

Safeguarding Crops and Increasing Yields with IoT-Based Plant Protection and Monitoring System

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Abstract: *In many countries, agriculture is the main occupation, and the livelihoods of many people depend on it. However, agricultural crops are often vulnerable to diseases, which can cause a reduction in both the quantity and quality of the crops. In this paper, we propose a computationally efficient approach for detecting and analyzing paddy diseases and selecting fertilizers. This proposed system utilizes various concepts related to image processing, such as image acquisition, image preprocessing, feature extraction, and convolutional neural network-based training for classification, diagnosis, and treatment. Additionally, we aim to develop a Smart Farming System using IoT technology that will allow farmers to access live data via a mobile app. The system will provide real-time information on temperature, humidity, and water levels, which will enable farmers to monitor their environment more efficiently, resulting in increased yields and better product quality. Ultimately, this system will assist farmers in improving their overall crop yields and quality, enhancing their livelihoods, and contributing to food security.*

Keywords: Plant protection system, convolutional neural network algorithm, image processing

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