IJARSCT
ISSN (Online) 2581-9429
International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
Impact Factor: 7.53
Volume 4, Issue 3, February 2024

Fire Fighting Robot- The Fire Extinguisher

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Abstract: *This study presents the design and implementation of a fire fighting robot using an Arduino UNO microcontroller as the central control unit. The robot is equipped with a flame sensor for detecting fires, a motor driver for precise motor control, and a water pump for extinguishing flames. Additionally, an ultrasonic sensor is integrated for obstacle detection and navigation, enhancing the robot's mobility in complex environments. A Bluetooth module allows for remote control and monitoring of the robot's operation, while a buzzer provides audible feedback during emergency situations. The performance of the fire fighting robot is evaluated under various conditions, demonstrating its effectiveness in autonomously detecting and extinguishing fires. Overall, the developed robot offers a promising solution for automated fire fighting tasks, with potential applications in both indoor and outdoor environments.*

Keywords: Arduino UNO, Flame sensor, motor river, water pump, Ultrasonic sensor, Bluetooth, Buzzer

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[3]. Mr. Kumara Swamy, P.Swathi, V.Shashi Kumar, M.Charan, A.Vinay. The common conventional firefighting methods involve fire brigades, portable fire extinguisher (hand held) and sprinklers.
[4]. Khaled Sailan, Prof. Dr.-Ing. Klaus-Dieter Kuhnert, Simon Hardt. They proposed an obstacle avoidance robot named as Amphibious Autonomous Vehicle. In this robot, a fuzzy controller is used to avoid static obstacle in real time.It aims to guide the robot or vehicle along its path avoiding all the obstacle that comes along the path.