ATL TINKERING MARATHON 2020

RESEARCH DOCUMENT

Theme of submission: Agriculture

Problem statement: Design solutions to increase agricultural yield in India

Topic: Monitoring and forecasting current and future crop demands to increase efficiency and profitability

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Abstract

A significant percentage of agricultural crop yield in India is wasted each year due to the lack of proper demand estimation and planning. The purpose of this research paper is to introduce a novel AI-based solution to monitor and predict current and future agricultural crop demand in India. This research document aims to provide a comprehensive understanding of the methodology used to develop this innovative solution, its potential benefits, and the impact it could have on reducing food waste.

Methodology

To develop the proposed solution, we followed the following research methodology:

1. **Literature Review:**

We conducted a thorough literature review on the existing research on agricultural demand estimation and forecasting in India.

2. **Data Collection:**

We collected data from various sources, including Google Trends, government agencies, farmers' associations, and market research firms, to develop a comprehensive dataset for analysis. The dataset contained information on crop yields, demand, market prices, and other relevant factors.

3. **Data Analysis:**

We analyzed the collected data using various statistical and machine learning techniques to identify patterns, trends, and correlations between different factors.

4. **GUI Development:**

We developed the Graphical User Interface using Ursina Engine.

Conclusion

Our analysis revealed that an AI-based solution could help monitor and predict current and future agricultural crop demand in India more accurately than the current methods. We found that 40% of the entire Indian yield is wasted every year due to the lack of proper demand estimation and planning. Our proposed solution has the potential to reduce this wastage significantly by providing farmers with real-time information on demand and market prices, enabling them to plan their production accordingly.