



LABEL
YOUR
DATA

Case study

Construction

 NDA

IMAGE ANNOTATION FOR PAVEMENT CRACK DETECTION MODEL

Overview

Poor training data impeded the development of an automated pavement crack detection model by a German construction giant. Label Your Data enhanced their model's accuracy and reduced manual image review time by delivering high-quality annotations.

Dataset size:

10,000 images

Annotation tool:

CVAT

Team size:

4 annotators

Client

A German construction firm, known for its expertise in global infrastructure projects, creates smart solutions for transportation, energy, tunneling, and civil engineering.

Challenges

The construction company required accurately annotated training data for developing an automated pavement crack detection.

Solutions

Label Your Data addressed the pavement crack detection challenge by providing high-quality, standardized annotations for their model training.

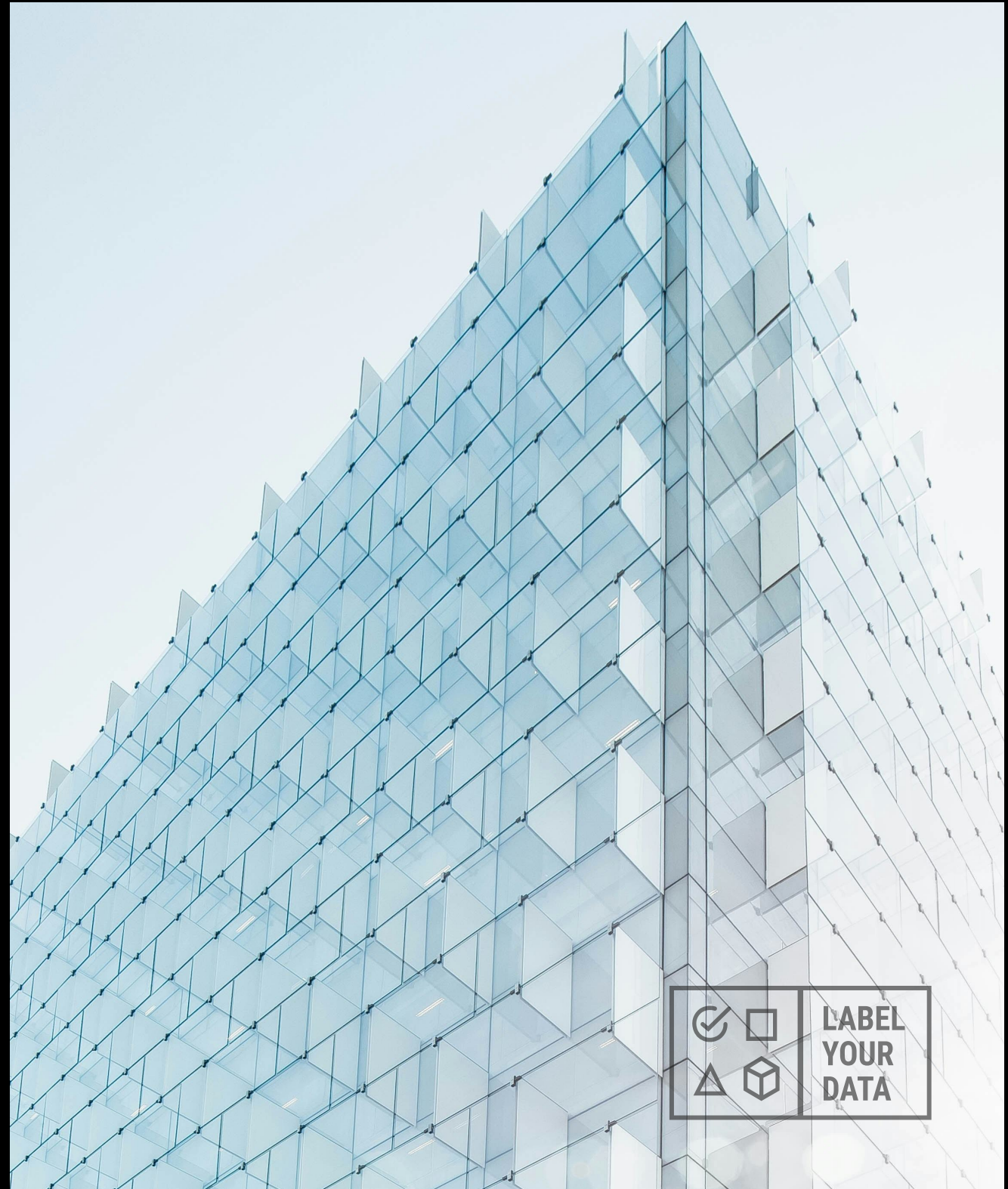
Results

The German construction company significantly improved the pavement crack detection model's accuracy, along with increased training data and reduced manual review time.

Client

A leading global construction company headquartered in Germany tackles complex infrastructure projects worldwide. Their team specialize in creating smart solutions for transportation, energy, tunneling, and civil engineering.

The company turned to Label Your Data to address their data labeling needs for developing a pavement crack detection model.



Challenges

In the field of automated pavement crack detection, a critical challenge lies in acquiring high-quality data annotations for precise model training. Inconsistencies or inaccuracies within the annotations can lead to the model misinterpreting features or patterns.

This ultimately hinders the model's ability to effectively detect pavement cracks.

The client's crack detection data posed labeling challenges:



Extensive road damage (over 100 cracks per image)



Pinpoint accuracy required on poor-quality roads



Difficult object visibility due to weather conditions (rain and snow)



Solution

The solution involved a team of 4 dedicated annotators. They were specifically trained to annotate road damage on asphalt in imagery of recorded pavement frames. Annotations included precise classifications (22 types) for defect areas (polygons) and general labels (10 tags) for road conditions. Additionally, cars were identified with bounding boxes for anonymization. This ensured high-quality data for the damage detection model.

To ensure effective damage detection model training, Label Your Data provided the solution:



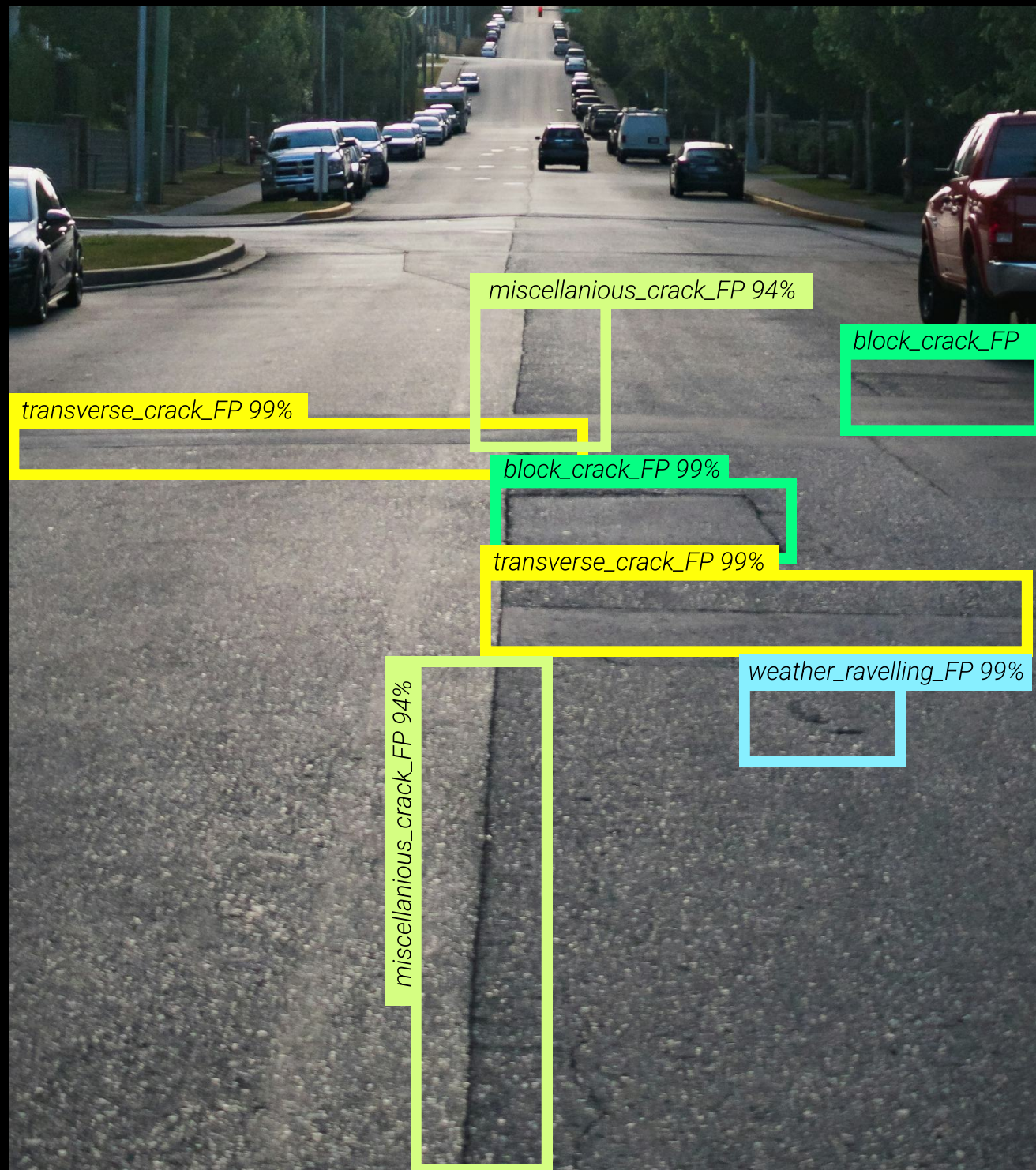
The dataset was annotated following a specific client's manual, ensuring consistency and reducing errors.



Consistent annotations allowed for a more efficient damage detection model training.



Results



This is a re-enactment of the dataset.

The major German construction player reaped the benefits from this partnership:

1.

Increased training examples of images for diverse damage classifications

2.

Achieved a more robust and accurate pavement analysis model

3.

Reduced manual frame review time, freeing up resources and streamlining operations



Run your free pilot



Security-compliant

Partner with the vendor that adheres to the highest industry standards: PCI DSS Level 1, ISO 27001, GDPR, and CCPA.



Flexible pricing

Choose the pricing option that best suits your project's timeline.



No commitment

Run a free pilot to experience our annotation services without any obligation.



Tool-agnostic

If you'd like to, our team can work with your data labeling tools.