VISVESVARAYA TECHNOLOGICAL UNIVERSITY,

BELAGAVI

A PROJECT REPORT ON

"AN EFFECTIVE AND COMPREHENSIVE CROP RECOMMENDATION SYSTEM USING MACHINE LEARNING"

Submitted in partial fulfillment for the award of Degree of

BACHELOR OF ENGINEERING

IN

COMPUTER SCIENCE & ENGINEERING

By

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CERTIFICATE

This is to certify that the project entitled "AN EFFECTIVE AND COMPREHENSIVE CROP RECOMMENDATION SYSTEM USING MACHINE LEARNING" has been successfully completed by

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ABSTRACT

Agriculture plays a crucial role in Indian economy. However, the agriculture sector is suffering from low productivity and yielding due to various factors. One of the factors is the failure to select suitable crops for a particular type of soil in an agricultural region. Most of the farmers highly depend on the direction of agricultural experts and experienced farmers in the task of crop selection. The shortage of technical knowledge and awareness of the latest technology hinders the progress of the farmers resulting in low yielding. Therefore, a machine learning model is developed to predict a set of best suitable crops that are intended to produce high-yielding for a particular agricultural region based on environmental and soil conditions. In this regard, comprehensive data sets which are intended to produce high yielding for different crop types, are gathered from various regions of the country. Both environmental parameters (viz., temperature, humidity, and moisture) and soil parameters (viz., pH, Nitrogen, Potassium, Phosphorus values) are considered as a feature set for training the proposed model. The comprehensive datasets from different parts are trained and tested based on performance metrics like precision, accuracy, recall, confusion matrix, and F1-score. The proposed model achieves 75% to 80% accuracy in predicting suitable crops for a soil type in a certain region.