

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 paper provides a comprehensive overview of the application of Artificial Intelligence (AI), particularly Convolutional Neural Networks (CNNs), in cocoa disease and pest detection in Ghana. It addresses the critical challenges facing cocoa farming in the country and explores how advanced technology is revolutionizing agricultural practices.

Strong Points:

1. The Abstract covers the aspects related to the paper.
2. The structure of the article is well-organized, with clear sections covering introduction, literature review, methods, results, discussion, conclusion, recommendations, and acknowledgments.
3. The literature review section provides context and background information on the application of AI in agriculture, particularly in the cocoa industry.
4. The Methods section outlines the research methodology, data sources, and data collection process.
5. The Results section provides comprehensive insights into the potential benefits of AI, particularly CNNs, in cocoa disease and pest detection.
6. The Discussion section delves into the challenges and future directions of AI implementation in cocoa farming. It provides valuable insights into potential solutions and areas for further research and development.
7. The recommendations are justified and offer practical and strategic suggestions for fully realizing the potential of AI in cocoa farming. It emphasizes the importance of data collection, technology accessibility, continual improvement, policy support, and collaboration.
8. The language used is accessible.
9. The references are in accordance with the topic of the paper and up to date.

Weak Points:

1. While the limitations section briefly mentions challenges such as data quality and accessibility, it could benefit from a more detailed discussion of potential constraints and drawbacks associated with AI implementation in cocoa farming.
2. The study would be strengthened by including specific examples or case studies illustrating successful applications of AI in cocoa disease and pest detection in Ghana.
3. To enhance clarity and provide a visual understanding of the research process, the inclusion of a graphic

representation of the methodology could be beneficial. Also, the results should be presented in tables or graphics.