

Calvin Lu Biography

My name is Calvin Lu, and I'm a senior in Electrical Engineering at the University of Nevada, Reno. I've developed a strong interest in embedded systems, environmental sensing, and building practical technologies that can handle challenging conditions. My academic goals are focused on improving my skills in circuit design, sensor integration, and system-level testing so I can contribute to real-world problems, especially those connected to space exploration and environmental monitoring. I learn best through hands-on experience and enjoy figuring things out by building and testing directly.

This year, I'm working on a project called ICE-R (Integrated Climate & Environmental Reader), a modular sensor platform designed to collect environmental data in harsh planetary environments. The system will include options for sensing radiation, atmospheric gases, and potentially subsurface water or ice, depending on the deployment. I'm also incorporating embedded AI to reduce bandwidth use by logging data only when something important happens. While the long-term goal is to create a flexible platform that can be adapted for different missions, my focus this year is on building a reliable prototype, testing it in Earth-based simulations like temperature swings and dust exposure, and comparing its performance to past NASA datasets. I see ICE-R as a foundation toward building smarter, adaptable sensing systems for future missions.