Drones and Disasters

Over the past few years, there has been a surge in the interest of the research community in leveraging drones in multiple avenues. From agriculture to commercial and traffic management, the ease of deploying and managing drones has led to extensive research to push the boundaries of possibilities and with mostly promising results. This is especially true of cases in which places where human reach is limited or difficult such as in disasters like wildfires, or floods or maybe not fast enough. Natural disasters or emergency traffic situations are impacting human life everywhere and many recent works explore the lure of using drones in such situations. For example, in [[1](journal.iba-suk.edu.pk:8089/SIBAJournals/index.php/sjcms/article/view/302)], the authors propose the usage of drones as a means to detect accidents and determine the severity of the accident. Similarly, the work in [[2](https://ieeexplore.ieee.org/abstract/document/8675647)] proposes the use of drones to detect people stuck in rubble using voice recognition. After a manmade or natural disaster, the main advantages of using drones are the ability of the drones to reach the disaster-prone areas that may be out of reach for rescue teams, the speed at which they can reach the actual place of the disaster, and the ability to detect humans and communicate the information back to the rescue team. This has led to interesting research such as in [[3](https://ieeexplore.ieee.org/abstract/document/9440534?casa_token=woxf-7ddYVcAAAAA:mIrYQ-Bn1MGsNCE9eNbcN9ANGjoehtRu5paXz4tVj0JCImKggKZEdWsIGqhFD0Ymdxu0FIYD)], and a survey of the applications of drones in disaster managements can be found at [[4](https://www.sciencedirect.com/science/article/pii/S1355030621001477)]. In this work, we rely on the existing research to understand and support our idea of leveraging drones in post-disaster scenarios to safely and quickly identify humans and animals in need of help.

# Introduction

Describe the problem in couple of paragraphs.

Describe your approach to solve the problem.

Focus on search and rescue.

Discuss the main results of your research.

# Background

What others have done in search and rescue. What are their results?

All terminology needs to be introduced here.

# Approach

Basic Algorithm Simulations

Algorithms we tested

Text-Based Simulation

Airsim Simulation

Pros and Cons of both methods

Outline parts of the projects and how each method plays into that

# Experiments

Describe your experiments

Results

# Discussion