Mobile Differential Robot With Line Following And Obstacle Avoiding Applications

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Abstract

This paper presents particular aspects regarding a mobile differential robot, capable of following a black line on a white surface and also avoiding obstacles along its path. The modern concept of mobile differential robots includes the employment of microcontrollers as their central nervous system. Through the programming of the microcontroller, the robot is given the capability to receive information regarding the environment in which it is located and its position relative to its surroundings through sensors located on the front side of the robot. As a means of locomotion, the robot makes use of two direct current motors located on each side of the chassis, making it a bi-wheeled type autonomous robot. The construction of such devices arises from the need to observe the capabilities and performance of an autonomous robot when faced with a number of challenges.