

CROP-CORE TECH

SLIDE 1:

1. **Problem Statement ID:** SIH1596
2. **Problem Statement Title:** Student Innovation
3. **Theme:** Agriculture, FoodTech and Rural Development
4. **Problem Statement Category:** Software
5. **Team ID:** VIT103
6. **Team Name:** Crop-Core Tech

SLIDE 2:

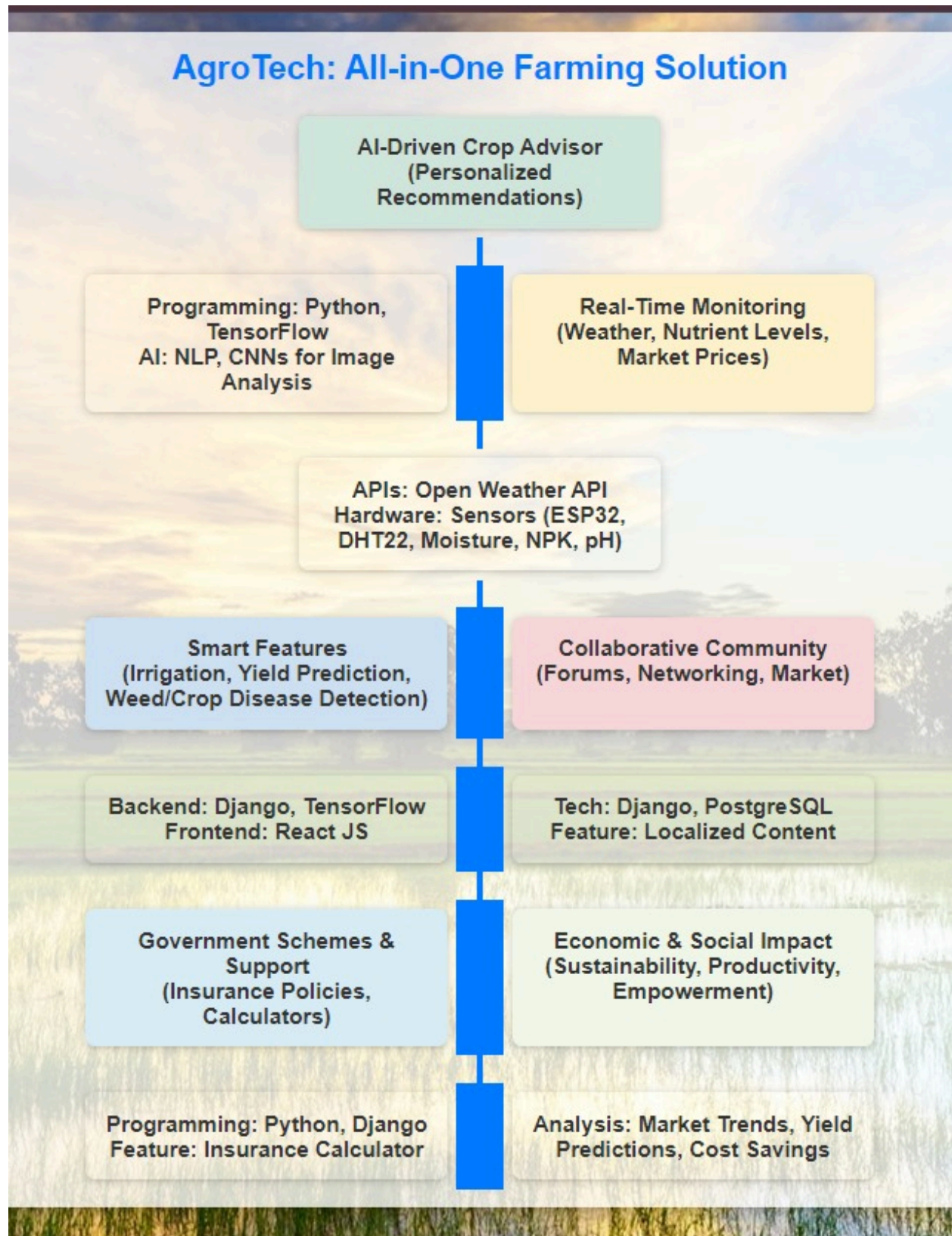
- Crop-Core Tech is a platform offering 360-degree solutions like real-time weather, nutrient levels, and market prices, along with smart features like irrigation, yield prediction, weed, and disease detection with very simple and user-friendly interface. It includes a collaborative community, government schemes, insurance information, and personalized crop recommendations.
- USPs
 1. 360-degree solution
 2. Personalized AI Crop Advisor
 3. Collaborative Community
 4. Integrated Schemes and Insurance policies
 5. Real-time Market Price Tracker
 6. Electricity and Insurance Calculator
 7. Yield prediction
- Crop-Core Tech opens a whole new gateway for farmers, empowering their development with personalized insights, resources, and real-time solutions.

SLIDE 3:

Programming Languages and Technologies:

- Frontend:
 - React JS
- Backend:
 - Django
- Database:
 - PostgreSQL
- AI/ML Framework:
 - Python
 - TensorFlow
 - Convolutional Neural Networks (CNNs)
- Hardware:
 - ESP32
 - Moisture Sensor
 - DHT22 Sensor
 - NPK Sensor
 - pH Sensor
- APIs:
 - Open Weather API
 - Gemini Chatbot API

Methodologies:



SLIDE 4:

Feasibility of the idea:

- High Demand
- Adoption Rate
- AI Integration

Potential Challenges/Risks and their Solutions:

- Resource Intensive
- Connectivity Issues
- Digital Literacy

SLIDE 5:

This all-in-one platform significantly enhances farming productivity while supporting financial, social, and environmental well-being.

Collaborative Farming Network

Fosters knowledge sharing and resource pooling among farmers.

Government Insurance Plans for Crops and Insurance Calculator

Simplifies access to financial protection and planning for crop insurance.

Real-time Nutrient Management Using Sensors

Optimizes soil health by providing immediate nutrient-level insights.

Smart Irrigation

Conserves water and improves crop efficiency through automated watering.

Personalized AI Crop Advisor

Delivers tailored crop recommendations to enhance growth and yield.

Real-time Weather

Provides up-to-date weather information to aid in planning and decision-making.

Automated Crop Scouting and Reporting

Detects and reports crop diseases early, minimizing damage and loss.

Market Price Tracker

Keeps farmers informed about current market prices to maximize profitability.

Essential Conditions for Optimal Crop Growth

Guides farmers in creating ideal conditions for healthier and more productive crops.

Weed Detection

Automatically identifies and helps manage weeds, reducing competition for resources.

Crop Yield Prediction

Estimates potential crop yields to assist in planning and resource allocation.

Calculate Electricity Based on Motor Runtime

Helps track and manage electricity consumption for more efficient farming operations.

Government Schemes

Provides easy access to beneficial government programs and subsidies for farmers.

Trending Agriculture News

Keeps farmers updated on the latest industry developments and trends.

Chatbot

Offers instant support and answers to farming-related questions and concerns.