Photovoltaic panel cross-connection detection

To tackle the challenge of modeling PV panels with diverse structures, we propose a coupled U-Net and Vision Transformer model named TransPV for refining PV semantic segmentation.

This paper proposes a photovoltaic panel defect detection method based on an improved YOLOv11 architecture. By introducing the CFA and C2CGA modules, the YOLOv11 model is ...

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

Surface defect detection of photovoltaic (PV) panels is of significant practical importance for improving power generation efficiency and reducing safety risks.

The deployment of solar photovoltaic (PV) panel systems, as renewable energy sources, has seen a rise recently. Consequently, it is imperative to implement efficient methods for the ...

Our objective is to identify unusual operating conditions in a photovoltaic string using only the voltage and current generated at its terminals.

A novel mechanism based on Deep Learning (DL) and Residual Network (ResNet) for accurate cracking detection using Electroluminescence (EL) images of PV panels is proposed in this ...

To address the current limitations of low precision and high image data requirements in defect detection algorithms based on visible light imaging, this paper proposes a novel visible light ...

This module is seamlessly integrated into YOLOv5 for detecting defects on photovoltaic panels, aiming primarily to enhance model detection performance, achieve model lightweighting, and accelerate ...

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This paper presents an efficient end-to-end detector for photovoltaic panel defect detection, the LEM-Detector, drawing inspiration from the advancements of RT-DETR.

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