Dual Mode Fire Extinguishing Robot

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Abstract: *The robot is designed with a dual-mode functionality, enabling it to navigate autonomously through unknown environments to detect and suppress fires, as well as be manually controlled for targeted intervention in complex scenarios. The system integrates various sensors, including flame sensors for fire detection and obstacle avoidance sensors for navigation. The extinguishing mechanism employs a water spraying system activated upon fire detection or manual command.*

A dual-mode fire extinguisher robot is an innovative device designed to tackle fire emergencies efficiently. It typically operates in two modes: manual and autonomous. In manual mode, the robot can be controlled remotely by a human operator to navigate complex environments. In autonomous mode, it uses sensors, cameras, and algorithms to detect fires and extinguish them without human intervention..

Keywords: IoT, Arduino uno, Fire sensor, LCD, Motor Driver, Water Pump, Humidifier, Buzzer, Relay

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