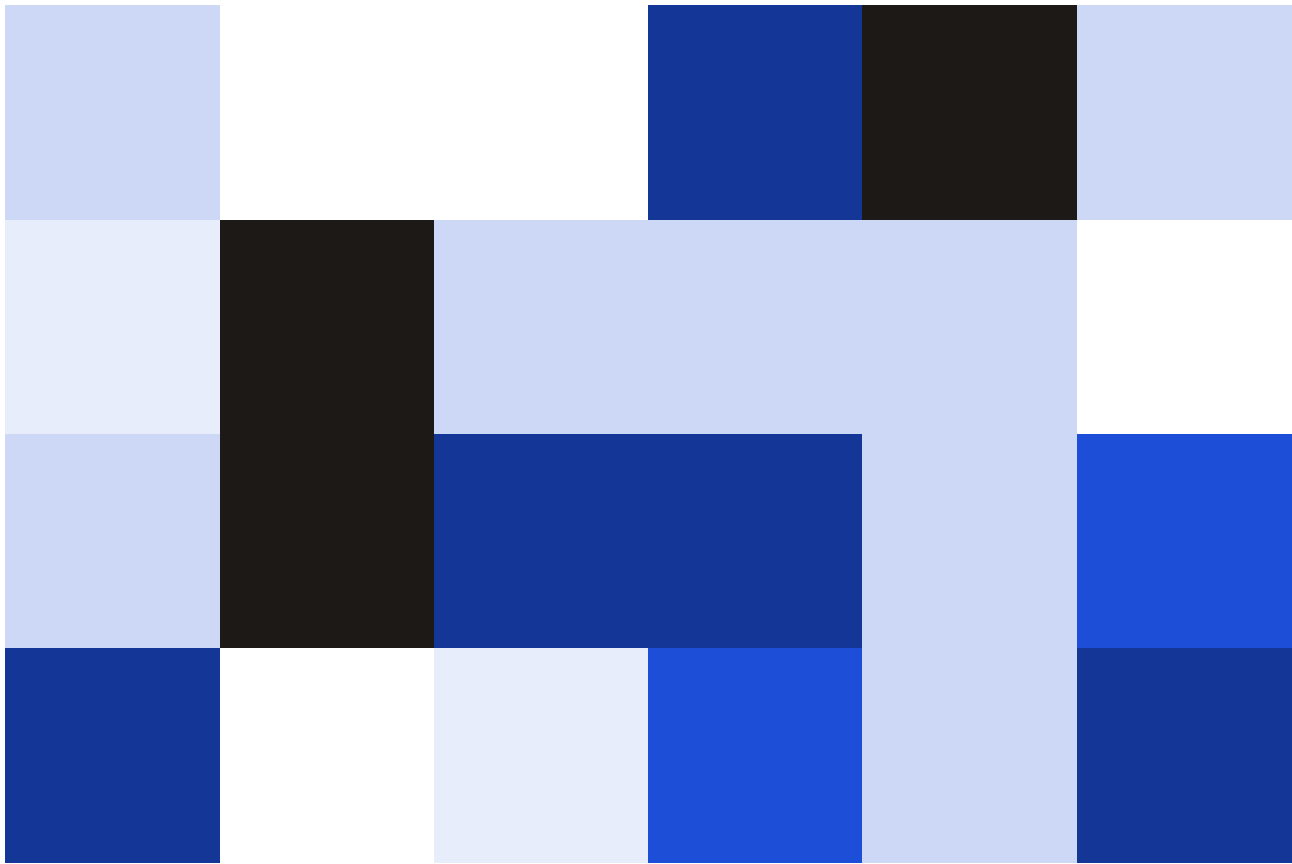




SUMMER INTERNSHIP REPORT • JUNE–JULY 2025

Internship Report

Electrical Engineering Intern at SunPeak Renewables

SUBMITTED BY	ORGANISATION	FACULTY MENTOR
Nikhil Choudhary Roll No. 22EE047	SunPeak Renewables, Jaipur	Dr. Pradeep Sharma

INTERNSHIP CERTIFICATE

This is to certify that Nikhil Choudhary, a student of Bachelor Of Technology (Electrical Engineering) at Your Engineering College, Jaipur, has successfully completed an internship with SunPeak Renewables, Jaipur, as Electrical Engineering Intern from 9 June 2025 to 1 August 2025.

During the internship the student worked with our Design and Projects team and contributed to rooftop layout for a school. We found the student sincere, punctual and eager to learn, and we wish them every success.

(Replace this page with the certificate issued by your organisation, if one was provided.)

Mr. Ankit Jain

Design Engineer, SunPeak Renewables

HR Department

SunPeak Renewables

Declaration

I hereby declare that this internship report, submitted to the Department of Electrical Engineering, Your Engineering College, Jaipur, is a record of the work I carried out at SunPeak Renewables from 9 June 2025 to 1 August 2025 under the supervision of Mr. Ankit Jain and the guidance of Dr. Pradeep Sharma. The report has not been submitted elsewhere for any degree or diploma.

Place: _____ Date: _____

Nikhil Choudhary

Acknowledgement

I am grateful to SunPeak Renewables for giving me the opportunity to work as Electrical Engineering Intern and to experience a professional environment first-hand.

I sincerely thank my industry mentor, Mr. Ankit Jain, for patient guidance, regular feedback and for trusting me with real work. I also thank the members of the Design and Projects team, who welcomed me and answered my questions.

I am thankful to Dr. Pradeep Sharma, my faculty mentor, and to the Head of the Department of Electrical Engineering for their support and encouragement.

Finally, I thank my family and friends for their constant motivation.

Executive Summary

This report describes my 8-week internship at SunPeak Renewables, a company that designs and installs rooftop and ground-mounted solar power plants. During the internship I worked as Electrical Engineering Intern in the Design and Projects team. I assisted with site surveys, rooftop layouts, string sizing, single-line diagrams, installation supervision and commissioning tests.

Organisation	SunPeak Renewables, Jaipur
Domain	Solar power EPC (engineering, procurement and construction)
Role	Electrical Engineering Intern
Department	Design and Projects
Duration	9 June 2025 – 1 August 2025 (8 weeks)
Industry mentor	Mr. Ankit Jain, Design Engineer
Tools used	Design software (layout), AutoCAD, Clamp meter and insulation tester, Excel

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Company Profile

About the Organisation

SunPeak Renewables designs, supplies and installs rooftop and ground-mounted solar power plants for homes, schools and industries. Its design team prepares layouts, single-line diagrams and energy estimates, and its project teams handle installation and commissioning.

Vision and Mission

Vision

To make clean energy the obvious choice for every rooftop.

Mission

To deliver safe, efficient solar plants with honest energy estimates and reliable service.

Products and Services

- Rooftop solar for homes and institutions
- Industrial and ground-mounted plants
- Operation and maintenance
- Energy audits

Organisational Structure

The organisation is structured into functional teams, each led by a manager who reports to the leadership team. Interns are attached to one team and assigned an industry mentor.

Department	Main responsibilities
Design	Layouts, SLDs, energy estimates
Projects	Installation and commissioning
O&M	Monitoring and maintenance
Sales	Site surveys and proposals

Internship Overview

Objectives of the Internship

1. Understand the design of grid-connected solar systems.
2. Learn installation and safety practice.
3. Gain exposure to commissioning and testing.

Role and Responsibilities

- Site survey measurements
- Drafting layouts
- String and cable sizing
- Commissioning checklists

Tools and Technologies

Tool / technology	How it was used
Layout software	Panel placement and shading checks
AutoCAD	Single-line diagrams
Clamp meter and insulation tester	Commissioning tests
Excel	String sizing and BOQ

Weekly Work Log

The table below summarises the work done in each week. Detailed notes for each week follow.

Week	Dates	Tasks performed	Key learning
1	9–13 Jun	Induction and basics of PV systems	Components of a grid-tied plant
2	16–20 Jun	Site surveys for two rooftops	Measuring roofs and checking shading
3	23–27 Jun	Panel layout drafting	Row spacing and walkways
4	30 Jun–4 Jul	String sizing and inverter selection	Voltage windows and temperature effects
5	7–11 Jul	Single-line diagram drafting	Protection devices and earthing
6	14–18 Jul	Installation supervision	Structure, cabling and safety
7	21–25 Jul	Commissioning tests	IR, polarity and Voc checks
8	28 Jul–1 Aug	Report and handover	Documentation for clients

Week 1: Induction and basics of PV systems

Work done: Induction and basics of PV systems. I kept a daily diary of tasks and questions and reviewed it with my mentor at the end of the week.

Learning: Components of a grid-tied plant.

Week 2: Site surveys for two rooftops

Work done: Site surveys for two rooftops. Most of the week was spent shadowing team members and then repeating the tasks independently.

Learning: Measuring roofs and checking shading.

Week 3: Panel layout drafting

Work done: Panel layout drafting. At the weekly review my mentor suggested improvements, which I applied the following week.

Learning: Row spacing and walkways.

Week 4: String sizing and inverter selection

Work done: String sizing and inverter selection. I documented the steps I followed so that the next intern could repeat them easily.

Learning: Voltage windows and temperature effects.

Week 5: Single-line diagram drafting

Work done: Single-line diagram drafting. I kept a daily diary of tasks and questions and reviewed it with my mentor at the end of the week.

Learning: Protection devices and earthing.

Week 6: Installation supervision

Work done: Installation supervision. Most of the week was spent shadowing team members and then repeating the tasks independently.

Learning: Structure, cabling and safety.

Week 7: Commissioning tests

Work done: Commissioning tests. At the weekly review my mentor suggested improvements, which I applied the following week.

Learning: IR, polarity and Voc checks.

Week 8: Report and handover

Work done: Report and handover. I documented the steps I followed so that the next intern could repeat them easily.

Learning: Documentation for clients.

Projects Undertaken

Project 1: Rooftop layout for a school

Problem: A school wanted to use its terrace for solar.

Approach: Surveyed the roof, drafted the panel layout and estimated generation.

Outcome: Proposal prepared with an annual generation estimate (sample).

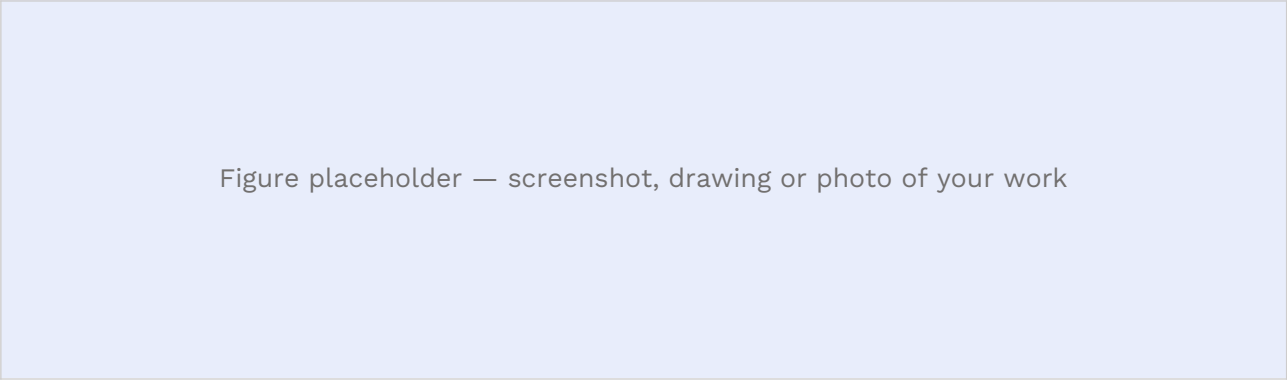


Figure placeholder — screenshot, drawing or photo of your work

Figure 1: Rooftop layout for a school

Project 2: Commissioning checklist

Problem: Checks were done from memory.

Approach: Prepared a step-by-step commissioning checklist with acceptance values.

Outcome: Used on two subsequent installations.

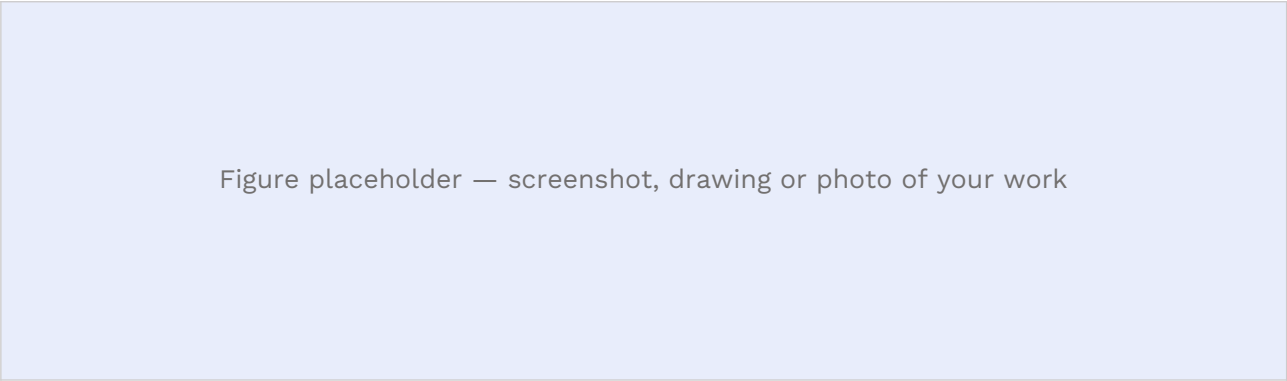


Figure placeholder — screenshot, drawing or photo of your work

Figure 2: Commissioning checklist

Skills and Learning Outcomes

Skill area	What I learned
Technical	PV design, string sizing, SLDs, testing
Safety	Working at height, electrical isolation
Professional	Client site visits, documentation

Challenges Faced

- Working on rooftops in summer heat
- Matching inverter limits with string configurations

Conclusion

The internship gave me practical knowledge of solar system design and installation and strengthened my interest in renewable energy.

Suggestions for future interns

Revise basic PV characteristics and carry a cap, water bottle and safety shoes for site visits.

Appendix: Attendance and Evaluation

Week	Days present	Mentor remarks	Mentor sign
1	5 / 5		
2	5 / 5		
3	5 / 5		
4	5 / 5		
5	5 / 5		
6	5 / 5		
7	5 / 5		
8	5 / 5		

Mentor evaluation (to be filled by the organisation)

Criterion	Excellent	Good	Average	Needs work
Technical skills				
Communication				
Punctuality				
Teamwork				
Initiative				