

NEIL VAIDYA

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EDUCATION

B.S. Electrical and Computer Engineering, Minor in Business - University of Colorado Boulder Aug 2023 – May 2027
CU Esteemed Hale Scholar

Relevant Courses: Electronics Design Lab | Circuits as Systems | Programming Digital Systems | Microelectronics

SKILLS, AWARDS AND HONORS

- **Hardware:** Soldering, Welding
 - **Frameworks:** Arduino IDE, Qt Creator, STM32Cube, , Ubidots, MATLAB Simulink, Autodesk Fusion 360, KiCAD, SIMetrix SPICE Simulator, LabVIEW, NI MAX
 - **Programming Languages:** C, C++, Assembly, Verilog, Python, MATLAB, National Instruments
 - **CU Sustainability Ventures Challenge:** Runner-Up, **\$2000** Award for an innovative sustainability-focused project.

PROFESSIONAL EXPERIENCE

Electrical and Computer Engineering Intern

May 2025 - Aug 2025

Fort Collins, CO

- Built software enhancements for UPAS Calibrator and HHB Configurator apps using Qt (C / C++), automating calibration workflows and enabling macOS compatibility.
 - Engineered STM32 firmware for UART communication, live spec validation, and deadhead pressure averaging, improving calibration pass/fail reliability.
 - Resolved a critical UART bug impacting UPAS production calibration accuracy, boosting manufacturing consistency and reducing test retries by **40%**.
 - Diagnosed and fixed cross-layer serial/data issues, increasing system stability and ensuring end-to-end calibration integrity for deployed units by **20%**.

Laboratory Assistant

COLORADO STATE UNIVERSITY

Jul 2022 - Aug 2022

Fort Collins, CO

- Developed and deployed drone-based sensors to measure fire size, intensity, and emissions, improving smoke forecasting accuracy by collaborating on data collection and analysis.
 - Utilized the Airborne Wildfire Spectral Mapper to map fire areas and measure Fire Radiative Power (FRP), achieving precise data collection with lightweight, low-cost equipment adaptable to various platforms.
 - Conducted experiments using cross-track scanners and narrowband IR telescopes, measuring mid-wavelength and shortwave infrared radiation to assess fire temperatures with $\pm 10^{\circ}\text{C}$ accuracy.
 - Designed and implemented drone components, including lenses and photodiodes, integrating GPS and data acquisition systems to enhance environmental monitoring and research outcomes.

PROJECT EXPERIENCE

Thermal Fluids Lab - Fuel Cell Testbed

Aug 2025 - Present

Project Engineer

- Engineered and deployed a comprehensive data acquisition (DAQ) system for a hydrogen fuel cell testbed, enabling real-time performance analysis and characterization for advanced renewable energy research.
 - Integrated thermocouple, voltage, and current input modules with an **NI cRIO controller** and validated system accuracy against benchmark measurements, ensuring high-fidelity data for future experiments.

LEADERSHIP EXPERIENCE

President, AAEIO

Aug 2023 – Present

- Led executive board of **15+** members to organize cultural, academic, and networking initiatives for **50+** South Asian students, increasing active membership engagement.
 - Directed organizational strategy and sponsorship outreach, securing over **\$4,000** in funding to expand leadership programs and professional development events.