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, Qiskit Metal, 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.
- Qiskit Metal + HFSS (cQED): Parameterized transmon/cavity layouts and eigenmode simulations (E-field maps, Q-factor); QDK-style library in progress.