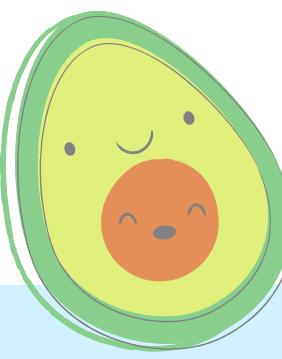


# Project Avocados



## Problem statement

Mishandling of fruits and long lead time often lead to **fruit damage** in fruit trading. When buyers receive damaged fruits, they file insurance claims to recoup losses. Fruit surveyors will be hired by buyers to assess the fruit quality and create survey reports which might result in **inconsistency and subjectivity**, causing disputes. This tedious process makes claims and purchasing insurance difficult due to the **unwillingness to finance risky fresh produce trades** due to such **unaccountability**.

## Our Solution



Model 1 Avocado Detection



Model 2 Ripeness Detection



Model 2 Classes

### 1) Quantity and Quality Score Generation

dev.d3cq1pg1uvaoid.amplifyapp.com says images uploaded!

OK

Carton 2

Choose files: unripe\_1.JPG

Carton 3

Choose files: unripe\_2.JPG

Using Tensorflow object detection models, our application is able to **accurately detect** the count and ripeness of avocados up to **80%**, automating the quality check process.

### 2) Insurance Purchase Facilitation

Users are able to purchase insurance and get settlements easily with the **benefit of trade data clarity, providing accountability**.

### 3) Insurance Settlement

Users can generate **PDF reports instantly**, providing ease in documentation for official records.

### 4) Statistic Report Generation

DIMUTO

Avocados Analysis Report

Supplier : Vimal International Pte Ltd.

Trade Contract Number : TCC00004000122

According to our image analysis, the classification of avocados is as follows:

Ripeness Category	Percentage
Blemished Avocados	0.0%
Unripe Avocados	73.3%
Almost ripe Avocados	12.4%
Ripe Avocados	0.0%
Over ripe Avocados	11.4%
Rotten Avocados	2.9%

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## Business Value

- ✓ No more subjectivity in fruit grading in the industry.
- ✓ Statistic reports generated with zero waiting time.
- ✓ Transparency in trades accurately documented, backed by fruit quality images.

- ✓ Unbiased quantitative fruit quality gradings aid in **better trade risk assessment**.
- ✓ Trade data clarity describes user credibility, allowing **data-driven decisions** to be made.
- ✓ Transparency and accountability **fosters growth** in the fruit trade industry.

## Tech Stack



## The Team



Ashley Lau Bing Heng  
Front-end Developer



Chiang Qing Rong  
Project Manager



Chong Kai Yun  
Machine Learning Developer



Gordon Lim Yu Chen  
Back-end Developer



Soh Wei Ming  
Machine Learning Developer



Tan Li Xuan Denyse  
Machine Learning Developer

## Learning Outcomes

- The team must be willing to **continuously innovate** as initial ideas and unpredictable situations are bound to happen.
- Proper discussion and communication** is necessary to generate new ideas and ensure fair work allocation.
- The team had a steep learning curve to implement new technology but through the process we all **learnt new skills and knowledge**.