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Fire Fighting Robot Using Arduino

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Abstract: This research paper discusses the design and development to fire fighting robot based on the Arduino microcontroller platform. The robot is designed to navigate manually through an environment and extinguish fires using a water pump and nozzle pair. The paper presents the hardware and software components of the robot ,including the motor control system, sensors, and algorithms for obstacle detection and fire detection .The robot is also equipped with a wireless communication (Bluetooth module) system that enables remote control and monitoring of its activities. Overall, this study demonstrates the feasibility and effectiveness of using Arduino-based platforms for the development of advanced firefighting robots.

Keywords: Firefighting robot, Arduino uno, Water pump, flame sensor, Motor controller (L239D), relays, buzzer, C++.

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