

## ABSTRACT

In the industrial world today, there are still many who use human labor in moving an item from one location to another location. It resulted in work accidents caused by human negligence. Therefore industrial companies utilize AGV (Automatic Guided Vehicle) as a means of transportation of goods that are controlled automatically without the help of operators. But in work, AGV faced many obstacles one of them like a collision. That's because the AGV navigation system is still not good. Therefore, this study aims to design the algorithm of collision avoidance system on AGV using lidar sensors.

In designing a collision avoidance system on this AGV requires several devices. Among them using lidar sensors, microcontrollers, motor drivers and DC motors.

In this final project, the design of collision avoidance system algorithm using lidar sensor. The result of this final project of collision avoidance system which is designed is by way of AGV to keep the distance to obstacle angle with its movement using open control system, where AGV experienced a high enough error at the beginning of movement and then stable in move.

Keywords : AGV, lidar sensor, *collision avoidance*.