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AGRO.AI

CULTIVATING TOMORROW'S HARVESTS WITH DATA-DRIVEN PRECISION

CONTENT

PROBLEM STATEMENT

Monitoring and management of
Soil fertility,
Rate of water,
Crop growth,
Macro and micro nutrients using IoT, ML and using sensors for the farmers

Predicting yield
Crop Selection
Smart Irrigation

SOLUTION

Implementing an integrated system for soil fertility testing, assessing atmospheric conditions to recommend suitable crops, monitoring and managing crop health through irrigation and disease prediction, and predicting crop yield and profitability.

Testing the fertility of soil, atmospheric conditions to suggest the crop to be planted

Maintenance and monitoring crops – Irrigation, disease prediction

Prediction of crop yield and profit or loss

TECH STACK

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HARDWARE

Sensors used -pH
Moisture
Temperature
Humidity
Air quality
Sunlight intensity
Conductivity
Rain deduction
Water level
Micro processor used-Arduino mega

SOFTWARE

Frontend - html, css, js, react, material.ui
Backend - python, django
Api-Rest

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PROJECT TIMELINE

Business plan, Ideation and Field study

0 TO 6 WEEKS

7 TO 20 WEEKS

Hardware and software prototype

21 TO 40 WEEKS

Integration and evaluation

41 TO 52 WEEKS

Minimum Viable Product

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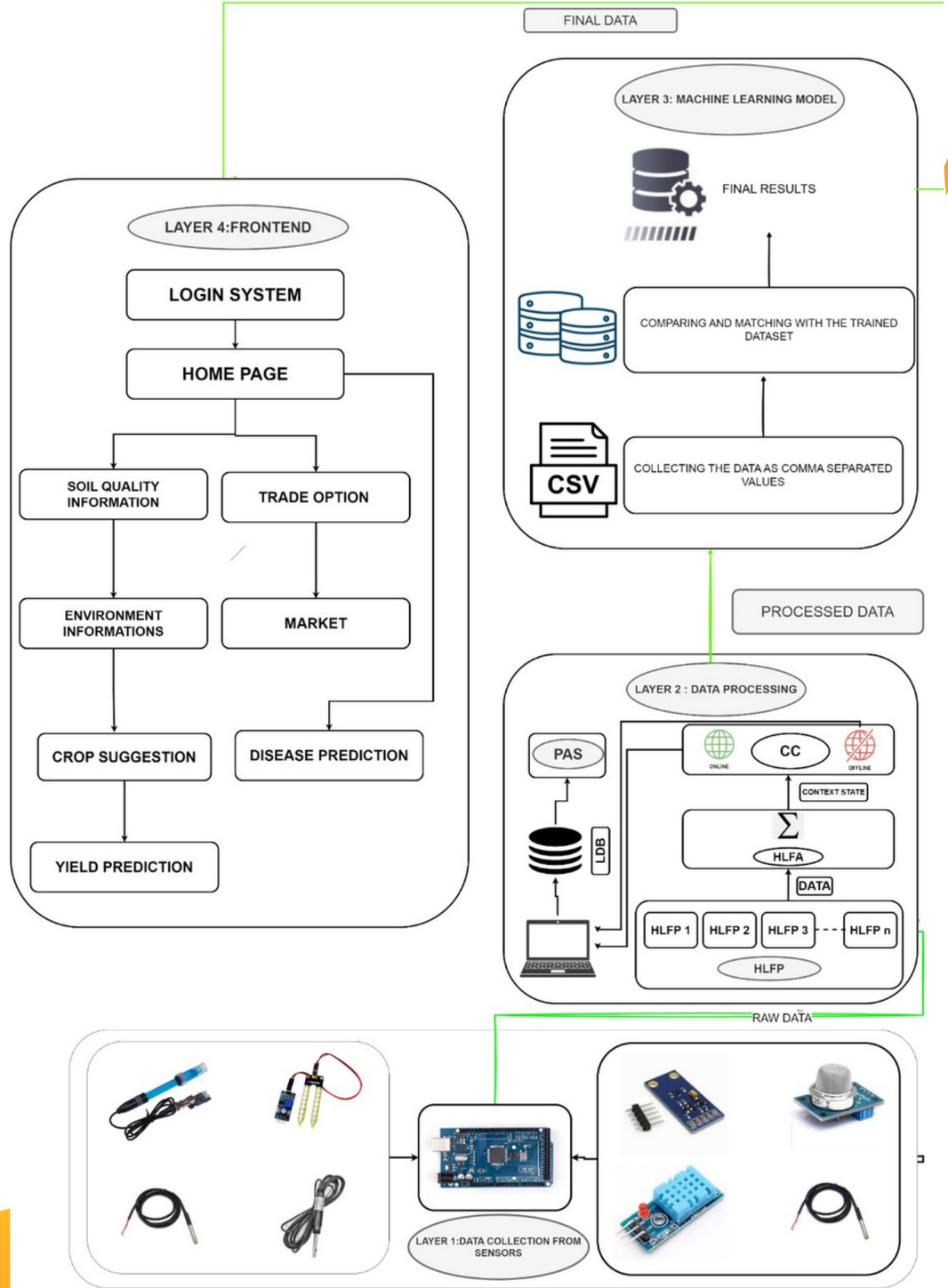
ARCHITECTURE


FINAL DATA
LAYER 3: MACHINE LEARNING MODEL
FINAL RESULTS
COMPARING AND MATCHING WITH THE TRAINED DATASET
CSV
COLLECTING THE DATA AS COMMA SEPARATED VALUES
LAYER 4:FRONTEND
LOGIN SYSTEM
HOME PAGE
SOIL QUALITY INFORMATION
TRADE OPTION
ENVIRONMENT INFORMATIONS
MARKET
CROP SUGGESTION
DISEASE PREDICTION
YIELD PREDICTION
PROCESSED DATA
LAYER 2 : DATA PROCESSING
PAS
CC
ONLINE
OFFLINE
CONTEXT STATE
LDB
HLFA
DATA
HLFP 1
HLFP 2
HLFP 3
HLFP n
HLFP
RAW DATA
LAYER 1:DATA COLLECTION FROM SENSORS

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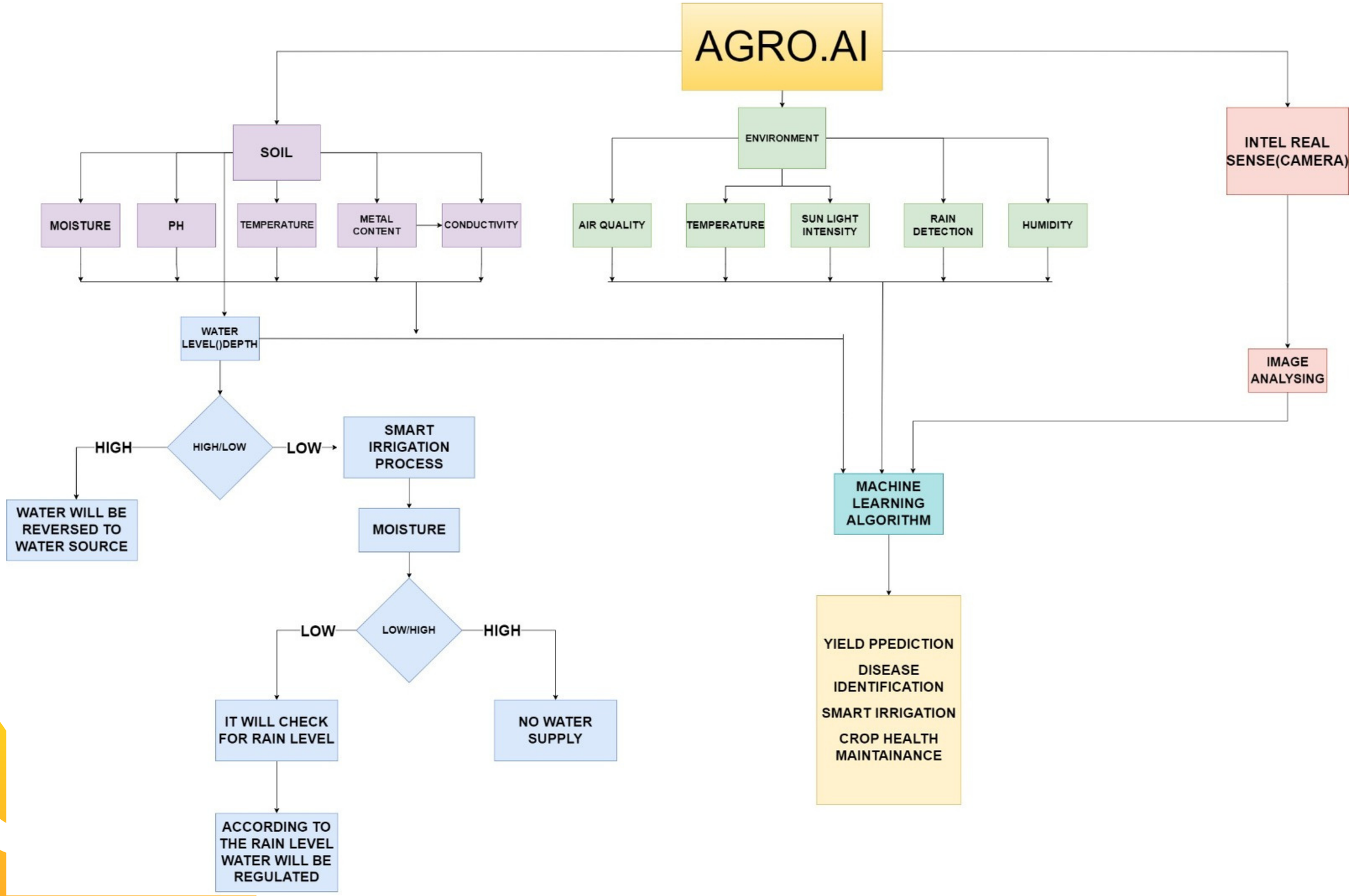
FLOWCHART


AGRO.AI
SOIL
MOISTURE
PH
TEMPERATURE
METAL CONTENT
CONDUCTIVITY
ENVIRONMENT
AIR QUALITY
TEMPERATURE
SUN LIGHT INTENSITY
RAIN DETECTION
HUMIDITY
INTEL REAL SENSE(CAMERA)
WATER LEVEL()DEPTH
IMAGE ANALYSING
HIGH/LOW
HIGH
LOW
WATER WILL BE REVERSED TO WATER SOURCE
SMART IRRIGATION PROCESS
MOISTURE
LOW/HIGH
LOW
HIGH
IT WILL CHECK FOR RAIN LEVEL
NO WATER SUPPLY
ACCORDING TO THE RAIN LEVEL WATER WILL BE REGULATED
MACHINE LEARNING ALGORITHM
YIELD PPEDICTION
DISEASE IDENTIFICATION
SMART IRRIGATION
CROP HEALTH MAINTAINANCE

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VALUES

01

Objective

To facilitate farmer with our technology for the cultivation

02

Scope

Specializing in IoT, ML, and sensor technologies provide holistic support to farmers, enhancing soil fertility, water management, crop health, and pest control, leading to sustainable and high-yield agriculture.

TEAM

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THANK YOU