ABSTRACT

The implementation of social distancing at this time is very necessary and very tightened because of the covid-19 cases that are increasingly widespread and spreading throughout the world, including in Indonesia itself. Cases of Covid-19 in Indonesia began starting from March 02, 2020 in Jakarta. One of the easy and effective ways to break the chain of Covid-19 spread is by implementing social distancing and reducing crowds wherever we are.

This final task will discuss the design and implementation of social distancing detection. This detection will take a picture of the person caught on camera then analysed whether they are doing social distancing or not. Detection of social distancing can be done in real time so that it can be used for monitoring in certain areas.The method to be used is Faster Region based Convolutional Neural Network (Faster R-CNN) is one of the methods of Deep Learning that can be used to detect an object in real-time. As for the detection of distances between people who indicate they are doing social distancing will use the Euclidean Distance method.

The result of this final gas harvest is that the system will detect humans caught on camera using models with 80% data partitions: 20%, epoch 7000, learning rate 0.0004, and num steps 21000. Accuracy obtained by using the Faster Region based Convolutional Neural Network (Faster R-CNN) method reached 96.90% precision value of 97.81%, and recall value of 98.67% obtained from confusion matrix calculations performed on datasets. The accuracy of social distancing tests obtained in CCTV scenarios was 82.35% and parallel scenarios were 86.66%.

Keyword : *Accuracy, Covid-19, Deep Learning, Euclidean Distance, Faster Region based Convolutional Neural Network (Faster R-CNN), Social Distancing.*