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 presents the application of convolutional neural networks (CNN) to the disease and pest infestation of cocoa crops in Ghana. It is an interesting article to read and understand the impact of technology on agriculture and the economy. The abstract can be shortened and made more focused. The points related to CNN and AI and their impact or usefulness on agriculture can be summarised at the beginning of the abstract and may not be repeated. Highlight in the abstract what the contribution of the article is. In the introduction section, the author can start with background information about agriculture and crops, especially cocoa, in Ghana. Highlight the challenges and motivate the readers for the need for technology. Then, gradually, CNN can be introduced. Motivate readers about how CNN is beneficial for handling agricultural challenges.

It would be interesting to focus on the term CNN and not mix it with the term “AI” repetitively in the main text. In the literature review section, discuss why the CNN architecture is good at handling spatial data. Interesting papers have been reviewed, but they can be grouped according to the aspect of disease or pest identification. Mention the challenges in deploying the CNN for agricultural produce. If possible, provide images to motivate the readers. Please provide more details about the dataset, like the number of images, their resolutions, and the conditions under which they were captured. Discuss the challenges in creating the dataset. Does it require annotations to be carried out? The CNN architecture should be discussed as a preliminary section and not under the results section. It would be good if some results were shown in the article. In section 4.2, provide some numbers to support the argument, e.g., in section 4.2, real-time detection, how much time has been taken, or better provide a table summarising the results of different papers. Map the conclusion to the abstract and summarise the points.