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REVIEWER'S REPORT

Manuscript No.: IJAR-56580

Title: Image Based Bovine Breed Recognition System.

Recommendation:

Accept as it is .....

Accept after minor revision.....

Accept after major revision .....

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

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

Reviewer's ID: JPR-106

Reviewer's Comment for Publication.

The manuscript titled *"Image Based Bovine Breed Recognition System"* addresses an important and contemporary topic in the field of agricultural technology and precision livestock farming. The study proposes an artificial intelligence–based system that utilizes Convolutional Neural Networks (CNN) and computer vision techniques for the automatic identification of bovine breeds using image data. The topic is relevant and aligns well with current trends in digital agriculture, particularly with initiatives aimed at improving livestock management through automation and data-driven systems.

The abstract clearly outlines the objective, methodology, and expected application of the system. The authors present a well-structured introduction that effectively highlights the importance of bovine breed identification in India's agricultural ecosystem. The comparison between manual identification and automated CNN-based systems provides a clear justification for the development of an AI-driven approach. The discussion of challenges such as image variability, inter-breed similarity, and limited datasets demonstrates a good understanding of the technical complexities associated with image-based livestock classification.

The literature review is comprehensive and includes several recent studies related to computer vision, deep learning, and livestock identification systems. The authors have cited relevant works that emphasize the role of CNN architectures, object detection frameworks, and AI-based farm management tools. This contextualization strengthens the motivation for the proposed system and highlights its potential contribution to precision livestock farming.

However, some minor improvements are recommended. The manuscript would benefit from clearer descriptions of the dataset used, including the number of images, breed categories, and data sources. Additionally, the methodology section should further elaborate on the model training process, evaluation procedures, and system architecture to improve technical clarity and reproducibility. Some sections of the manuscript contain minor grammatical inconsistencies and formatting issues that should be corrected during revision.

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Overall, the study presents a promising application of artificial intelligence in livestock management and contributes to the advancement of digital agricultural technologies. With minor revisions related to methodological clarity and language refinement, the manuscript would be suitable for publication.