

ABSTRACT

With Indonesia's entry into the industrial era 4.0, technology has become a solution to various human problems through the concept of digitalization. One digital technology is an Array Camera, which arranges several cameras to record images or videos from more varied angles. In this research, a system has been developed to detect human objects and calculate height, weight, and BMI (Body Mass Index). The test results show that there are several parameters that influence the results of object detection and physical calculations, especially those related to clothing color and camera height. In addition, the Average MAPE (Mean Absolute Percentage Error) value from the calculation shows the system performance, where a value below 20% indicates good performance. However, this system has limitations in detecting human objects wearing light and loose clothing, as well as certain height and weight ranges. The used solution can be developed by using YOLO (You Only Look Once) in object detection and developing mobile apps to expand the range of use of the system. This array camera system can be an alternative for TNI and Polri health inspection officers, although further optimization in object detection and improving the quality of camera equipment is needed.

Keywords: Camera Array, Object Detection, Body Mass Index, TNI, Polri, Python