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. It has a special ability to detect and avoid obstacles. The robot reacts quickly, making firefighting more efficient and successful. Also this robots detect the presence of humans in hazardous environments and alert firefighters to their location using advanced computer science techniques such as computer vision, machine learning, and sensor fusion. Cameras, gas sensor are among the sensors installed on the robots, which provide real-time data to the robot's onboard computer system. We can identify and locate humans even in low-light conditions 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. The water spray nozzle is mounted on a servo motor to cover the most area possible. A pump transports water from the main water tank to the water nozzle. This water pump needs a driver circuit because it uses more current than the controller can supply.

Guided by,
Prof Athira B
Assistant Professor
Dept Of CSE

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