ABSTRACT

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IDENTIFIKASI BAHASA ISYARAT INDONESIA (BISINDO) DENGAN *REAL TIME OBJECT DETECTION* MENGUNAKAN *PRE-TRAINED* MODEL SSD MOBILENET V2

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(xiii + 61 + attachment)

Indonesian Sign Language (BISINDO) is intended for individuals who cannot only use sign language but also for the deaf and mute to assist them in communicating with normal people. Due to technological limitations in aiding the deaf and mute, the Indonesian Sign Language Translator application was developed. Furthermore, it is expected that this application will enable deaf and mute individuals to learn Indonesian Sign Language directly. This research aims to develop a system for identifying Indonesian sign language using a training model from a pre-trained model using the Single Shot MultiBox Detector and a combination of MobileNet V2. The method used in this research is transfer learning using a self-collected dataset consisting of 540 image data, which are hand sign images with sizes ranging from 640x480 pixels and consisting of 27 labels. The system development process includes preprocessing all image data, which are input as colored images saved in .jpg format with a shape of 320x320. Labels are added to each data image, which are then divided into train and testing sets. The model training is done using the pre-trained SSD MobileNet V2 model using the Python programming language executed with Jupyter Notebook, and model testing is done directly using a website application with React JS. The test results show that the developed system can recognize BISINDO, achieving evaluation results with a precision of 83.9%, recall of 84.7%, and a loss of 23%.

Bibliography (2005-2023)