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Implementing a Prototype Autonomous Fire Detecting and Firefighting Robot



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Abstract

Fires pose a significant threat to human life and property. An autonomous fire detection and fighting robot has the potential to mitigate the challenges associated with firefighting. This paper presents the implementation of an autonomous fire detection and fighting robot equipped with sensors, algorithms, and actuators to detect, locate, and suppress fires autonomously. The robot's mechanical and electrical components were designed, prototyped, and tested in a controlled environment to evaluate its ability to navigate through obstacles, detect fires, and suppress them autonomously. The results show that the robot effectively detects and suppresses fires, making it a promising solution for firefighting applications. The study contributes to the development of autonomous robots for firefighting, enhancing the safety of firefighters and the effectiveness of firefighting operations.

Keywords

Autonomous Robot; Firefighting Robot; Intelligent Robot; Fire Detection

Subject

Engineering, Control and Systems Engineering

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