Solar Intelligent Sensing System

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Multi-Sensor Fusion Systems - Integration of photodiodes, GPS, magnetometers, and pyranometers with machine learning algorithms for precise solar position determination ...

AIoT-based solar energy monitoring and control systems depend heavily on sensor data for intelligent decision-making, yet environmental conditions and sensor limitations ...

Smart Sensing: Uses LDR Photoresistor and DHT-22 sensors to detect sunlight, temperature, and humidity, adjusting the system for maximum efficiency. User Interaction: Control the system ...

Meanwhile, the self-powered nature of the system based on an organic solar cell (OSC) eliminates the need for an external power supply, making it suitable for portable real ...

Herein, a solar cells-based energy generating e-Skin is presented and how the energy outputs of solar cells can be innovatively processed for multimodal sensing is ...

In this article, we extend this approach and present a simple and inexpensive solar skin, used with inference algorithms, to detect key indoor sensing parameters. The solar skin ...

These findings highlight the potential of intelligent software-based sensing and control in advancing the performance and reliability of modern photovoltaic energy systems.

Abstract This paper discusses the design of an autonomous system for measuring the real technical potential of solar power, accounting for weather and climate impacts. A ...

This study provides a paradigm for an artificial intelligence-driven hybrid solar power system, including optimized solar tracking with advanced technology, advanced ...

We present SunSift, a lightweight framework enabling batteryless CNN inference on energy-harvesting IoT devices for distributed federated learning. SunSift empl.

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