

COTTON AND CORN LEAF DISEASE PREDICTION USING CNN IN DEEP LEARNING

Dr. S. Prema*; **Mrs. D.Sindhuja****; **P. Kaviyasri*****; **R. Abinaya******;
S. Atchaya*****; **P.Lathika*******

*Associate Professor,
Department of Information Technology,
Mahendra Engineering College,
Mahendhirapuri, Namakkal

^{2,3,4,5,6}Assistant Professor,
UG Scholars (B.Tech),
Department of Information Technology,
Mahendra Engineering College,
Mahendhirapuri, Namakkal

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ABSTRACT

Agricultural productivity is significantly affected by plant diseases, leading to substantial economic losses and food insecurity. Traditional disease detection methods rely on manual observation, which is timeconsuming and often inaccurate. Recent advancements in deep learning, particularly Convolutional Neural Networks (CNNs), have enabled efficient and accurate plant disease identification. This paper presents a CNN based system for detecting and classifying leaf diseases in cotton and corn plants, followed by an automated remedy recommendation module. Each detected disease is mapped to a set of recommended treatments, including fungicides, insecticides, or cultural practices such as crop rotation. The remedy database is curated based on agricultural best practices and research findings, ensuring reliable treatment suggestions. A userfriendly interface is integrated into the system to provide farmers with clear disease diagnostics and actionable remedies. Additionally, a feedback loop mechanism allows farmers to report the effectiveness of suggested treatments, enabling continuous refinement of the recommendation system. The proposed approach creates a comprehensive disease management solution, bridging the gap between AI-driven disease detection and practical agricultural interventions.

KEYWORDS: *Convolutional Neural Networks (CNN), Comprehensive Disease Management ,Open Cv.*

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