

Anomalies in Solar Panel Fields



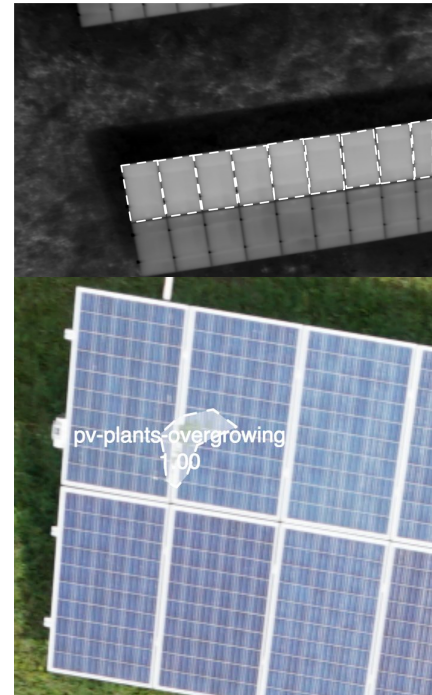
Birds.ai performs inspections of solar panels by drone. During these inspections RGB and thermal photos are taken of the solar panels. After the flight, these photos are analyzed by a human. In the thermal photos hot spots are highlighted, and in the RGB photos anomalies are highlighted.

The detection of hot spots, and anomalies in the photos represents a long and tedious work carried out by an expert in the operation of electrical networks. Birds.ai provides a solution to automatically detect the hot spots and anomalies in the photos of solar panels.

In this project the goal is to build an object detector that is able to detect hot spots and anomalies. You will be provided with aerial data collected by drones containing different types of hot spots and anomalies. The main metrics to optimize are precision and recall, and these are often visualized in a Precision Recall (PR) curve, showing the performance of the detector.

The solution directions are open. This means that you can train a class specific detector, a multi-class detector, general object detector or something totally different.

The output (bounding box around the hot spot or anomaly) of your solution can be used to estimate the economical loss of the solar panel field. The output is finally presented into a status report.



Final Deliverable Performance Report

- Dataset description
- Explanation of methods applied
- Quantitative analysis (precision, recall, PR curves, IoU curves)
- Qualitative analysis
- Conclusion
- Recommendations

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About Birds.ai

The Insight to take Confident Operational Actions.

Our customers manage multi-million, and sometimes multi-billion euro assets in large-scale demanding areas. They deliver reliable high tech products and services that meet the highest demands in an always-on 24/7 environment. Birds.ai provides these customers the necessary bird's-eye view and detailed deep learning insights to be able to successfully increase utilization and fault-tolerance, minimize downtime and outage, and make confident decisions on current and future operations.