

Data Labeling

DATA LABELING FOR PRECISION AGRICULTURE

Utsav Vijendra, 30th November 2020

SUMMARY

The intervention of AI in agriculture and agronomy has grown multi-folds in the past few years and today, technology plays a key role in optimising crop yields. Companies are now focusing on using AI-powered agricultural data to help farmers and large-scale farming practitioners make informed decisions.

To provide this information, drones are used to take images of fields. Those images are then processed by our teams to create the labeled data that is used to train the algorithms to help identify emergence, threats, insect infestations, weeds, and other characteristics. Various types of crops have to be labelled differently and this process differs between crops, seasons, and geographies. With the support of IndiVillage, Taranis is making this process faster, more accurate, and ultimately more efficient for everyone.

Through our precise image annotation services, we are able to assist Taranis in achieving their goal of helping farmers optimise their yield and improve the quality of their crops through the use of AI.

CHALLENGE

Until now, if farmers faced challenges in the field, they used solutions that were based on the statistics from the previous years. In order to solve this issue, agronomists began to study real-time data to bring forth new, personalized, and proactive solutions to farmers. For Taranis, the main goal is to provide a platform and create an algorithm for these agronomists. This algorithm analyses real-time data which can be further used to provide solutions to monitor crop health continuously.

In agriculture, no two lands are the same. Similarly, the same crops on different lands and different crops on the same land result in varied produce. This is just an example to understand the vastness of data that needs to be collected and labelled in order to build powerful and accurate algorithms. IndiVillage works with Taranis and helps convert this data into actionable information.

SOLUTION

Using training material provided by Taranis, the IndiVillage team uses data annotation techniques like bounding box annotation to annotate images based on crop threats, diseases, weeds, or unrecognized elements. Each image labeling takes around 5 minutes depending on the complexity and contains nearly 20 to 30 crops. More frequent and real-time data surveillance of crops, aids in the early detection of issues and leads to faster, quicker, and cheaper solutions for farmers.

RESULTS

In the previous season, with the aid of IndiVillage-generated training data, Taranis was able to utilize its AI technology to make the data systems available for their clients on time.

TESTIMONIAL

It was a good decision for us to work with IndiVillage because for the last season we were able to provide all required data and make them available for our clients on time. We did not have to begin the training process but jumped right in to work with the material. The reduction in time taken for integration was beneficial.

- Avi Altaras, Vice President of Operations.