

# Currency Recognition for Visually Impairment People using Deep Learning Algorithm

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**Abstract:** *Since technology enables blind individuals to independently handle their finances and improve their everyday lives, currency recognition is a crucial topic. This research proposes a revolutionary system for recognising cash using computer vision and machine learning methods. The system extracts information from banknotes and categorises them based on their denomination using a camera and image processing algorithms. People who are visually blind can greatly benefit from currency recognition technology by being able to freely manage their finances. Blind people frequently struggle with managing their finances because they are unable to discern between different cash denominations. By enabling individuals to reliably identify and handle their money, this technology can improve their daily lives and financial independence. Currency recognition technology can assist those who are blind as well as other people and organisations, including banks, shops, and vending machine owners. These organisations can automate their procedures and increase the effectiveness of their operations by using this technology. Deep learning algorithms like the Convolutional Neural Network (CNN) are frequently used in computer vision and image recognition applications. CNN is a perfect algorithm for cash recognition for blind individuals because it has been demonstrated to attain great accuracy in recognising complex patterns and characteristics in images. The system would first need to gather a sizable collection of banknote images of various denominations in order to conduct currency recognition using CNN. In order to enhance the quality of the data, the photos would subsequently undergo preprocessing, which might include scaling, normalisation, and other changes. The preprocessed photos would then be used to train the CNN, with the intention of teaching it the underlying patterns and features that distinguish one banknote denomination from another. In order to reduce the error between the anticipated and actual denominations, the training procedure would comprise forward and backward propagation of the data through the network, with the weights and biases of the filters being modified.*

**Keywords:** CNN, Deep Learning, Image Processing, ML, ANN

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