

Review of: "Enhancing Cocoa Crop Resilience in Ghana: The Application of Convolutional Neural Networks for Early Detection of Disease and Pest Infestations"

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Potential competing interests: No potential competing interests to declare.

The study addresses a significant concern regarding COCOA production, offering a detailed exploration of the importance of Convolutional Neural Networks (CNN) for early disease and pest detection in Ghana's agriculture. Additionally, it delves into integrating modern technological advancements within COCOA farming practices. However, several aspects could be improved in the manuscript.

1. Consider simplifying the exact nature of the objective. Specify the key findings or insights gained from the experimental results. The abstract should convey the research gap in the existing literature, the proposed methodology, and the target metric for the evaluation.
2. The introduction serves as the gateway for readers to grasp the fundamental essence and significance of the paper's content and research findings. Therefore, it is imperative that the introduction effectively encapsulates the core themes and objectives of the research. A revised version should succinctly outline the key motivations, objectives, and contributions of the study, providing readers with a clear understanding of what to expect in the subsequent sections. Additionally, the introduction should establish the context and relevance of the research within the broader field, highlighting any gaps or challenges that the study aims to address. By reworking the introduction to be more informative and engaging, readers will be better equipped to navigate the paper and appreciate its relevance and contributions to the field.
3. Most recent reference papers could be included in the literature.
4. Datasets are not explicitly mentioned in the study. Mention the dataset with relevant information. The total number of images (disease and pest), categorizing the images based on their resolution, adds another layer of understanding to the dataset's characteristics. By classifying images into different resolution categories (e.g., low, medium, high), researchers can gain insights into the quality and variability of the dataset. This categorization aids in evaluating the dataset's suitability for various applications and identifying any potential limitations or challenges associated with image quality. Additionally, it allows researchers to enhance their analysis and pre-processing techniques according to the resolution characteristics of the images, ensuring optimal performance in subsequent tasks such as image classification or object detection.
5. The novelty of the research findings could be elaborated.
6. The method section lacks comprehensive detailing of the CNN architecture. To ensure clarity and replicability, it is essential to present algorithms utilized in the research. The algorithms should be in the form of pseudocode. This

structured representation provides a concise and language-independent description of the algorithm's logic and steps, allowing readers to understand its functionality.

7. It is recommended to include system architecture, tables, and figures to enhance the quality of the research and provide more insights into the key findings.
8. The experimental findings should be illustrated through the utilization of graphs and tables. Furthermore, any deductions drawn from these results must be meticulously documented for clarity.
9. The results of the proposed method may be compared with the existing state-of-the-art methods based on the relevant evaluation metrics.
10. Overall, the paper leans towards a theoretical concept rather than a technical perspective (Survey paper). The paper would benefit from a more robust inclusion of technical details to substantiate the research findings. By incorporating additional technical information, such as experimental methodologies, data analysis techniques, and specific implementation details, the paper can enhance the credibility and thoroughness of its research. This approach would provide readers with a deeper understanding of the research process and allow for a more comprehensive evaluation of the results. Furthermore, detailed technical descriptions can also facilitate reproducibility and encourage further investigation and validation of the findings by other researchers in the field.

In summary, while acknowledging the potential significance of this research, it is apparent that the paper lacks novelty. There is a notable absence of new methods or intriguing approaches to address the problem at hand. In light of these observations, it is strongly recommended that the authors undertake a thorough revision of the entire manuscript.