

ABSTRACT

The logistics industry often faces the risk of work accidents caused by human error in the process of moving goods. This risk can be reduced by implementing AGV (Automatic Guided Vehicle) robot technology. The AGV robot is a mobile robot that can work automatically in carrying out goods transport tasks. One of the AGV robot's abilities is to recognize lines on the floor. Infrared sensors are commonly used, but the line reading on these sensors has limitations. Camera modules are increasingly popular as an alternative to line reading. The advantages of camera modules are better accuracy, speed, efficiency and accessibility than infrared sensors. The mecanum wheel is also important for the movement of the AGV robot. These wheels allow free movement and flexible maneuvers. Therefore, to overcome this problem, it can be implemented by combining the camera module and mecanum wheel on the AGV robot. By using the thresholding method on the camera module for line reading and the PID method on the mecanum wheel for robot movement, it will increase the accuracy and reliability of line reading, as well as provide flexibility in the movement and maneuvering of the AGV robot. Thus, this combination will enable AGV robots to read lines accurately and have flexible movement capabilities in picking up and delivering goods.

Keywords: *Logistics Industry, AGV robots, Camera Modules, Mecanum Wheels*