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ABSTRACT

The spread of counterfeit currency is a major threat to economic stability, requiring advanced methods for accurate detection. This project, titled "Identification of Fake Indian Currency Using Convolutional Neural Networks," introduces a new approach to detecting fake currency using deep learning techniques. It focuses on three main models: MobileNet, ResNet, and a hybrid model that combines MobileNet with Support Vector Machines (SVM). Another version of the hybrid model combines MobileNet with both SVM and Random Forest.

MobileNet and ResNet, known for being efficient and accurate in recognizing images, are tested to see how well they can distinguish real Indian currency from counterfeit notes. The hybrid model improves detection by combining the strengths of MobileNet and SVM, making it better at handling complex fake currency patterns. Adding SVM and Random Forest to MobileNet further boosts the model's ability to classify currency accurately by using ensemble learning techniques.

These models are evaluated based on how accurate, precise, reliable, and robust they are in real-world situations. The results show how convolutional neural networks can significantly improve counterfeit currency detection, offering valuable insights to strengthen financial security.

Keywords: Counterfeit Detection, Convolutional Neural Networks, MobileNet, ResNet, Support Vector Machines (SVM), Random Forest, Hybrid Model, Indian Currency, Image Classification, Machine Learning.

CLASS & SECTION: IV BTech CSE-B

BATCH: 2

PROJECT TITLE: IDENTIFICATION OF FAKE INDIAN CURRENCY USING CONVOLUTIONAL NEURAL NETWORK

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