing.
- **Electrical Resistivity Tomography (ERT) System**
 - Designed and routed a custom multi-channel PCB in KiCad using 16×1 multiplexers to automate electrode switching, eliminating manual reconfiguration during resistivity measurements.
 - Built and validated experimental sensing setups, collecting resistivity data and correlating measurements to subsurface material properties and void detection.

PROJECTS

- **LOG — Wireless-Controlled Mobile Robotics Platform (LOG)**
 - Developed Wi-Fi controlled embedded system using ESP32, enabling real-time remote operation.
 - Designed motor driver and power regulation circuits to maintain stable performance under dynamic load conditions.
 - Iteratively prototyped drivetrain and chassis, redesigning components in Fusion 360 to improve manufacturability and structural stability.
- **Inter-Satellite Optical Communication (ISOC) System (Capstone / Team Project)**
 - Designed and routed portions of a 5-board modular PCB stack in KiCad built around an Arduino GIGA R1 WiFi, separating sensor, intermediary, and control boards to improve scalability and debugging.
 - Designed and routed a custom multi-channel PCB in KiCad using multiplexers for automated electrode switching, eliminating manual reconfiguration.
 - Performed DRC checks and validated PCB manufacturability, coordinating fabrication to ensure successful board production.
 - Built and tested sensing hardware, collecting resistivity data and correlating measurements to subsurface material properties.