ABSTRACT

The progress of electronic technology is very influential for people's lives. Especially robotics, being one that is developing and continuously being used as an alternative to solving problems. The need for workers who are strong, efficient, and able to work very long becomes important, so that the role of robots in the warehousing industry as a substitute for humans becomes quite crucial. Warehousing area that has many branches of the robot's path becomes an obstacle for the robot to move efficiently with respect to distance and time.

*In this study, implementing the A * algorithm on a prototype robot that moves from the starting point to a different destination on the robot's special trajectory. A * algorithm as an approach method used to determine the robot prototype motion. The selection of robot steps with the A * algorithm can determine the shortest path to the destination point.*

*The results of this study are to make a robot prototype that has been implemented A * algorithm for the movement system on the designed track prototype. The results of testing with a 3x3 path scheme prove the prototype of a mobile robot with the implementation of the A * algorithm as a determinant of the route with the branching path shows the successful presentation of the accuracy of the robot to the destination node by 66.6%. The robot is able to work optimally on a route that has many branches, so that the robot can determine the shortest path from all possible branches of the path that can be passed by the robot and travel faster.*

Keywords *:A* Algorithm, Shortest path planning, and Warehousing Robot.*