FIREFIGHTING ROBOT WITH HUMAN DETECTION

ABSTRACT

Firefighters risk their lives when responding to dangerous fire scenarios. Robotic technology has been increasingly used in hazardous environments such as firefighting in recent years. Firefighter robots with human detection and alert capabilities are a new robotics application that has the potential to transform firefighting and rescue operations. The proposed system detects fire in all three directions. left, right, front. The robot has a special ability to detect and avoid obstacles. The robot reacts quickly, making firefighting more efficient and successful. Additionally, this robot uses cutting-edge computer science methods like computer vision, machine learning, and sensor fusion to detect human presence in dangerous environments and notify firefighters of their whereabouts. Cameras, gas sensor are among the sensors installed on the robots, which provide real-time data to the robot's onboard computer system. Identifying and locating humans even in low-light conditions can be achieved by processing data with specialized algorithms.. When a human is detected, the robot can use audio and visual feedback to alert firefighters to their presence, allowing for faster and more efficient rescue operations. It also uses a water tank and a spray mechanism to put out the fire .This robot, equipped with a water spray nozzle mounted on a servo motor and supplied with water from a main tank via a pump, is capable of performing tasks that pose significant risks to human safety.

Guided by,
Prof Athira B
Assistant Professor
Dept Of CSE

Presented by ,
Ashmina Shamnad(MCK20CS017)
Anu S Raj(MCK20CS014)
Gopika S(MCK20CS026)