



Manufacturing Technician @ Photara Inc

Photara Inc. Overview

Photara background: Photara, Inc was created to solve the biggest material issue in solar power and enable production of more efficient, cheaper solar cells that can be scaled to terawatt levels. Photara was co-founded by [Dr. Brian Hardin](#) and [Dr. Max L'Etoile](#). Brian was previously a co-founder of PLANT PV, which commercialized silver metallization pastes for silicon solar cells and was acquired in 2019. Max received his PhD in Material Science and Engineering from MIT and leads tool building efforts. Photara was formed after receiving a multimillion-dollar Breakthrough Energy Fellowship in 2022 and has subsequently raised \$10M in venture funding and currently have eight employees.

The silver problem: Silver consumption is the top concern of solar cell manufacturers. Silver used on silicon cells accounts for >20% of global demand and represents 15% of the total module cost. The solar industry currently spends >\$5 Bn/yr purchasing silver metallization pastes. Solar production is expected to rise 3-5x over the next 10 years and may be unsustainable without significant silver reduction.

Our mission: We build metallization robots and consumable products to replace silver with base metals, which can make solar modules 10% cheaper and sustainable at the terawatt level. Customer validation is the greatest driver of value creation in a startup, and we are working with customers to demonstrate the same cell efficiency and meaningful silver savings this year. We need to speed up the pace of innovation and convert new ideas into commercial products in 3-4 years instead of 7-10 years to combat climate change.

Why Photara?

There are few opportunities to get involved early in a clean tech company that is well funded, can quickly make a meaningful impact in renewable energy, has a strong value proposition and well-established customer relationships. We are hiring engineers who will help accelerate R&D and build fully functional prototypes. We have strong relationships with large solar cell makers, who we are working with to test our products. What we are trying to do is audacious and hard, but it is the cheapest and most scalable solution to replace silver. We need help to make this technology successful, but if we make it work with our customers then we will have strong margins in a high-volume business that will meaningfully impact climate change.

What we're working on: Our team has built a pilot tool that metallizes full solar cells. Getting to this stage is a huge milestone, and we've just raised \$8M to improve yield, validate our tool in our customer's R&D facility, and develop a high-throughput production tool. Our pilot tool leverages an array of complex subsystems, including lasers, computer vision, motion systems with sub-10-micron precision, roll-to-roll web handling, and high-voltage electronics. We are also starting to design and build production tools that will be able to run at >3,000 wafers/hr.

What you will do: The Manufacturing Technician will meaningfully contribute to tool builds and be responsible for integrating components into pilot and production tools. You will also learn how to use the tools and fabricate solar cells in Photara's California facility. You will work closely with tool designers and process engineers to improve our tool design and make the most efficient solar cells possible.

How you'll contribute:

- Program and run a CNC mill to fabricate metal, ceramic, and plastic components in our in-house machine shop
- Solder and populate PCBs
- Wire together electronics and electrical subsystems
- Aid with the assembly and maintenance of our machines
- Manage stock inventory and coordinate with external vendors/suppliers
- Run our custom metallization process on internal tools
- Communicate frequently and effectively with the process team to better contextualize and prioritize your work

Skills We Value:

- Authorized to work in the US (we can't sponsor H1B Visa for this position)
- Experience using CNC Machines and other fabrication tools
- CAM experience, especially with Fusion360
- Hands-on build experience
- Strong ability to parse design specifications, schematics, and datasheets
- Desire to build and troubleshoot new equipment with strong attention to detail
- Awarded an Associates or BS in Engineering or Science field
- Strong communicator
- Collaborative attitude

Bonus:

- CAD experience, especially with OnShape
- Experience with power electronics
- Experience with electrical testing and instrumentation
- Mandarin speaker



Perks & Benefits

- Competitive cash and stock that is commensurate with experience
- Medical Insurance
- Unlimited Costco snacks

Start Dates: As soon as possible

Location: San Carlos, CA

Interested? Please email to brian.hardin@photara.tech