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REVIEWER'S REPORT

Manuscript No.: IJAR-55234

Title: COMPARATIVE ANALYSIS OF CONVOLUTIONAL NEURAL NETWORKS (CNN) FOR LAND USE CLASSIFICATION BASED ON AGRICULTURAL SATELLITE IMAGES

Recommendation:

Accept as it is .....

Accept after minor revision...yes.....

Accept after major revision .....

Do not accept (*Reasons below*) .....

Rating	Excel.	Good	Fair	Poor
Originality		Y		
Techn. Quality		Y		
Clarity		Y		
Significance		Y		

Reviewer Name:Dr.Shaweta Sachdeva

Detailed Reviewer's Report

1. The title is relevant and informative; however, it may be strengthened by explicitly mentioning the dataset (EuroSAT/Sentinel-2) to better highlight the experimental context
2. The abstract clearly states the objective and key findings, but it would benefit from briefly mentioning the evaluation metrics used and the dataset size to improve completeness
3. The introduction provides adequate background and motivation; however, it could be improved by more clearly identifying the specific research gap that differentiates this work from existing comparative CNN studies
4. The related work section is comprehensive, but a short comparative table summarizing prior methods, datasets, and reported accuracies would enhance readability and contextual positioning
5. The description of the dataset shows some inconsistency: EuroSAT contains 10 classes, but only four are used in experiments; the rationale for selecting these four classes should be clearly justified
6. The class imbalance issue is acknowledged, but the subsampling strategy needs clearer explanation, including its impact on minority classes and reproducibility of results
7. The preprocessing and data augmentation steps are listed, yet important implementation details such as normalization type, interpolation method, and augmentation probabilities are missing
8. The manuscript states that all models were trained with the same baseline hyperparameters, but the exact hyperparameter values (learning rate, optimizer, loss function) are not explicitly reported
9. The performance evaluation relies heavily on accuracy; additional emphasis on class-wise precision, recall, and F1-score would provide a more balanced assessment, especially given the class imbalance
10. The very high validation accuracy (99%) achieved by MobileNet and GoogleNet raises concerns about potential data leakage or overfitting; this should be discussed more critically
11. The confusion matrix analysis is informative, but numerical values or a summarized table would make the interpretation clearer and more quantitative

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12. Figures are relevant but some captions lack sufficient explanation, and figure numbering/labeling could be improved for better flow and clarity
13. The discussion section effectively interprets results, yet it could be strengthened by comparing findings more explicitly with results reported in prior studies
14. The conclusion summarizes outcomes well, but practical implications for real-world agricultural monitoring and policy decision-making could be elaborated further
15. Minor grammatical errors, formatting inconsistencies, and repeated reference links at the end of the manuscript should be carefully corrected before publication