Photovoltaic panel landing detection

In this article, a hot spot defect detection algorithm according to infrared images of aerial PV is proposed for practical engineering problems such as defects with different morphology, unclear ...

To address the low operational efficiency of detection algorithms and the low accuracy due to the similarity and large-scale variance of PV defects, we propose an improved lightweight ...

Recognition of photovoltaic cells in aerial images with Convolutional Neural Networks (CNNs). Object detection with YOLOv5 models and image segmentation with Unet++, FPN, DLV3+ and PSPNet.

Automated defect detection is critical for addressing these challenges in large-scale solar farms, where manual inspections are impractical. This study evaluates three YOLO object detection ...

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

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 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.

The existing hot-spot fault detection methods of photovoltaic panels cannot adequately complete the real-time detection task; hence, a detection model considering both detection accuracy ...

red thermography system designed specifically for rapid fouling detection on large-scale PV panels. This system preprocesses infrared images using a K-nearest neighbor mean filter and applies a combined ...

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

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