ABSTRACT

Human needs for technology are now getting deeper, such as the need to detect objects automatically. Automatic object detection systems can assist in obtaining data regarding the identification of an object. Automated object detection systems are also essential at KONI Bandung City to classify athletes based on basketball, futsal, fencing, volleyball, silat, etc.

To help KONI Bandung City, this final project designed a prototype system to measure athletes' body parts based on image processing. The sports branch used as the object of this final project is basketball. The acquisition was made at the Bandung City KONI by photographing athletes using the EOS 1300D camera. The method to detect the athlete's posture is to compare the Mediapipe and Openpose algorithms using the Python programming language.

This final project uses 27 dataset images taken directly at KONI Bandung City. Then the augmentation is carried out on 67 images. Of the 67 images, 27 are used for the training process, and 40 are used for testing. From the results of testing the classification of basketball and non-basketball athletes on 40 images, the Mediapipe algorithm obtains an accuracy rate of 60%. In contrast, Openpose brings a higher accuracy rate of 80%.

Keywords*: Image Processing, Pose Estimation, Basketball,* Mediapipe, Openpose