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Paper: **"DeepLeaf: Automated Leaf Classification Using Convolutional Neural Networks"**

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Peer review:

Reviewer 1: Daniel B. Hier
Missouri University of Science and Technology, USA

Reviewer 2: Gibet Tani Hicham
Abdemalek Essaadi University, Morocco

Reviewer C:
Recommendation: Accept Submission

The TITLE is clear and it is adequate to the content of the article.
The title clearly reflects the content of the paper.
The ABSTRACT clearly presents objects, methods, and results.
The abstract succinctly summarizes the purpose of the study, the methodology employed (CNNs), and the results (effectiveness in leaf classification). It provides a clear overview of the key stages in the methodology.
There are a few grammatical errors and spelling mistakes in this article.
The article has a few grammatical errors and awkward phrasings. For example:
"Leaves classification" could be more smoothly phrased as "Leaf classification."
"The neural network employed feed-forward algorithms" could be simplified to "The neural network used a feed-forward architecture."
The study METHODS are explained clearly.
The methodology section is well-detailed, explaining the preprocessing steps, data augmentation, the design of the neural network, and the evaluation metrics. The use of figures to illustrate the results, such as confusion matrices and ROC curves, adds clarity.
The body of the paper is clear and does not contain errors.
The body of the paper is generally clear and logically structured.
The CONCLUSION or summary is accurate and supported by the content.
The conclusion effectively summarizes the study's findings and emphasizes the success of the CNN approach in leaf classification.
The list of REFERENCES is comprehensive and appropriate.
Authors should provide more references least 20, to establish a good link to literature.
Please rate the TITLE of this paper.
[Poor] **1-5** [Excellent]
5

Please rate the ABSTRACT of this paper.
[Poor] **1-5** [Excellent]
5

Please rate the LANGUAGE of this paper.
[Poor] **1-5** [Excellent]
4

Please rate the METHODS of this paper.
[Poor] **1-5** [Excellent]
5

Please rate the BODY of this paper.
[Poor] **1-5** [Excellent]
4

Please rate the CONCLUSION of this paper.
[Poor] **1-5** [Excellent]
5

Please rate the REFERENCES of this paper.
[Poor] **1-5** [Excellent]
3

Overall Recommendation!!!
Accepted, minor revision needed

Comments and Suggestions to the Author(s):

Reviewer E:
Recommendation: Revisions Required

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Good title.
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Good Abstract.
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See comments below.
The study METHODS are explained clearly.
See comments below.
The body of the paper is clear and does not contain errors.
Based on the review of your manuscript, here are several suggestions to enhance the clarity, accuracy, and overall quality of your work:

1. Clarify Reference to Smith and Jones (2020) :
- Provide a detailed and accurate citation for the referenced work by Smith and Jones (2020) on the "DeepLeaf" framework. Ensure that the publication details are correct and complete, including the title, journal, volume, issue, and page numbers, if available.

2. Explain Naming Choice :
- Address the choice of using the same name "DeepLeaf" for your framework as used in the referenced work by Smith and Jones (2020). Clarify whether it was intentional to build upon their work or if there is another rationale behind this decision.

3. Readable Confusion Matrix :
- Enhance the readability of the confusion matrix. Increase the font size and consider using color coding (e.g., heatmap) to distinguish between high and low values. Annotate the cells with numeric counts or percentages for better clarity.

4. Training Time Anomaly :

- Provide more details about the training process, especially regarding the reported training time of 2 seconds. Clarify if pre-trained models, hardware acceleration, or simplified model architectures were used. If there was an error in reporting the training time, correct it and provide the accurate duration.

5. Details on Leaf Classes :
- Include a detailed list of the 20 distinct leaf classes used in the study. This would help in understanding the diversity and complexity of the dataset.

6. Methodology Precision :
- Ensure that the methodology section precisely describes each step taken, including data preprocessing, augmentation techniques, model architecture, and training parameters. This transparency will help other researchers replicate and validate your findings.

7. Reference Verification :
- Verify all cited references for accuracy and availability. Ensure that readers can easily locate and access the referenced works. I was unable to locate the Smith and Jones reference.

8. Typographical Errors :
- Correct typographical errors, such as the one in the figure caption "Neural Network Agriculture," which should be "Neural Network Architecture."

9. Performance Metrics Explanation :
- Provide a more detailed explanation of the performance metrics used, such as accuracy, precision, recall, and F1 score. Explain how these metrics were calculated and their significance in evaluating the model.

10. Comparison with Other Methods :
- Include a comparative analysis with other existing methods for leaf classification. Highlight the advantages and potential limitations of your approach compared to others.

11. Future Work and Improvements :
- Discuss potential future improvements and directions for further research. This could include exploring more complex architectures, larger datasets, or additional preprocessing techniques.

12. Full Reference to Wu et al. (2007) :
- Provide the complete citation for Wu et al. (2007), which is referenced as the source of the dataset used. This should include all necessary details such as the title, authors, publication venue, and year.

The CONCLUSION or summary is accurate and supported by the content.
See comments above.

The list of REFERENCES is comprehensive and appropriate.
Please provide correct reference for Wu et al. and Smith and Jones.

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[Poor] **1-5** [Excellent]
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[Poor] **1-5** [Excellent]
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[Poor] **1-5** [Excellent]
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