

# **Intelligent Pesticide Application System for Precision Pest Control**

prevention is better than cure





# PROBLEM STATEMENT

Quantifying Fungus

Disease(Anthracnose ) Severity  
in Chili crop

**Nalli (ANTHRACNOSE) Disease**

-Telugu



# | Why work on Chili?

- Anthracnose is a fungal disease that affects the fruits of chili plants.
- During 2010–2011, India was the **leading exporter and producer of chili** in the world, but recently due to a decline in chili production, it stands at **third position** in terms of its production.
- Due to the severity of anthracnose disease in chili, India alone loses **US\$ 491.67 million** (about 29.5% of the total chili production) per year

-Garg et al. 2014

- Various studies reported a loss of **10-55%** caused by anthracnose in chili

-Saxena et al. 2016

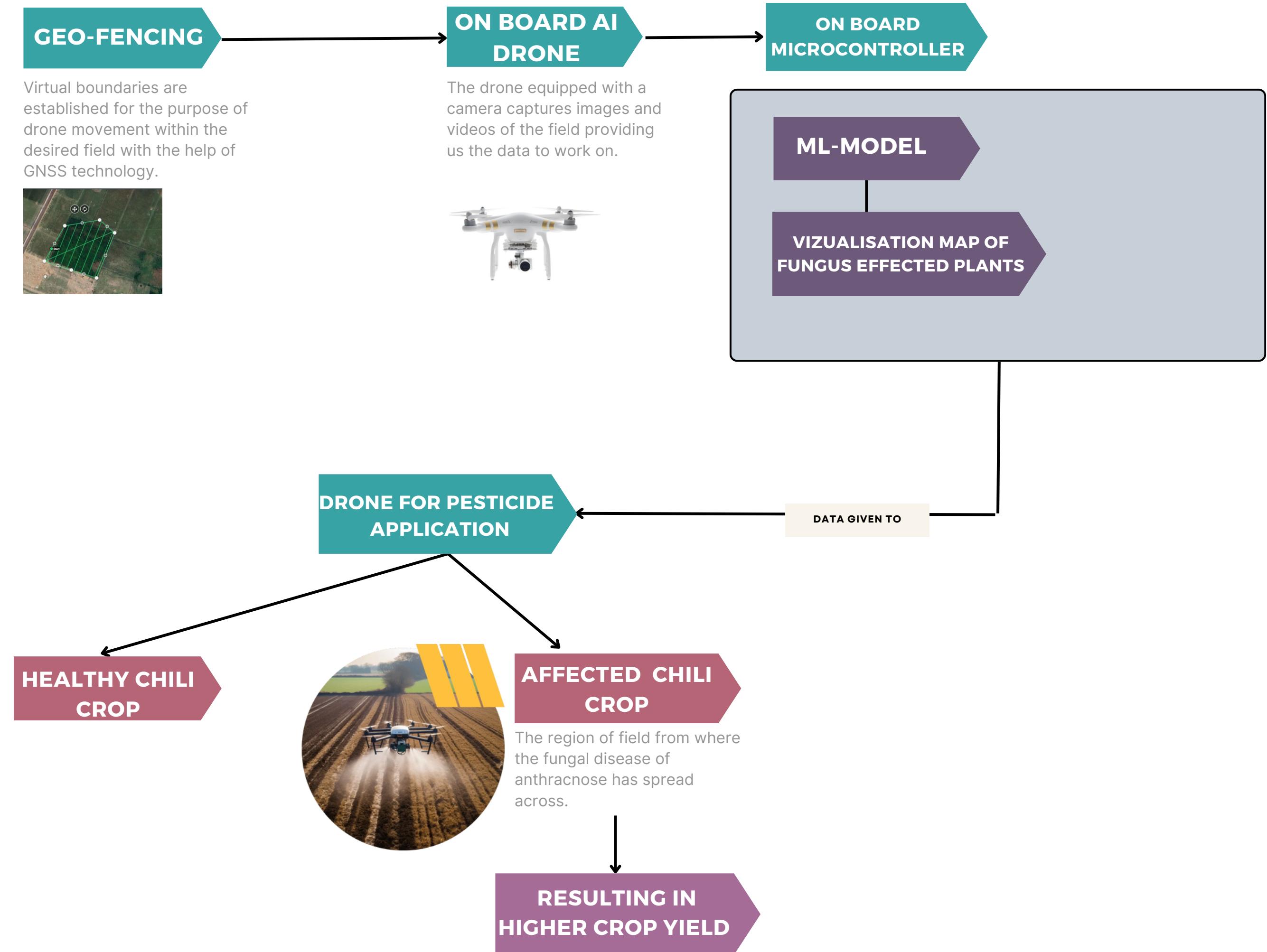
# PROPOSED SOLUTION

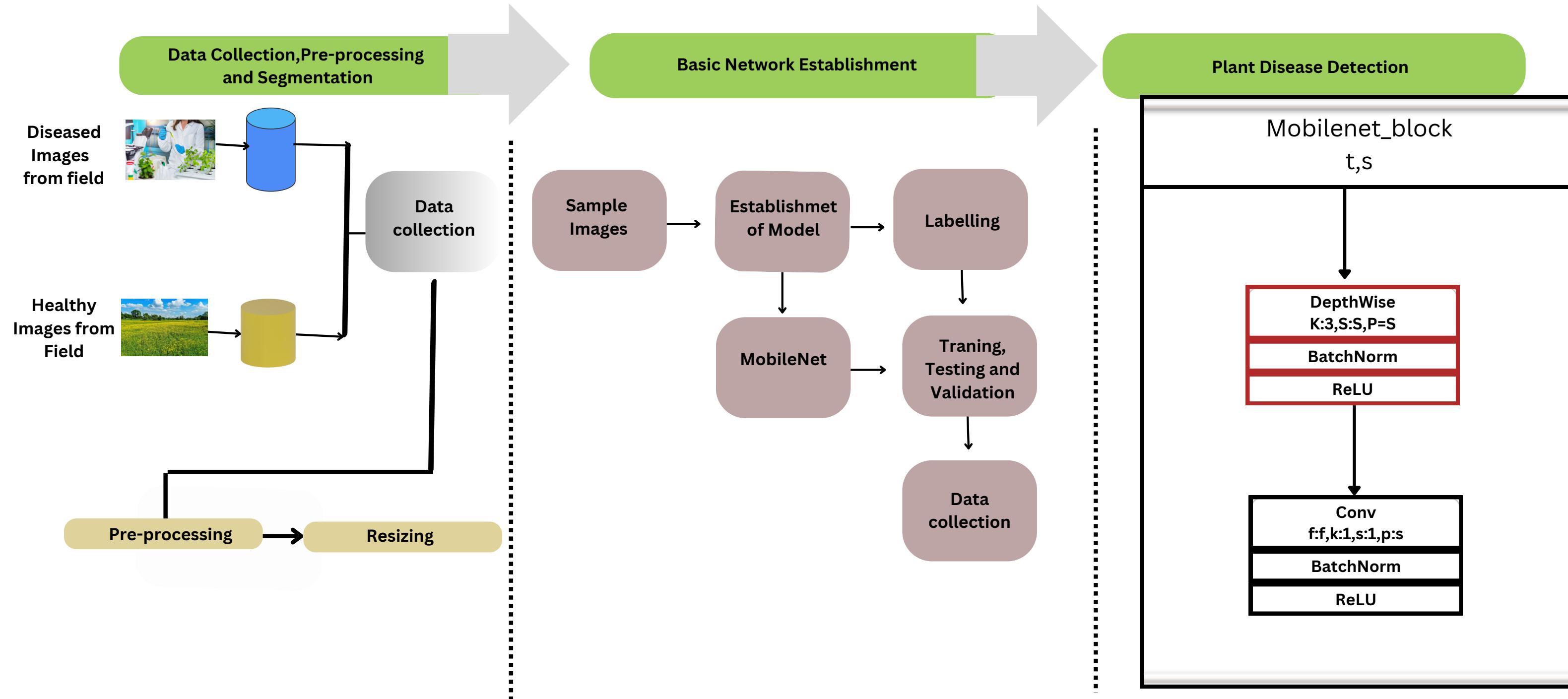
Our proposed Solution includes,

- Images are taken with the aid of UAV's(Drones).
- Developing a Efficient Deep learning Model for Detection and Classification of Diseases like Anthracnose in Chilli
- Deploying Model is developed with Neural Network FrameWork called "Modified Mobilenet"
- Integrating our model into the drone(ONBOARDING)
- Application of Pesticides Autonomously
  - If (DISEASED)
    - Apply
  - else :
    - Just pass on



# OVERALL FLOW





Anthracnose



Healthy

# Technology Stack

**1) GLOBAL NAVIGATE SATELLITE SYSTEMS (GNSS)  
FOR GEOFENCING.**

**2) CAPTURING HYPERSPECTRAL IMAGES USING  
DRONE(ONBOARD DRONE TECHNOLOGY )**

**3) Convolutional Neural Networks (CNN) for  
disease Identification**

**4) VISUALIZATION for Visualizing the spraying  
areas.**

# Product/Service Offered:

We wish to facilitate the farmer with a drone rental service, where equipped drones are used for pesticide application precisely.

**PLEASE GO THROUGH BELOW DECO'S FOR UNDERSTANDING COST FOR OUR PRODUCT AND BUSSINESS MODEL**

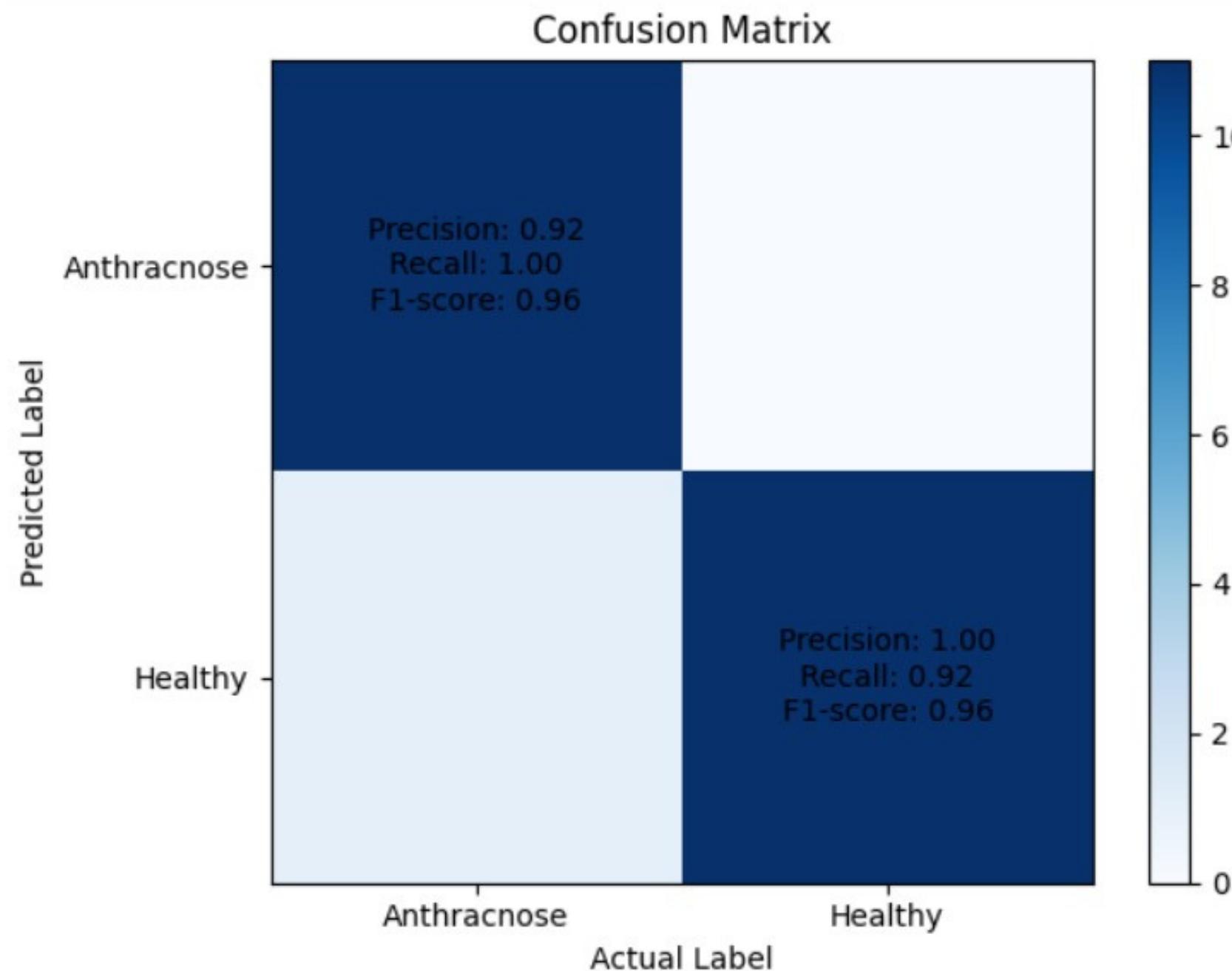
## **COST STRUCTURE**

**<https://docs.google.com/document/d/1cfvccAx6-R6hl9oJd0WiQC1LJFF-bkSE/edit?usp=sharing&ouid=103450827613445492130&rtpof=true&sd=true>**

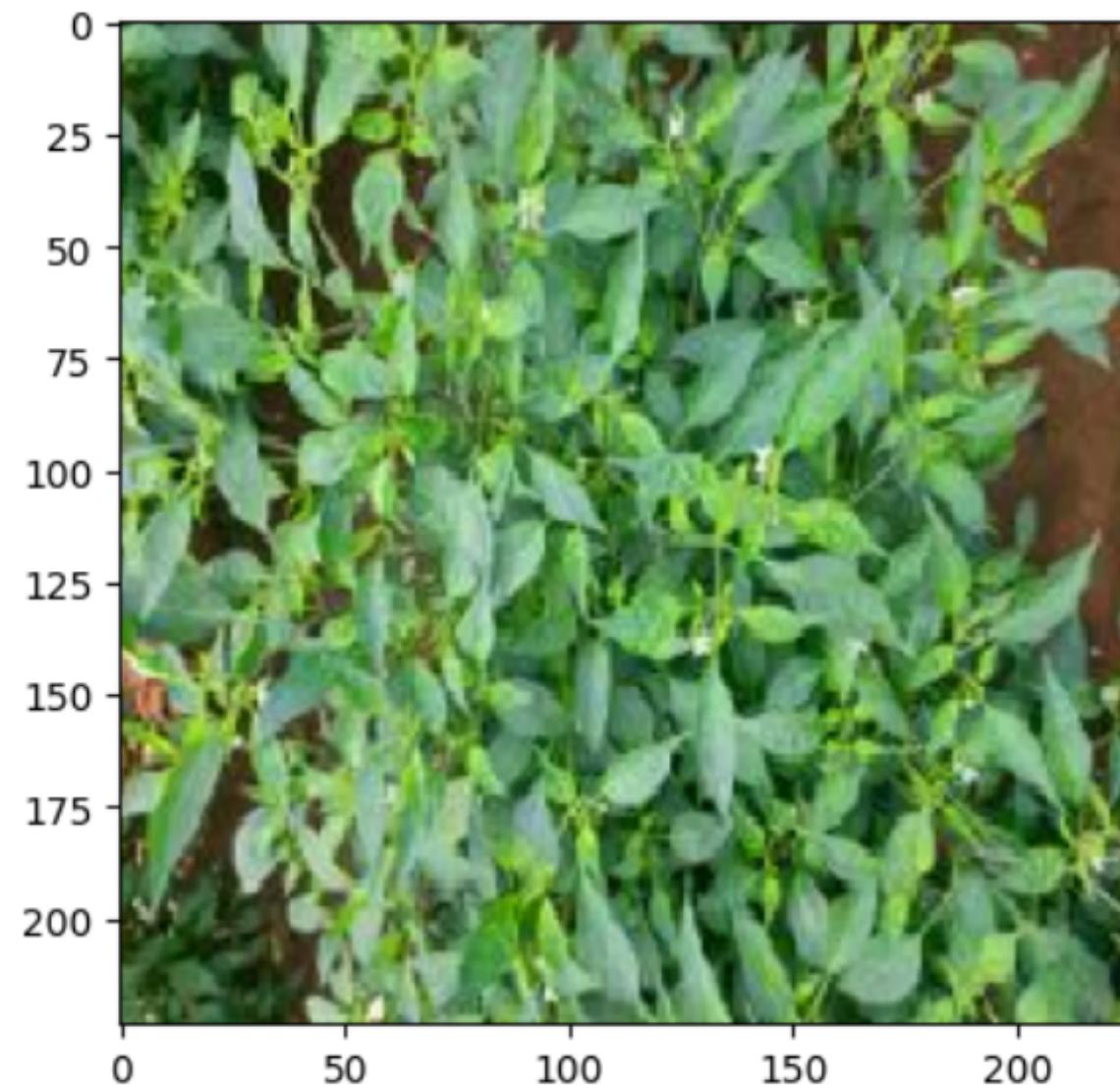
## **BUSSINESS MODEL**

**<https://next.canvanizer.com/canvas/rMXrKlmf2qNpS>**

# Results



1/1 [=====] - 0s 72ms/step  
Healthy



1/1 [=====] - 0s 79ms/step  
Athranchnose

