

Low Cost Multi-Modal Fire Detection using Computer Vision & mmWave Radar

Task 1: Preliminary Research

Ashwin Rajesh - 14259321

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1 Introduction

Wildfires pose a significant threat to humans, wildlife and the environment alike. Left unchecked, A wildfire can spread rapidly causing large scale destruction to forests & infrastructure, as well as releasing large amounts of pollutants into the atmosphere. Therefore, it has become increasingly crucial to detect them as early as possible. This research paper aims to explore strategies to optimise early wildfire detection through combining multiple sensors to achieve a multi-modal system. Specifically, a computer vision model using the YOLOv8 algorithm as well as a potential detection method using FMCW millimeter-wave radars are explored.

Bibliography