Title: Identification of fake Indian currency using CNN

Abstract:

Counterfeiting of Indian currency poses a significant threat to the economy and public trust. To combat this menace, the development of efficient counterfeit detection systems is crucial. This study presents a novel approach to identify fake Indian currency using Convolutional Neural Networks (CNNs). CNNs are a class of deep learning models known for their exceptional image processing capabilities. Our proposed system begins by acquiring high-resolution images of banknotes. These images are preprocessed to extract essential features such as watermark patterns, security threads, and serial numbers. Subsequently, a CNN architecture is trained on a vast dataset comprising genuine and counterfeit currency samples. The trained model effectively learns to differentiate between authentic and fake banknotes based on these distinctive features.

Experimental results demonstrate the system's robustness and high accuracy in identifying counterfeit currency, making it a promising tool for financial institutions, banks, and law enforcement agencies. This research contributes to the ongoing efforts to protect the integrity of the Indian currency and maintain public trust in financial transactions.

Keywords: Currency image dataset, CNN, Mobile net, VGG

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