Solar Photovoltaic Panel Spot Detection

This model is a detection method for hot spots of PV panels based on the latest generation of the one-stage object detection YOLOv5 network, which is improved to achieve rapid ...

To address these challenges, we propose a rapid detection method for hot spots in photovoltaic panels using deep convolutional neural networks, combined with unmanned aerial ...

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 and speed is ...

In this study, our research group proposes an application of RetinaNet to develop a model capable of detecting hot spots in photovoltaic panels through processing thermal images. © 2025 ...

After extensive benchmarking against state-of-the-art methods, this paper proposes a robust approach for reliable bright spot detection based on image classification using novel features ...

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 ...

This project presents an IoT platform working on artificial intelligence (AI) which automatically detects hot spots in PV modules by analyzing the temperature differentials between ...

An effective hybrid CNN-based system was developed for autonomous detection of solar panels, demonstrating high accuracy in identifying panels within aerial images.

One critical maintenance challenge in photovoltaic installations is detecting hot spots, localized overheating defects in solar cells that drastically reduce efficiency and can lead to ...

To address this issue, an improved VarifocalNet has been proposed to enhance both the detection speed and accuracy of defective photovoltaic modules.

Web: https://www.minimercadofortem.es