

ABSTRACT

Using the Convolutional Neural Network (CNN) technique, this study attempts to create a classification system for nominal value images on banknotes from the 2022 edition that will aid the blind. Recognizing the importance of enabling the visually impaired to independently identify banknote values, this study employs three CNN models: EfficientNetV2M, VGG16, and EfficientNetB0. 1,400 banknote photos make up the dataset 60%:40% for testing. EfficientNetV2M model had the highest accuracy at 98.04% with a Loss value of 0.0632, followed by the VGG16 model at 94.64% with a Loss value of 0.1388, and the EfficientNetB0 model at 99.82% with a Loss value of 0.0137. In summary, parameter adjustment greatly affects Accuracy and Loss numbers. The EfficientNetB0 model is the best at classifying images of banknotes with nominal values. The creation of a mobile application to assist the blind in independently identifying banknote values is one of the study's implications.

Keywords: Image classification, nominal value, banknotes, visually impaired, Convolutional Neural Network, EfficientNetV2M, VGG16, EfficientNetB0.