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DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND DATA SCIENCE

TEAM NUMBER: 15

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AI-BASED AGRI-HORTICULTURAL COMMODITY PRICE PREDICTION

Problem Statement

Agricultural commodity price fluctuations pose significant challenges for farmers, traders, and policymakers, ultimately impacting economic stability and food security. Traditional price prediction models often fall short in terms of accuracy and adaptability. This project aims to develop a robust, data-driven framework that utilizes machine learning to predict agricultural commodity prices more accurately and transparently.

Problem Identification

Overview: To address the volatility in agricultural markets, a sophisticated and adaptable price prediction system is essential. The proposed system integrates multiple data sources and machine learning models to deliver real-time, accurate price forecasts. It empowers stakeholders—farmers, traders, and policy planners—by providing timely insights into price trends driven by various market dynamics.

Impact and Benefits

• **Enhanced Forecast Accuracy** – Advanced models like ARIMA, SARIMA improve the precision of price predictions.
• **Data Integration and Adaptability** – Combines real-time market data, historical pricing trends, and external variables such as weather, demand-supply metrics, and policy changes.
• **Improved Decision-Making** – Assists in buffer stock management, procurement strategies, and market interventions by enabling data-backed planning.
• **Economic and Food Security Support** – Helps stabilize market prices, benefiting both producers and consumers.

Signature of Guide

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