How to take aerial photos of wind turbine blades

Can drones monitor the surface condition of wind turbine blades?

Figure 1. Drones can be used to monitor the surface condition of wind turbine blades. When transmitting image data to servers via 4G/5G technology,defect detection models often have to deal with ultra high-resolution images. Our framework performs training on image patches.

Can slice-aided inference detect small and medium-size damage on wind turbine blades?

To address this issue, images are either randomly cropped or divided into small patches before training and inference. This paper proposes a defect detection framework that harnesses the advantages of slice-aided inference for small and medium-size damage on the surface of wind turbine blades.

Can aerial imagery detect defects on turbine blades?

While various maintenance strategies are well-documented,such as predictive approaches using Machine Learning and traditional visual inspections,there is limited researchon leveraging aerial imagery for detecting defects on turbine blades.

How to detect internal damage in wind turbine blades?

Developing a solution for autonomous radiography inspection for internal damage detection in wind turbine blades. o Using 2 synchronized drones and 3D AI fault detection. Takes 2D X-ray radiographs of the composite blade structure and post-processes them in 3D.

Explanation In the platform, wind turbine photos can be depicted as an interactive diagram, providing a visual representation of issues and their location. We call this the live blade diagram. ...

Construct a 3D CNN architecture specifically designed and trained for detecting various types of internal defects common for wind turbine blade composite material structure.

Accurate image stitching is crucial to wind turbine blade visualization and defect analysis. It is inevitable that drone-captured images for blade inspection are high resolution and heavily ...

Blade30 covers 30 full blades,contains various annotated defects and contaminations. Accurate image stitchingis crucial to wind turbine blade visualization and defect analysis. It is inevitable that drone ...

Seeking efficient inspections of wind turbine blades? Skye Link offers nationwide drone inspections, capturing aerial data to ensure safe analysis of wind farms.

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They also require personnel to be on site to control each turbine. Capturing clear, detailed images while turbines are in motion requires maintaining safe distances from the blades without ...

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Enter High-Resolution UAV Surveying To capture high-resolution images of wind turbine blades while they are in motion, the team at Drone Solution sought a solution for inspecting turbines ...

The objective of this review paper is to address this by focusing on the challenges and requirements for effective surface defect detection in wind turbine blades through aerial imagery.

This paper presents a standardized multiclass dataset of visible images of wind turbine blade defects for visual inspection, comprising six categories and 1,065 real blade images captured ...

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