Ministry of Education
Government of India

MoE's INNOVATION CELL (GOVERNMENT OF INDIA)

SMART INDIA HACKATHON 2024

AgriDrishti

By Team

code4change

Problem Statement ID: 1647
Category: Software
Team Name: CODE4CHANGE
Theme: Agriculture, FoodTech & Rural Development
Problem Statement Title: Development of AI-ML based models for predicting prices of agri-horticultural commodities such as pulses and vegetable.

MVP PART I

01

Objective

Predict crop prices, market trends, and optimal sowing/selling times.

02

Models

Uses SARIMA, LSTM, and regression for price and lifecycle forecasting.

03

Data

Pulls from historical prices, weather, supply chain, and market data.

04

Insights

Offers predictions on price volatility, market trends, and Buffer Price.

05

Actionable

Helps to know the crop performance in the market.

06

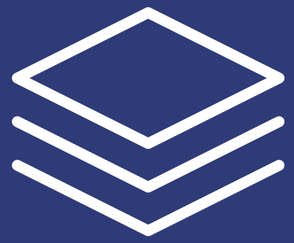
Audience

Designed for govt., cooperatives and traders needing real-time, data-driven decisions.

Technical Approach

Programming Languages

- JavaScript
- HTML
- CSS
- Python



Technology Stack

- Front End: React.js
- Back End: Flask, Node.js

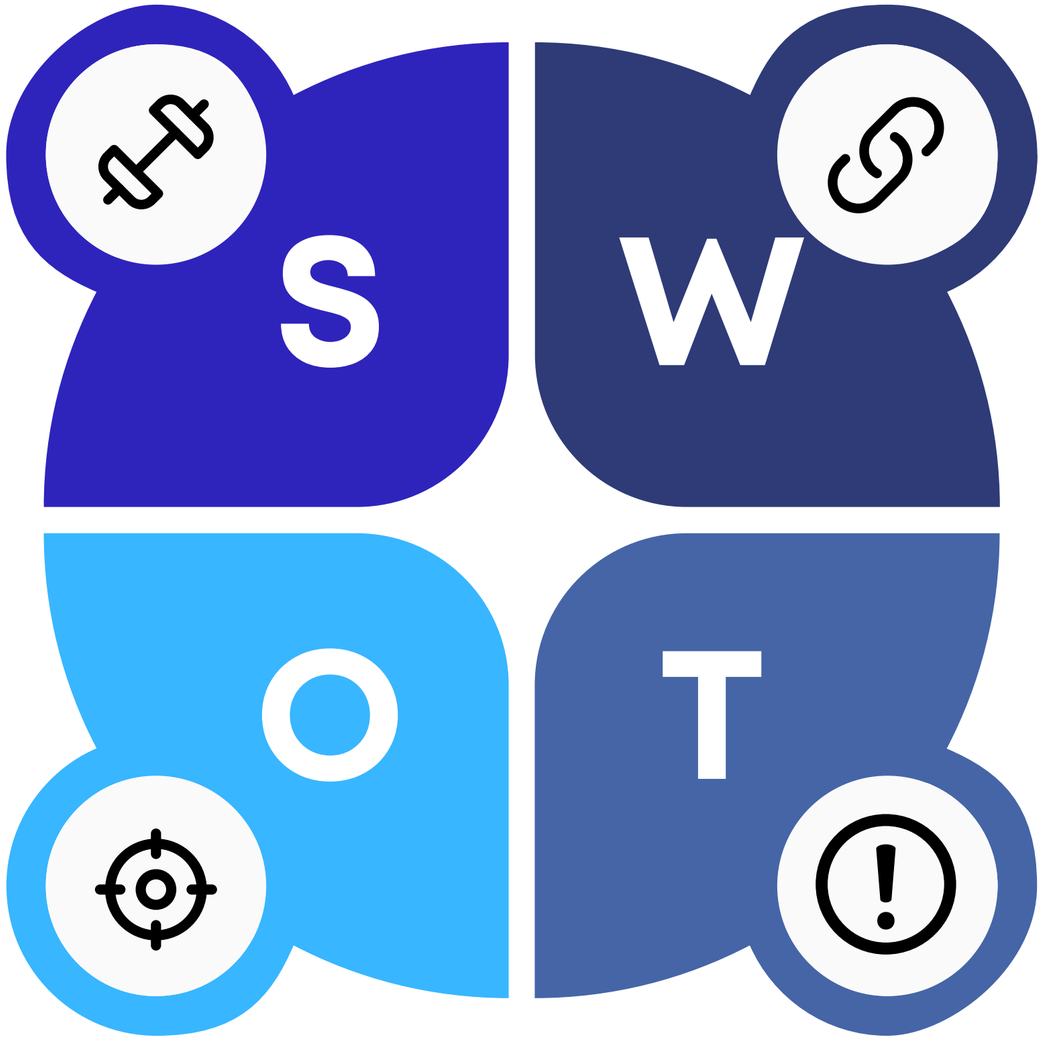
ML Models

- Linear Regression
- Polynomial Regression
- ARIMA
- SARIMAX

Comprehensive SWOT Analysis

Strengths

- Data-driven insights on crop prices and trends.
- Advanced models (SARIMA, LSTM) for accurate forecasting.
- Diverse data sources (historical, weather, market).



Weaknesses

- Over-reliance on basic models may reduce accuracy.
- Limited integration of sociopolitical and climate factors.

Opportunities

- Adding sociopolitical and climate factors to improve predictions.
- Adding More tools like Sowing to Selling Dashboard and Food Price Monitoring System.

Threats

- Unpredictable political and climate shifts.
- Growing competition in agricultural forecasting.

References

- “March of Agriculture since Independence and Growth Trends” by Ministry of Agriculture & Farmers’ Welfare https://agriwelfare.gov.in/en/Doubling

- https://www.indiastat.com/data/agriculture/foodgrains-stocks

Thank You

Any Questions?