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CORNSENSE: LEAF DISEASE DETECTION APPLICATION

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CornSense: Leaf Disease Detection Application

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ABSTRACT

In this day and age, corn has become an essential commodity with rising global demand due to its role as a key source of food supply for both animals and humans. Like other crops, corn is vulnerable to pathogens and infections during its growth, which can significantly impact agricultural productivity as the quality of corn yields declines. To address this issue, a corn leaf disease detection system capable of recognizing and classifying corn diseases is essential for early detection and intervention. The purpose of this project is to develop a mobile application for corn leaf disease detection leveraging the YOLOv8 (You Only Look Once version 8) object detection algorithm. Utilizing YOLOv8 allows for real-time and accurate classification of corn leaf images into various disease categories. The developed model demonstrated an acceptable precision of 94%, showcasing its effectiveness in distinguishing between infected and healthy corn leaves. The performance of the YOLOv8 model underscores the potential of deep learning and mobile computing in enhancing agricultural practices, promoting sustainable farming, and improving food security. The project followed a systematic approach by applying the Waterfall methodology across all development phases, including requirement gathering, system design, implementation, and testing. This structured methodology ensured thorough documentation and a reliable solution for farmers to monitor and maintain crop health efficiently.

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