



Firmware Engineer

Working location: Redwood City, California
Full-time employment

About us

TerraBlaster is helping farmers reclaim the value they lose when applying nutrients with imperfect information: billions of dollars in fertilizer that never feeds a crop, missing nutrients that limit yields, and excess nutrients that can leach into waterways. We are the first to deploy technology developed by NASA for Mars to capture precise, real-time, actionable data about plant-available soil nutrients. Soil measurement and application in one pass. Every plant gets exactly what it needs. No extra steps. No wasted time. That's precisely how we build the future of agriculture.

The role

TerraBlaster is seeking a firmware engineer to breathe life into our custom hardware. Are you passionate about writing low-level code that interfaces directly with real-world physics? This role is an incredible opportunity to make a tangible impact by controlling the lasers, spectrometers, and other sensors which comprise our machines in the field. Your code will directly manage laser firings, sensor timing, and data acquisition, directly enabling farmers to reduce fertilizer waste and greenhouse gas emissions. Join a true Silicon Valley startup to make a difference in the world while ensuring our hardware execution is strictly... laser timed (and hopefully improving our laser puns).

What you will be doing

- Design, write, test, and deploy Python and C/C++ drivers to NVIDIA Jetson GPU platforms to interface with lasers, spectrometers, cameras, other sensors, and other hardware peripherals.
- Design, write, test, and deploy C/C++ firmware for microcontrollers
- Optimize power consumption and system reliability for hardware that must survive and thrive in harsh, off-grid agricultural environments
- Work closely with electrical, laser, and software engineers to bring up new custom PCBA designs and implement robust software "running on the edge" (eg NVIDIA Jetson)

What we need to see

- BS in Electrical Engineering, Computer Engineering, Computer Science, or a related field (or equivalent experience)
- Strong programming skills in Python and C/C++ specifically for embedded systems
- 2-4+ years of experience with firmware development
- Excitement and willingness to do whatever is needed in the moment, from writing low-level drivers to taking out the trash, soldering a broken wire on a prototype, or troubleshooting in a dusty field
- Hands-on experience with lab equipment like oscilloscopes, logic analyzers, and multimeters

**Ways to stand out from the crowd**

- Excellent complex system-level debugging and problem-solving skills
- Self-managing and ability to break down complex problems into manageable tasks
- Experience working in the following areas is a plus but not required: electrical engineering, control systems for moving parts, optoelectronics, spectroscopy hardware, ruggedized system design, GSML2, USB, I2C communication protocols

Compensation & Benefits

At TerraBlaster base pay is just one part of compensation. TerraBlaster employees also have the opportunity to become TerraBlaster shareholders by receiving incentive stock options. You will also receive benefits including comprehensive medical and dental coverage.

TerraBlaster is an equal opportunity employer and values diversity at our company. We do not discriminate on the basis of race, religion, color, national origin, sex, gender, gender expression, sexual orientation, age, marital status, veteran status, or disability status.