**CHAITANYA BHARATHI INSTITUTE OF TECHNOLOGY**

**Department of Artificial Intelligence and Machine Learning**

**AGRICULTURE - CROP PRICE PREDICTION**

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**Abstract**

This Agriculture crop price prediction model is a machine learning model based on historical data and various influencing factors to predict crop prices. This model aims to improve the accuracy of price forecast, thereby contributing to better planning and risk management in the sector of agriculture. This project helps farmers, traders and policy makers in making decisions regarding crop yield and distribution. By considering various aspects like crop area, Crop production, GDP, Annual Gross Rate, Inflation, Rainfall, price of the crop in the previous years and Temperature this model predicts the price of the crop per yield based on the above mentioned parameters . Our project aims to improve the accuracy in predicting the price of the crop based on the following parameters. However, in recent years, the emergence of machine learning techniques has offered promising solutions to enhance crop price prediction. This project conducts an extensive review of various machine learning approaches utilized for this purpose, forecasting techniques, ensemble methods, and deep learning strategies. We delve into the unique strengths, limitations, and practical applications of each technique. Moreover, we address the prevalent challenges associated with employing machine learning in crop price prediction, such as data accessibility, feature selection, model interpretability, scalability, and generalization. Additionally, we look ahead to future research avenues and opportunities aimed at refining the accuracy and utility of machine learning models in predicting crop prices.

**Keywords**

Crop price prediction, Machine learning, Regression, Time series forecasting, Ensemble methods, deep learning, Challenges, Future directions.

**Problem Statement**

Develop a machine learning model to predict the crop price in a particular region. Based upon various factors such as crop area, Crop production, GDP, Annual Gross Rate, Inflation, Rainfall, price of the crop in the previous years and Temperature. Considering all the aspects we try to predict the price of the crop in the market and be a helping hand to various users such as farmers, traders and policy makers in making decisions regarding crop yield and distribution.

Incorporating machine learning techniques like ensemble methods, forecasting and deep learning will enhance predictive accuracy by leveraging complex patterns in large datasets. We plan to use historical weather patterns and climate change projections to model potential future scenarios, offering more robust predictions under varying climatic conditions. By extending our analysis to include these additional variables and advanced techniques, we aim to provide a comprehensive and dynamic tool that not only predicts crop prices but also offers actionable insights for optimizing agricultural practices and policy decisions.

**Objective of the project**

The objective of the agriculture crop price prediction project is to:

1. *Develop a Predictive Model*: Build a machine learning model that accurately predict the price of the crop, by using factors like crop area, Crop production, GDP, Annual Gross Rate, Inflation, Rainfall, price of the crop in the previous years and Temperature.
2. *Analyse crop price*: Evaluate the impact of various features such as crop area, Crop production, GDP, Annual Gross Rate, Inflation, Rainfall, price of the crop in the previous years and Temperature to give the price of the crop.

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