NEIL VAIDYA

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EDUCATION

B.S. Electrical and Computer Engineering, **Minor in Business** - University of Colorado Boulder **2023 – 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 - Present
ACCESS SENSOR TECHNOLOGIES *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 Jul 2022 - Aug 2022
COLORADO STATE UNIVERSITY *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 **±10°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.