

RANCANG BANGUN ALAT DETEKSI NOMINAL DAN KEASLIAN UANG KERTAS UNTUK PENYANDANG TUNANETRA MENGUNAKAN RASPBERRY PI BERBASIS PENGOLAHAN CITRA

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ABSTRACT

Blind people have limitations in their eyesight, including visually distinguishing the nominal value of banknotes. Quoted from this news certainly.com (5/12/2016) and [Berita merdeka.com](http://Berita.merdeka.com) (12/10/2012) stated that the number of blind people in Indonesia reached 3.5 million, or the equivalent of Singapore's population. With there are still many blind people, the advancement of technology in the present that will be combined with the visualization system developed will help their visualization deficiencies. In this Final Project research, a device designed to detect banknotes' nominal and authenticity using Raspberry pi based on image processing with the CNN (Convolution Neural Network) method was conducted. The input on this device uses a webcam and a UV lamp as hardware for money detection. The output is sound that is issued through the speaker, which will sound after the camera detects the nominal banknote and has been processed by the source code in the Raspberry Pi. The results of tests carried out by the Nominal and Authenticity Detection Tool for Banknotes using the Image Processing-Based Raspberry Pi can work as expected with the average results from each test with different confidence levels of 50%, 60%, 70%, and 80%. The average results are as follows: 78% accuracy, 78.5% precision and 78.25% recall.

Keywords: *Blind, Raspberry Pi, Image Processing*