



Optical 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 an optical engineer to design the eyes of our sensor systems. Want to use your optics background for something other than telecom or defense? This role gives you the opportunity to design and refine the collection optics for the spectrometers that capture the light returning from the soil. By maximizing signal-to-noise ratios and optical efficiency, you directly improve our machine learning models' ability to measure nutrients, ultimately helping farmers reduce fertilizer waste. You will also refine our laser focusing optics. Join a true Silicon Valley startup to make a difference in the world while ensuring our vision for the future remains at the correct working distance and free of contaminants.

What you will be doing

- Design and simulate optical pathways, including collection optics, lenses, mirrors, filters
- Assemble, align, and characterize the above collection optics on the benchtop
- Design, build, test optomechanical packaging to survive harsh agricultural environments
- Work closely with laser engineers, mechanical engineers, and data scientists to optimize the entire photon-to-data pipeline

What we need to see

- BS or MS in Optics, Optical Engineering, Physics, or a related field (or equivalent experience)
- Strong understanding of geometric optics, physical optics, and spectroscopy principles
- Proficiency with Zemax OpticStudio optical design and simulation software
- 3-5+ years of experience in optical design and hands-on laboratory alignment
- Excitement and willingness to do whatever is needed in the moment, from cleaning lenses to taking out the trash, helping design mechanical mounts, and testing sensors in literal fields

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: spectroscopy, optomechanical design (SolidWorks), designing for harsh environments (dust/moisture sealing)



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.