

DAWIT YERDEA

Santa Cruz, CA

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EDUCATION

San Jose State University - NSF NRT Fellow , San Jose, CA <i>MSc in Electrical and Quantum Engineering, GPA: 3.76</i> Coursework: RFIC & Analog Design, Quantum Computing Architecture, Computational Physics, Quantum Many-Body Physics, Passive Microwave, Low Temp. microwave measurements	Fall 2024 - Present
Colorado School of Mines , Golden, CO <i>MSc in Quantum Engineering, NSF NRT Fellow exchange student for one semester</i>	August - December 2025
Wollo University , Dessie, Ethiopia <i>B.Sc. in Electrical & Computer Engineering</i> Coursework: Microwave Devices, DSP, Antennas, Optical Communication, Applied Electronics	July 2019

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
<ul style="list-style-type: none">• 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
<ul style="list-style-type: none">• 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 <i>Electrical Engineering Intern (Controls and Instrumentation)</i>	July 2025 - September 2025
<ul style="list-style-type: none">• 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 <i>Graduate Teaching Associate</i>	Jan 2025 - June 2025
<ul style="list-style-type: none">• Teaching analog circuits lab to undergraduate students.	
Digital Dynamics , Scotts Valley, CA <i>NPI Electronics Tech</i>	Nov 2022 - Jan 2025
<ul style="list-style-type: none">• 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 <i>Research Engineer Part-time</i>	Aug 2022 - Aug 2024
<ul style="list-style-type: none">• Conducted experiments of LGAD sensor at SLAC.• Analyzed response of sensors to X-ray energies (6-70 keV).	
Selam Architecture and Design , Ethiopia <i>Application Engineer</i>	Aug 2020 - 2021
<ul style="list-style-type: none">• Designed electrical power distribution using AutoCAD.• Conducted field observations and recommended modifications.	
Fana Broadcasting Corp. , Ethiopia <i>Electrical Engineer Intern</i>	Dec 2018 - May 2019
<ul style="list-style-type: none">• 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.