

IDENTIFICATION OF INDIAN CURRENCY NOTES USING RECURRENT NEURAL NETWORK

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Abstract– The identification of fake currency notes is being developed through the focus on security features such as intaglio, micro lettering, number panel, bleed lines, latent image, security thread, optical variable link, etc. Previously, the fake currency identification system was developed with the assistance of various algorithms, but according to our survey, the recurrent neural network algorithms (RNN) are considered more efficient than the previously used algorithms. Therefore, the security features and the RNN algorithm are utilized in the development of the system for identifying fake currency.

Keywords: Fake currency, security features, RNN.



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INTRODUCTION

According to the latest government reports, it has been observed that more than 3.53 lakh cases of counterfeit currency detection in India's banking channels have been heightened in the last eight years. The practice of counterfeiting has become more refined with the arrival of paper currency. An astonishing stride was taken by the Indian Government, with the demonetization of 500 and 1000 Rs. notes. It was stated by Prime Minister Shree. Narendra Modi that one of the cognitions for this policy was to counter the climbing menace of counterfeit Indian Currency notes. However, an all-time peak amount of fake currency was acknowledged by Indian banks, and an over 480% increment in doubtful transactions after demonetization was noticed. A first-ever report on questioning credits ended in the wake of the 2016 notes ban has been discovered. The singular authority to issue bank notes in India is held by the Reserve Bank of India (RBI). The currency notes of all denominations from Rs.2 to 2000 are printed by the RBI, being the highest monetary authority in the country. Several security features have been published by the RBI so that the counterfeit notes can be detected by the general public. However, distinguishing a counterfeit note just by visual per lustration is not an easy task. Furthermore, all the security features are not known by an average person. The problem can be solved by developing applications that can detect a currency note to be counterfeit by a camera image. A tremendous success in image classification tasks has been witnessed by deep learning models. A binary image classification task with two classes-fake or real is proposed by our model. The counterfeit note can be detected by the RNN model we have built, without actually manually extracting the features of images. The model learns on the generated dataset by training, and it helps us detect a counterfeit note.

LITERATURE SURVEY

In the present scenario, the demonetization of all Rs 500 and Rs 1000 banknotes of the Mahatma Gandhi series has been announced by the Indian government. A new Rs 500 and Rs 2000 notes have been introduced by the Indian government to reduce illegal activity in India's fund flow. However, fake or bogus currency notes continue to circulate in society. The identification of fake currencies among the real ones is