ABSTRACT

Social Distancing is one of the health protocols implemented to reduce the spread of Covid-19 by maintaining a minimum distance of 1 meter, and not forgetting to use a mask, which is also part of the health protocol. There are still many people who do not care about the health protocol provided by the government, therefore this Final Project will provide a solution to monitor the public in public places by monitoring social distancing and the use of masks in restaurants.

In this system, for the simulation there will be a camera installed in the room which is a simulation of a restaurant. Then detect social distancing and use masks to monitor places such as restaurants implementing or not implementing health protocols in the simulation carried out. The system will detect person-person objects using the You Only Look Once (YOLO) algorithm and the use of masks using the Residual Network (ResNet) algorithm in the simulation. The processes carried out by the system to detect violations are to perform person detection then ensure distance measurement with Euclidean distance to measure the distance between the detected person objects, then determine whether the person is safe or unsafe. Mask detection then confirms the face then determines whether the face is a mask or non-mask by using ResNet as a model to detect mask use.

Based on the best results from testing and making the two models to be used, it is obtained from the dataset ratio, which is 90% train data and 10% test data. With the results of testing the detection of the use of masks, the accuracy obtained is 99.04%, and the results of the mAP social distancing detection test obtained are 49.50%.

Kata Kunci: *Covid-19, Social Distancing, Penggunaan Masker, You Only Look Once, Residual Network.*