Counterfeit Currency Detection

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Abstract: *Bank notes are currencies used by any nation to carryout financial activities and are every Country's asset which every nation wants it to be genuine. Part of reprobates prompts counterfeit notes into the market which look like the very unique note. Information were separated from pictures that were taken from veritable and produced bank note like examples. For digitization, a modern camera generally utilized for printre view was utilized. The final images of the currencies have 400×400 pixels and resolution of 660dpi. Wavelet Transform tool is used to transform the images into Wavelet Transformed images. From these Wavelet Transformed images the features are extracted. The dataset has four attributes they are variance, skewness, curtosis and entropy which are extracted from the wavelet transformed images. We use Supervised Machine Learning algorithm which is Decision Tree Classifier and K- Nearest Neighbours to build the model and predict the class of the currency. This is a Binary Classification problem as we are predicting only two classes whether the currency is genuine .We fit the train data onto the model and predict the new data which is test data. The accuracy of this model reaches up to 98.3% by using Logistic Regression algorithm. That means we can predict whether the currency is fake or genuine with almost hundred percent accuracy which is lacking technology till now in the real world. We can also predict new data (new currencies) by taking the pictures of the corresponding currencies and applying the industrial tools and transforming the final images into wavelet transformed images and using this model*

Keywords: Machine learning; K-nearest neightbour(KNN); Decision Tree; Logistic regression

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