

Title: UAV detection of photovoltaic panel cracks

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UAV-based inspection enables the rapid identification of contaminated areas and the isolation of physically or electrically damaged panels before cleaning, ensuring maintenance efficiency and ...

Urged by the aforementioned problems still unsolved, in this work we propose a novel multi-stage architecture for the detection of anomalies in images of PV panels collected on-site by UAV.

In this paper, the feature extraction part of YOLOv5 is replaced by the more lightweight Focus structure and the basic unit of ShuffleNetv2, and then the original feature fusion method is simplified.

Researchers combine electroluminescence and infrared imaging with machine learning for automated drone inspection of solar panels to detect cracks and shaded areas to enhance both solar ...

This study presents an automated aerial inspection framework that leverages deep learning-based object detection models to identify structural defects in photovoltaic (PV) panels.

Hot spot detection is performed on the infrared images, enabling the identification of faulty photovoltaic panels and facilitating efficient inspection and maintenance. Experimental trials were...

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 ...

In this study, an improved version of You Only Look Once version 7 (YOLOv7) model is developed for the detection of cell cracks in PV modules. Detecting small cracks in PV modules is a ...

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