



Late Purushottam Hari (Ganesh) Patil Shikshan Sanstha's
Mauli Group of Institution's
College of Engineering and Technology, Shegaon
Department of Computer Science and Engineering

Academic Session: 2023-24

4R Project Activity

**Design and Implementation of Disease Prediction in Crops
Using Deep Learning**

Abstract: In the realm of agriculture, which sustains nearly 60% of the global population, the absence of effective technologies for disease detection in crops within traditional systems impedes the advancement of farming practices. This project introduces a groundbreaking solution for the early prediction of crop diseases through the application of deep learning. By leveraging Convolutional Neural Networks (CNNs) and Deep Neural Networks, we ensure accurate and prompt identification of crop diseases. Our approach employs Convolutional Neural Networks (CNNs) and Deep Neural Networks, to enhance the accuracy and efficiency of identifying crop diseases. The proposed solution, powered by the transfer learning model, serves as a practical tool for farmers to analyze crop leaf images. It facilitates discrimination between healthy and infected leaves while categorizing the specific disease type. This holistic approach not only addresses the existing challenges in traditional farming systems but also contributes to the advancement of precision agriculture. By integrating deep learning models into the prediction of crop diseases, this research signifies a crucial step towards revolutionizing farming practices, ensuring food security, and promoting economic stability. The primary objective is to empower farmers with an efficient means of early disease detection, enabling them to apply timely and appropriate treatments. By doing so, we aim to prevent economic losses, foster sustainable agriculture, and contribute to global food security.

Keywords: Deep Learning, Convolutional Neural Networks (CNNs), Crop Diseases, Agriculture, Disease Prediction, Early Detection, Precision Agriculture.

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