Fake Currency Detection System Using Deep Learning

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Overview

Introduction

- Counterfeiting money stands for illegal replication of original currency,hence counterfeit currency is termed as fake currency that has not been authorised by government.
- Fake currency is produced using techniques like offset printing and digital printing, These when circulated causes significant threat to economy.

Table VIII.9: Denomination-wise Counterfeit Notes Detected in the Banking System (April to March)

(Number of pieces)

Denomination (₹)	2020-21	2021-22	2022-23
1	2	3	4
2 and 5	9	1	3
10	304	354	313
20	267	311	337
50	24,802	17,696	17,755
100	1,10,736	92,237	78,699
200	24,245	27,074	27,258
500 (Specified Banknotes)	9	14	6
500	39,453	79,669	91,110
1000 (Specified Banknotes)	2	11	482
2000	8,798	13,604	9,806
Total	**2,08,625**	**2,30,971**	**2,25,769**

Source: RBI.

Literature Survey

SNo	Title	Author	Algorithm used	Year
1	Fake Currency Detection with Machine Learning Algorithm and Image Processing	Aman Bhatia ,Anshul Shroff, Mayand Kumar, Vansh Kedia, Mayand Kumar	K-Nearest Neighbours followed by image processing	2022
2	Fake currency detection using Image processing	L. Latha, B.Raajshree, D. Nivetha	OpenCV and ML algorthims for feature extraction	2021

Literature Survey

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3	A Hybrid Fake Banknote Detection Model using OCR, Face Recognition and Hough Features	Adiba Zarin, Jia Uddin	Optical Character recognition (OCR), Face Recognition and Hough transformation algorithm	2019

Problem Statement

- Fake currency detection is a process of identifying counterfeit or unauthorised banknotes.
- Even if banks and other big organizations have automatic machines designed to identify counterfeit currency notes, ordinary people can hardly differentiate between them.
- To overcome fake currency detection system is proposed which is acessed for every individual.

Proposed Method

- Most of existing methods are implemented based on hardware and image processing techniques which results in slow detection of counterfeit currency.
- To improve this we propose a system that is developed based on convolutional neural network(CNN) which results in minimal complexity and no human intevention.

Implementation status

- dataset of various notes are collected
- model trained using CNN Algorithm

Thank you