

# ShetiMitra- An Interactive System to Predict Crop Yield along with Profit and Loss to Help Farmers using Deep Learning

Mr. Kasar Y. S.<sup>1</sup>, Miss. Shravani Kshirsagar<sup>2</sup>, Miss. Rutuja Khemnar<sup>3</sup>, Mr. Kiran Kshirsagar<sup>4</sup>

Professor, Department of Information Technology<sup>1</sup>

Students, Department of Information Technology<sup>2,3,4</sup>

Amrutvahini Polytechnic, Sangamner, India

**Abstract:** According to the latest available data, agriculture is a significant sector in India, employing over 55% of the country's total workforce. This highlights the crucial role that agriculture plays in India's economy and the livelihoods of its citizens. The majority of Indian farmers continue to practice traditional farming, which can make them vulnerable to various challenges. Market fluctuations, a lack of knowledge about soil health and the crops best suited for it, as well as insufficient information about crop conditions and market prices, can all hinder a farmer's ability to maximize their yields. Consequently, many farmers are experiencing losses due to these issues. Efficient planning and management of agricultural activities are crucial for farmers to optimize their crop yields and profits. To achieve this, accurate predictions of crop yield, profit, and loss are essential. By utilizing data-driven techniques such as soil quality analysis, weather forecasting, and market analysis, farmers can make informed decisions that help them maximize their profits and minimize losses. This can be achieved through the use of precision agriculture techniques, which rely on advanced technologies such as drones, satellite imaging, and machine learning algorithms to gather and analyze data on soil health, crop growth, and market trends.

**Keywords:** Decision making, Feature Extraction Deep Learning, Crop Yield Prediction, Soil Analysis

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