

## ABSTRACT

The monitoring system in the era of technological development is now needed for security in a room. One of the monitoring systems is CCTV camera. CCTV cameras are widely used in offices, military agencies, hospitals, banks and others. CCTV cameras record all events in a room for 24 hours. But that will cause a waste of data storage memory. Therefore, we want to implement an image processing method that is object detection.

The author uses the IP camera as a CCTV camera. In the implementation the writer uses the Convolutional Neural Network (CNN) method as a method used to recognise the image if there's a detected object. Then the detection results will be sent to the server and can be accessed through applications on the mobile device.

The tests using the Convolutional Neural Network method were obtained by analyzing the parameters of True Positive Rate (TPR), False Positive Rate (FPR), Percentage Correct Classification (PCC), and the functionality of Android applications on mobile devices. The functionality here matches the truth of the prediction results of image recognition and notification of Android applications on mobile devices. From the training results of 2000 dataset images (1000 human images, 1000 non-human images) in the making of the model obtained True Positive Rate = 0.9, False Positive Rate = 0.16, and Percentage Correct Classification = 86.6%.

**Keywords** : recognition, image processing, image recognition, ip camera, mobile device, server.