

Project I Description

Project Name: Autonomous Fire Fighting Robot for devastated areas

Sponsor: UNICEF Challenge

Team Size: 4 MEE Students

Project Overview

Intelligent robots provide an excellent solution for dangerous missions. Combating fires in devastated areas is a mission that threatens the life of firefighters. In this project we propose the development of an autonomous robot that maneuvers around a specified area to detect fires and extinguishes them. The terrain could be a refugee camp or a devastated building. The robot will be equipped with sufficient sensors, cameras, and telemetry devices that allow it to autonomously maneuvering a certain area with fire while being remotely monitored.

Project Areas and Majors needed

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| <ul style="list-style-type: none">• Instrumentation (3 MEE Student) | <ul style="list-style-type: none">• Kinematics (1 MEE Student) |
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Project Deliverables

Design and Build a prototype robot that will:

- Maneuver a relatively rough terrain
- Avoid obstacles
- Detects a fire and efficiently extinguish it.
- Using Xbee protocols can provide telemetry data of: GPS location, Proximity sensors, IR camera, temperature, smoke, CO and CO₂ levels.