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Horticulture

A solution is to enable harvesting the right produce at the right time and to sort it efficiently based on specific criteria to prevent a loss of full batches due to improper sorting.

One-third of the food meant for human consumption goes to waste which amounts to about 1.3 billion tons per year [1]. This has a huge negative impact on the environment considering the vast amount of resources used to produce food such as water and land.

The causes of food waste vary and happen in di erent points across supply chains between the producer and the consumer. Moreover, some food supply chains are more prone to this issue than others, such as the soft fruit chain.

Problem

Soft fruit (we'll focus on strawberries as they are high-value soft fruit) are vulnerable to damage and have a much shorter shelf life than other types of fruits. Large quantities can go to waste If strawberries arrive on shelves too early or too late in their maturity stage.

Therefore harvesting strawberries at the right moment is essential. The maturity of a strawberry, however, can be challenging to identify manually, and skilled professionals are often hard to find.

On top of that, strawberries need to be sorted after harvesting since different supermarkets have different quality requirements like shape and size. Improper selection can result in a loss of full batches.

One of the main challenges of this project is to ensure that the trained algorithm is actively learning from the new generated data without forgetting past learnings.

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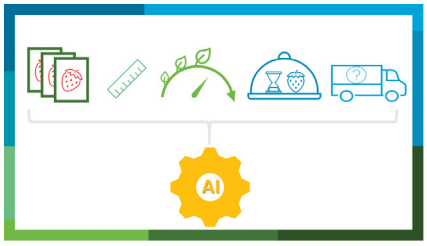
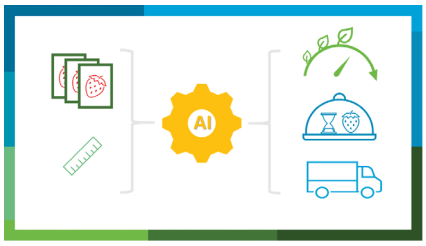
Solution

At Birds.ai we address these problems in three simple steps:





1. Data Collection

By introducing quality control over the entire soft fruit chain prior and after the harvest, \we are able to create a large data set that consist of multiple variables:

Visual information of each individual strawberry: using object detection algorithms we detect strawberries in images. Then we use tracking algorithms to track the strawberry over time so that we build a life history of the strawberry before harvest.

Maturity: stages of a strawberry lifespan and level of ripeness. Measurements of firmness over time.

Chain Suitability: which strawberry was suitable for which supermarket.

Shelf life: how long did the strawberry remain fit for consumption.

2. Training AI

The data collected in the previous step is then used as an input to train an algorithm so it can perform predictions.

3. Predicting outcomes to empower decision making

When provided with new data about new batches, the algorithm trained in the previous step can produce valuable predictions about maturity, shelf life, and chain suitability. These predictions are presented in a comprehensible manner to empower decision makers across the soft fruit chain.

Get in Touch

If you are interested in how our solutions can help your specific needs, please contact us through our email or visit our website.

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