

## ABSTRACT

*The current state of emergency due to the Coronavirus has affected the world in several ways. Within days of the outbreak of the infectious virus, all citizens of the world have had to adjust or change their way of life. This disease can be spread through small droplets from the nose or mouth when coughing or sneezing. The droplets then fall on surrounding objects. Then if someone else touches an object that has been contaminated with these droplets, then that person touches the eyes, nose or mouth (triangle of the face), then that person can be infected with COVID-19. Or it could be that someone is infected with COVID-19 when they accidentally inhale droplets from an infected person. This is why it is important for us to maintain a distance of at least one meter from people who are sick. One way to reduce the spread of the virus is to implement physical distancing. Physical distancing is one way to prevent the spread of the virus, so to ensure that physical distancing is carried out properly, it is necessary to supervise these activities. One of the things that can be done to help these problems is to use technology. The technology that can be utilized is in the fields of artificial intelligence and computer vision. In this study, the researchers applied the Convolutional Neural Network algorithm with the YOLO (You Only Look Once) architecture to detect physical distancing. From the test results, the system built can detect objects of people in a place using a raspberry pi. The output obtained is that the system can give a green mark on the bounding box if the object is at a safe distance, otherwise the system will give a red mark on the bounding box if the object is at a close distance. From the experiments conducted a total of 200 times, the accuracy rate for object detection was 100% and with an average violation detection accuracy (physical distancing detection) of 93% and 92%, respectively.*

**Keyword :** *Convolutional Neural Network, YOLO, Object Detection, Physical Distancing, Covid 19*