

First, it introduces the C2f-SCconv convolution module, which is based on SCconv convolution. This module reduces the computational burden of model ...

Within this research, we introduce a streamlined yet effective model founded on the "You Only Look Once" algorithm to detect photovoltaic panel defects in intricate settings.

A custom dataset was constructed by combining a public PV panel defect database with field-collected images, further expanded through data ...

To tackle these issues, a new machine-learning model will be presented. This model can accurately identify and categorize defects by ...

To tackle this challenge, we propose an Adaptive Complementary Fusion (ACF) module designed to intelligently integrate spatial and channel ...

To address this challenge, we developed an advanced defect detection model specifically designed for photovoltaic cells, which integrates topological knowledge extraction.

To address these challenges, this paper proposes the LEM-Detector, an efficient end-to-end photovoltaic panel defect detector based on the transformer architecture.

Furthermore, intricate environmental interferences, heterogeneous panel appearances, and heavy occlusions exacerbate these challenges. To this end, we propose YOLO-PPM, a lightweight ...

This paper presents a lightweight object detection algorithm based on an improved YOLOv11n, specifically designed for photovoltaic panel defect ...

Aiming at the current PV panel defect detection methods with insufficient accuracy, few defect categories, and the problem that defect targets cannot be localized, this paper proposes a PV panel ...



Photovoltaic panel composition formula detection

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