Rayleigh Solar Tech Inc.
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Senior Testing Engineer

Are you passionate about renewable energy and eager to make a real impact? Join our team as a Senior Testing Engineer, where you'll help push the boundaries of perovskite solar technology! You'll be at the forefront of ensuring our solar cells meet the highest standards of reliability and performance. From assisting in hardware development to executing critical tests and analyzing data, your work will be key to improving stability, efficiency, and real-world durability. Collaborate with world-class experts in device performance, gain hands-on experience with cutting-edge solar technology, and contribute to a future where clean energy is more accessible than ever. If you love problem-solving, pushing for excellence, and working on technology that can change the world, we'd love to have you on board!

Key Responsibilities:

- Develop and maintain testing hardware and electronics to support perovskite solar cell characterization, ensuring high-quality and repeatable measurements.
- Execute and analyze reliability and performance tests under various environmental conditions, including temperature, humidity, and light exposure, to assess long-term device stability.
- Support automation and data acquisition improvements by integrating sensors, writing scripts, and optimizing workflows to streamline testing processes.
- Troubleshoot and optimize test setups to enhance measurement accuracy, reduce noise, and improve overall efficiency.
- Collaborate with cross-functional teams – including material scientists, process engineers, and device physicists – to refine testing methodologies and translate findings into actionable insights.
- Document and report findings in a clear and structured manner, ensuring traceability of results while contributing to continuous process improvements.
- Push for excellence by continuously identifying opportunities to refine test protocols and enhance the robustness of our reliability studies.

Qualifications & Skills

Education & Experience:

- Bachelor's degree in Electrical Engineering, Physics, Materials Science, Mechanical Engineering, or a related field (or equivalent hands-on experience in a lab/testing environment).

- Experience with solar cell/device characterization or reliability testing is a plus.
- Prior exposure to electronics testing, hardware development, or automation is beneficial.

Specialized Knowledge & Skills:

- Familiarity with electrical characterization techniques (e.g., IV curves, impedance spectroscopy, quantum efficiency) and environmental stress testing.
- Knowledge on PCB design is a must
- Hands-on experience with hardware development, sensor integration, or data acquisition systems (e.g., Python) is a plus.
- Basic understanding of semiconductor physics, thin-film devices, or photovoltaic technology is an advantage.
- Experience working with testing equipment such as source meters, climate chambers, or optical setups is desirable.
- Comfortable working in a lab environment, troubleshooting equipment, and following safety protocols.

Analytical & Statistical Skills:

- Strong problem-solving skills with the ability to analyze test results, identify trends, and interpret data to guide process improvements.
- Experience with data processing and visualization tools (Python, or statistical software like JMP) to automate analysis and generate insights.
- Attention to detail and ability to document findings clearly to ensure reproducibility and collaboration.
- Ability to work with large datasets, extract meaningful conclusions, and suggest improvements to testing procedures

Core Competencies:

- **Critical Problem-Solving:** Ability to identify the right questions and engage the right people at the right time.

- **Curiosity & Inventiveness:** Strong desire to innovate and drive new solutions to complex challenges.
- **Execution & Follow-Through:** Commitment to delivering results and empowering others to do the same.
- **Structured Approach:** Ability to bring order and clarity to complex tasks through methodical processes, mentorship, and documentation.
- **Teamwork:** Proven ability to work effectively across cross-functional teams, including product design, quality, production, supply chain, and external vendors.