

This paper proposes an automatic approach that can detect photovoltaic panels conforming to a properly formed significant range of colours extracted according to the given ...

The adoption of a deep learning-based infrared image detection algorithm for PV modules significantly reduces the cost of manual inspection and greatly improves the accuracy and efficiency of PV defect ...

This paper aims to evaluate the effectiveness of two object detection models, specifically aiming to identify the superior model for detecting photovoltaic (PV) modules based on aerial images.

In this paper, we propose a robust machine learning (ML) based approach to accurately detect bright spots by optimally splitting the EL images of PV solar panels and engineering novel discriminative ...

By detecting variations in the thermal image of a solar panel, these handheld tools can be used to identify hotspots caused by damage and degradation, allowing for targeted maintenance efforts.

?Multifunctional design: 1800W PV panel multimeter, supports automatic/manual detection mode switching, measures the maximum power point power, maximum power point voltage, ...

To gain a deeper understanding of these AI algorithms, we introduce a generic framework of AI-driven systems that can autonomously detect and localise solar panel defects and we analyse ...

This identification algorithm provides automated inspection and monitoring capabilities for photovoltaic panels under visible light conditions.

This paper presents a novel PV defect detection algorithm that leverages the YOLO architecture, integrating an attention mechanism and the Transformer module.

This paper presents a lightweight object detection algorithm based on an improved YOLOv11n, specifically designed for photovoltaic panel defect detection. The goal is to enhance the ...

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