

This paper is related to reviewing the manuscript titled " **General retrieval network model for multi-class plant leaf diseases based on hashing**"

In their research, the authors introduce an innovative method employing Deep Hash Convolutional Neural Networks to overcome conventional obstacles and boost efficiency. Implementing Hash Learning has markedly increased the method's efficacy for large-scale data retrieval. The reliability of this retrieval technique has been confirmed using several well-known plant disease datasets.

Firstly, Although the proposed study is successful in terms of organization, presentation, content and results, major revision given in the following items need to be performed.

- 1) Provide the major numerical findings and conclusions of the study in the summary section another than accuracy performance criterion.
- 2) The proposed Hash-based deep architecture, CNN structure is given in Figure 1 and hash structure is given in Figure 2. However, how are deep CNN and hash structure combined and how is the mathematical model integrated? The paper should provide a solution to this problem and explain it in detail.
- 3) It would be better if the retrieval content of section 2.3 was transferred and combined with the previous section 2. Because section 2.3 is also related to the previous feature extraction section.
- 4) What is the relationship and/or difference between the L3 loss function in Equation 6 and the J loss function in Equation 7? Why are two different function equations defined?
- 5) The parameters and values given for the network model in Table 2 seem to be incomplete. In fact, this table should be expanded and a detailed parameter and values for the deep network model and hash structure should be presented.
- 6) Especially in the Introduction section and other sections of the article, current studies on deep neural networks, CNN, etc. for the years 2022-2024 should be used and these studies should be added to the reference section. Because, in fact, much older studies were used.
- 7) In the performance analysis, more performance analyses such as, AUC, TPR, FNR, except recall, precision and MAP, will increase the value and importance of the study.
- 8) Mentioning future studies and trends in the Conclusion section may be useful for readers.
- 9) In some parts of the article, the abbreviation "Deep Hash Convolutional Neural Networks" (DHCNN) is forgotten, other such abbreviations and explanations should be checked and reviewed.

My decision is major revision. I do not see any harm in publishing the manuscript once the above revisions are made.