

Isaac Woungang · Sanjay Kumar Dhurandher ·
Kiran Kumar Pattanaik · Anshul Verma ·
Pradeepika Verma (Eds.)

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Isaac Woungang, Sanjay Kumar
Dhurandher, Kiran Kumar
Pattanaik, Anshul Verma,
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Abstract

In the process of production of Areca nut, segregation is one of the important stages. As of now, most commercial retailers use skilled workers for quality segregation, which means a lot of time is required for finalising the product costing. In this paper, Convolutional Neural Network (CNN) and MobileNet based methodology was proposed to identify the healthy and diseased Areca nut. The dataset containing images of healthy and diseased nuts was created. Furthermore, the augmentation method was applied to enhance the dataset. The confusion matrix was applied to check the performance of the models and the same was cross-validated using the 10-fold method. The CNN and MobileNet achieved accuracy, precision, recall, and an F1-score of 100%. After applying the 10-fold method, the CNN achieved average accuracy, precision, recall, and F1-score of 95%, 97%, 96%, and 94%, respectively. Whereas, MobileNet outperforms CNN by 100% for all metrics.