Counterfiet Currency Detection

Since Counterfiet money is a big problem worldwide. Most of the transaction are still done in cash and fake money is a major issue.

EXISTING SYSTEM

Existing System The main methods for currency recognition is by characteristic geometric size and by characteristic texture. The general steps followed by image processing approach is to acquire image, to detect edge, to convert image to gray scale, feature extraction, image segmentation and decision making. To overcome this problem now the trend is towards deep learning, since it is a multilayer neural network. Fake currency recognition system using SIFT to recognize partial images was proposed by Paisios et.al in the year 2012 states that the system is evaluated using limited sample set with different state which are folded, incomplete or rotated. They used KNN algorithm which has an accuracy 75%

DISADVANTAGES

• The drawback of these approaches are detection efficiency is less since feature extraction is a challenging task. • Due to the limited number of real-life counterfeit currencies, SVM is used to detect counterfeit currencies, so only authentic currencies are required for authentication and to train classifier

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PROPOSED SYSTEM

Inorder to overcome this problem we have introduced our proposed system.It use Deep Learning involve CNN which can learn complex pattern and feature from data.Unlike traditional methods deep learning can automatically learn and extract feature.

How System Work

Step 1:

The System start with two dimensional image of currency note

Step 2:

- Convolutional layer in neural network applies array of numbers to the image.

- Each value move over the image,multiply its value by the pixel value of image.
- The result are summed up to create the new matrix called feature map which contain the important feature of image.

Step 3:

- To train the network a database of note image is created.
- Each note image are generated using augmentation.It is aprocess like resizing and rotating to increase the database count.
- Afetr Augmentation annotation is done and then image are stored in separate folder with labelling.

Step 4:

- The neural network is trained on these image to learn the feature of genius currency note.

Step 5:

- The System use a webcam to capture image of currency note.
- The network compared the captured image with the feature it has learned.
- It then determine if the note is real or fake and then display the result.

Technology Used

Deep learning with Transfer learning

Language : ML.Net & C#.Net

Database : SQL Server 2022

IDE : Microsoft Visual Studio 2022