CHAPTER 6
CONCLUSION

Following the result of this research, the detecting system has successfully implemented computer vision technology to be used to detect physical distance violations in real-time using the SSD method and NVIDIA Jetson Nano, which then sound a warning alarm and store the violation data in the system database. The model used in this research is a pre-trained SSD MobileNet V2 320x320 model provided by the Tensorflow model zoo that has been trained with a loss value of 0.122, which is good. The performance of the system is calculated from the experimental results using pictures and real-time video with a total of 10 pictures, after that, using the confusion matrix, the system has an accuracy value of 88%, with a precision value of 100%, and a recall value of 87%.

The limitation of this research is the object with the backlighting and the position of the camera. An object that has backlighting couldn't be detected properly because it becomes less clear and the position of the camera in this research is only done by making it parallel with the object. Suggestions for future research include:

1. While positioning the camera parallel to the object provides good results, trying to position the camera at various angles can be done to get more optimal results in the next research.
2. In terms of data, the number of datasets can be increased to increase the model's ability to learn more since this research only used 853 images dataset in total.
3. SSD MobileNet V2 is a good algorithm for detection. Doing some more varied configurations in terms of dividing training and test data, the configuration of the learning rate, the number of steps, and the batch size can make it more optimal.
4. It is recommended to use a PC with high specifications to support the training process which consumes a lot of time.
5. With the existing results using the SSD MobileNet V2 model, this does not become a barrier to trying other models that might be more suitable and produce better performance.