



FARM FUSION

CROP RECOMMENDATION
SYSTEM

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INTRODUCTION

In agriculture, the precise recommendation of crops is pivotal in ensuring optimal yield and sustainability. As farmers and agricultural experts delve deeper into data-driven approaches, the significance of leveraging comprehensive datasets, particularly those about soil composition, becomes increasingly evident.



PROBLEM STATEMENT

01

Failure of farmers to decide on the best suited crop for the land using traditional and non-scientific methods

02

Availability and accessibility of correct and up to date information about crops.

OUR SOLUTION

We have proposed a system which can address this problem by providing **crop recommendations based on machine learning model** trained considering essential environmental parameters.



GOALS & OBJECTIVES



Optimal Yield



Resource Management



Sustainability



Improved Profitability



METHODOLOGY

Dataset

The dataset contains wealth of information including key factors such as **Nitrogen, Phosphorus, and Potassium levels**, alongside environmental variables like **Temperature, Humidity, pH_Value, and Rainfall**.

The dataset is about **2200 entries** with a variety of crops:

Rice, Maize, Chickpea, Kidney Beans, Pigeon Peas, Moth Beans, Mung Bean, Blackgram, Lentil, Pomegranate, Banana, Mango, Grapes, Watermelon, Muskmelon, Apple, Orange, Papaya, Coconut, Cotton, Jute, Coffee.





METHODOLOGY

Modeling

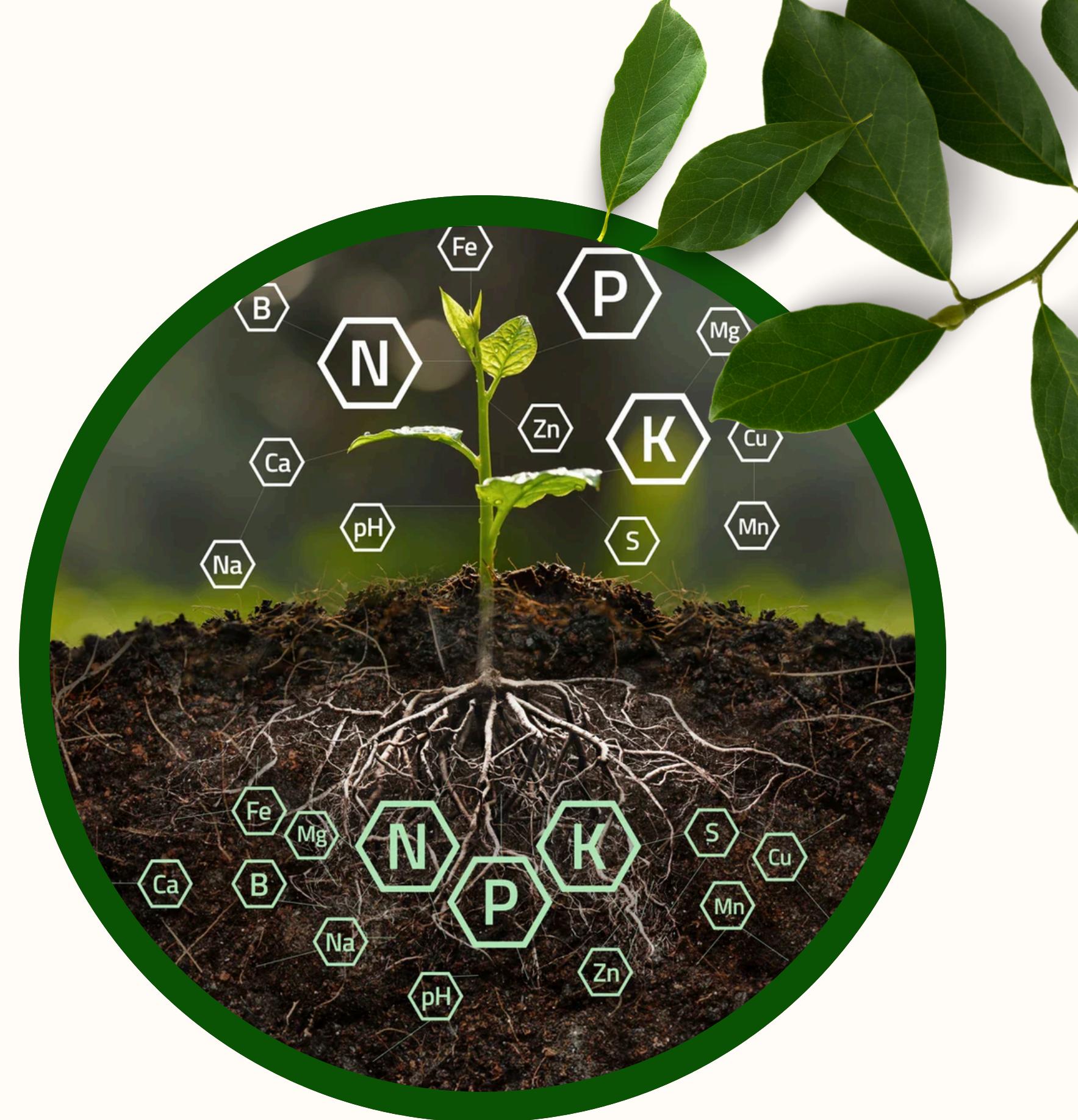
Used multiple **machine learning** models as following:

Models	Accuracy
Naive Bayes	99.4886 %
Decision Tree	98.1250 %
KNN	97.5568 %
Logistic Regression	90.2841
AdaBoost	15.5682 %



CONCLUSION

Leveraging soil data for crop recommendations is vital for modern agriculture. It enables informed decisions that optimize productivity, improve resource management, enhance sustainability, boost climate resilience, and increase profitability. Data-driven strategies form the foundation of efficient and sustainable agricultural practices, ensuring a resilient future for the sector.



MEET OUR TEAM



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THANK YOU