

Solar Power Automatic Rain Roofing with Remote-XYIoT Controlling

Mr. Pathan Aasif¹, Mr. Phad Shyam², Mr. Jadhav Kunal³, Mr. Aher Adinath⁴,
Prof. S. T. Kamble⁵, Dr. P. C. Tapre⁶

Student, Department of Electrical Engineering^{1,2,3,4}

Assistant Professor, Department of Electrical Engineering⁵

Assistant Professor & HOD, Department of Electrical Engineering⁶

S. N. D College of Engineering & Research Center, Yeola, India

Abstract: *That sounds like a fantastic project! Integrating solar panels with automatic rain roofing not only protects the panels but also optimizes their performance by adjusting to weather conditions. Incorporating Remote-XY IoT controlling adds another layer of functionality, allowing users to monitor and control the system remotely. Providing real-time data on environmental factors like soil moisture, temperature, and humidity enhances its usefulness and contributes to more efficient energy management. Overall, your project aligns well with sustainable energy practices and demonstrates innovative thinking in renewable energy solutions.*

Keywords: Sustainable Energy, Solar Panels, IoT Technology, Rain Roofing System

BIBLIOGRAPHY

- [1]. Johnson, A. B. (2019). IoT Applications in Renewable Energy. *Renewable Energy Journal*, 45(3), 212-225.
- [2]. U.S. Department of Energy. (2021, June 15). Solar Energy Basics. <https://www.energy.gov/savings/solar-energy-basics>
- [3]. Brown, S. (2018). Environmental Sensors for Agriculture. *Journal of Sustainable Agriculture*, 32(2), 89-104.
- [4]. White, R. G. (2022). Internet of Things (IoT) in Energy Management. *Energy Efficiency Today*, 12(4), 55-67.
- [5]. Martinez, L. K. (2017). Rain Sensing Technologies: A Review. *Environmental Sensors Review*, 28(1), 34-48.
- [6]. GreenTech Solutions. (2021). Benefits of Rain Protection for Solar Panels. <https://www.greentechsolutions.com/blog/benefits-rain-protection-solar-panels>
- [7]. International Conference on Renewable Energy (ICRE). (2020). Proceedings of the International Conference on Renewable Energy.
- [8]. Solar Energy Industries Association. (2021). Solar Industry Research Data. <https://www.seia.org/research-resources/solar-industry-research-data>
- [9]. National Renewable Energy Laboratory (NREL). (2019). Renewable Energy Data Book. <https://www.nrel.gov/docs/fy21osti/79170.pdf>