

Crop Recommendation System Using Machine Learning

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Abstract : With growing global food needs and climate uncertainties, informed crop choices are critical for increasing agricultural productivity. Here we propose a machine learning-based crop recommendation system to help farmers in choosing the most proper crops according to their geographical regions and soil properties. We can deploy algorithms like Decision Trees, Random Forests and Support Vector Machines on a broad dataset that consists of climatic factors, soil characteristics and historical crop yields to predict the best choice of crops. The approach includes first preprocessing the data after assessing them for missing values, unlike in previous jobs where we used all the available information and then transformed because there was no way such a model could have worked with missing data, and normalizing as throughput that will be done over a network to get best results out of our machine learning division. The model effectiveness is measured through performance metrics like accuracy, precision and recall. The resultant app provides a farmer-friendly dashboard through which farmers can enter their local conditions and receive individualized crop suggestions.

Keywords : crop recommendation, precision agriculture, crop, machine learning

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