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INDIAN BANK CURRENCY RECOGNITON AND FITNESS USING IMAGE PROCESSING

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Abstract-- *To count currency as soon as possible for the bank staffs that implementation in the financial organizations, paper recognition and classification system has created as one of the most important applications of pattern in recognition system. Features extraction using Gray Level Co-occurrence Matrix directly affects the recognition ability. A method and model for automatic classification and recognition of currency notes using Supervised Learning classifier that is the most important and simplest method in pattern recognition. In this paper, we are going to implement based on textural feature such as GLCM. The recognition system is classified into four types. The skew correction of an gray image is first. The captured input gray image is second preprocessing and the third method is nothing but extracting its features by using Gray Level Co Occurrence Matrix. The recognition system presented that the approach is one of the most effective method of recognizing currency pattern to read its value.*

Keywords-- *Genuine, Fake, Currency, GLCM, Dilation, Erosion ,Image Processing.*

I INTRODUCTION

There are 50 different types of currencies worldwide with each entirely different. For Example, the length and breadth of the currency paper may vary, and also colour and pattern may different from each other. The characteristics and texture of each currency must be recalled. This can cause some problem, so people need an effective and efficient way of working. The goal or purpose of our program is to assist people who need to identify their money and work more effectively and comfortably. The Indian Currency Sorting Machine for bank workers is an electronic tool that enables them to detect and identify currencies. The Currency Sorting Machine 's main functioning principle is the acquisition of images, pre-processing, segmentation and recognition. This has been combined with a measurement methodology, pattern recognition technology, called the optical process, mechanical and electronic integration. Yet they have to manage and enforce a wide range of methods, system features and anti-fake labels and identities for various common currencies for virtually all employees.

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II LITERATURE SURVEY

In [1] Anuprita B. Harugade, Alfija N. Mirje This proposes a program that can identify the Indian paper currency and then check it using simple techniques of image processing. It uses the difference between the input bill and the calculated reference values in a similar environment for various parameters of original bills.

In[2] Prasad Dinkarrao Deshpande, Atul Shrivastava proposed an effort to explore the various security features of the highest denomination of 2000 with multispectral imaging.

In [3] Ayswarya. R, Balaji. B, Balaji. R, Arun. S, Ramya. R describe This extraction of the various Indian currency notes features which are 'safety string, serial number, latent picture, watermark' The system designed has benefits such as simplicity and high speed.

III EXSITING SYSTEM

The existing system for the currency recognition of neural networks is mainly focused. The overhead calculation was the biggest downside of the use of neural networks. The research was based on image processing methods in which currency characteristics and patterns are known. The system was sluggish in defining currencies and insufficient to be used in real time.

A. Disadvantages

- Neural network will classify the result based on nearest matching
- Amount will be recognized wrongly.

IV BLOCK DIAGRAM

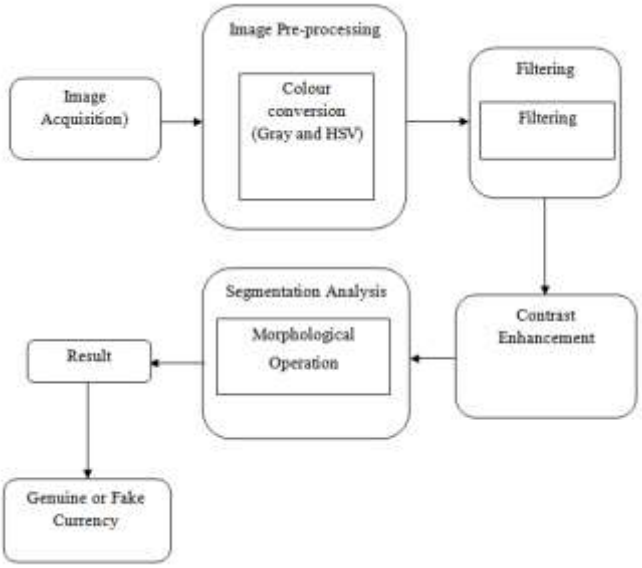

Figure 1: Block diagram – Matlab Unit

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V MODULE DESCRIPTION

A. INPUT IMAGE

A digitally encoded representation of a visual feature such as a physical scene or the internal structure of a subject is a digital imaging or the processing of digital images.

Figure 2: Input image

B. RESIZING IMAGE

C = imresize(D,scale1)

It returns image C that is scale1 times the size of D . The input image D can be a grayscale, Red Green Blue, or binary image. If D has more than 2 dimensions, imresize function only resizes the first two dimensions. If scale1 is in the range [0, 1], C is smaller than D

Figure 3: Resizing image

C. COLOUR SEPARATION

The Red Green Blue mode also called as primary image based on the combination of Red, Green and Blue light. To screen or showing print an image, the colors must be converted to a mixing of colors compatible with screen printing.

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Figure 4: Colour Seperation

D. CONTRAST ENHANCEMENT

Contrast Enhancement is a method or approach to the processing of images using the histogram of the image. Equalization of Histogram does this by improving the expansion to clear the most intensity values. The AHE is a computer image processing or visioning system used to enhance contrast in images or signals. The system measures multiple histograms and uses them to disseminate image non-dark meaning, as distinguishes it from other histogram parallels. The approach changes the importance of pressure.

Figure 5: Colour separation

E. GLCM

The extraction of features is related to the quantitative analysis focused on dimension reduction.

F. SEGEMENTATION

Image segmentation is the separation of an image into various regions, each with unique analytical properties. In order to segment each image intensity each, five key approaches are usually needed, namely threshold method, border detection segmentation, regional processing, pixel intensity and morphology methods

Figure 5: Segementation

VI CONCLUSION

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The proposed model detects the denomination of Indian Genuine or Fake currency using the simple image processing. Convolutional Neural Network algorithm is more efficient than the Brute Force Matcher in terms of time and resources used.

Moreover, the current existing system has a poor accuracy for identifying coins due to the reflective nature of the material. A suitable lighting source like Ultra Violet can be used to prevent or rescue this problem in the future.

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