

# DAWIT YERDEA

Santa Cruz, CA

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## EDUCATION

**San Jose State University, NSF NRT Fellow**, San Jose, CA

Fall 2024 - Present

*MSc in Electrical and Quantum Engineering, GPA: 3.76*

*Coursework:* RFIC & Analog Design, Quantum Computing Architecture, Computational Physics, Quantum Many-Body Physics, Passive Microwave, Low Temp. microwave measurements

**Colorado School of Mines**, Golden, CO

August - December 2025

*MSc in Quantum Engineering , NSF NRT Fellow exchange student for one semester*

**Wollo University**, Dessie, Ethiopia

July 2019

*B.Sc. in Electrical & Computer Engineering*

*Coursework:* Microwave Devices, DSP, Antennas, Optical Communication, Applied Electronics

## SKILLS

- Cadence SpectreRF, HFSS, Altium, Python, Oscilloscopes, Signal Generators, VNA, Multimeters, Troubleshooting, Assembling, Soldering, Electronics.

## EXPERIENCE

**Quantum Engineering Traineeship – NSF-NRT**, San Jose, CA

Aug 2025- Present

- Engaged in an NSF-funded [Quantum Traineeship Program](#)
- Recreating CryoLNA from literature—built the full schematic and hand derivations; now driving toward post-layout verification.

**Lawrence Livermore National Laboratory – Quantum Computing Workshop**, Livermore, CA

Aug 7–8, 2025

- Hands-on training in qubit fundamentals and lab methods (spectroscopy, Rabi, coherence, IQ readout) with exposure to silicon/superconducting hardware and noise mitigation.

**Stanford Linear Accelerator( SLAC)**, Menlo Park, CA

July 2025 - September 2025

*Electrical Engineering Intern (Controls and Instrumentation)*

- Developing control-layer software Python for real-time communication with magnets, RF cavities, and diagnostics.
- Assisting with signal testing and troubleshooting for bunch length monitor diagnostics at Sector 20.

**San Jose State University**, San Jose, CA

Jan 2025 - June 2025

*Graduate Teaching Associate*

- Teaching analog circuits lab to undergraduate students.

**Digital Dynamics**, Scotts Valley, CA

Nov 2022 - Jan 2025

*NPI Electronics Tech*

- Assembled and tested embedded fusion I/O controllers, RF matching, and temperature control systems
- Performed RF systems measurement and calibration using network and spectrum analyzer.
- Diagnosed and documented failure modes using lab instruments.

**SCIPP Lab, UCSC**, Santa Cruz, CA

Aug 2022 - Aug 2024

*Research Engineer Part-time*

- Conducted experiments of LGAD sensor at SLAC.
- Analyzed response of sensors to X-ray energies (6-70 keV).

**Selam Architecture and Design**, Ethiopia

Aug 2020 - 2021

*Application Engineer*

- Designed electrical power distribution using AutoCAD.
- Conducted field observations and recommended modifications.

**Fana Broadcasting Corp.**, Ethiopia

Dec 2018 - May 2019

*Electrical Engineer Intern*

- Assisted in signal analysis, troubleshooting, and integration of IP-based transmission.

## PUBLICATION AND PROJECTS

- **Publication:** Synchrotron Light Source X-ray Detection with Low-Gain Avalanche Diode, [arXiv:2306.15798](#), June 2023.
- Cadence Spectre Simulation of MOSFET  $f_T$  and  $f_{max}$  for high-frequency analog/RF design.
- Designed a 2.4 GHz LNA in a 45nm CMOS process using Cadence SpectreRF, optimizing gain, noise figure, and linearity.
- 2.45-GHz ISM Microstrip Radar Front-End Design (ADS + EM + Measurement+implement them on microstrip PCBs )
- A Cryogenic Broadband Sub-1-dB NF CMOS Low Noise Amplifier for Quantum Applications
- Fusion I/O Controllers, RF and plasma control products Assembly and Testing.