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## **Abstract:**

- During Fire Detection , Peoples & Animals Get Affected Due to Inhaling of Harmful Flammable Fire & It Can Be Stopped By The Fire Department By Using This Forest Fire Detection System.
- Fire can make major hazards in this hectic world. Forests are one of the main factors in balancing the ecology. It is very harmful when a fire occurs in a forest & it is highly important to introduce a system to detect the fire early as possible.
- The Forest Fire causes an explosion of fire if the vapours comes to the contact with trees and leaves. Then further expanding the fire leads to deforestation.
- The first of these solutions involves the use of unmanned aerial vehicles (UAVs) with specialized cameras. Several different scenarios for the possible use of the drones for forest fire detection will be presented and analysed, including a solution with the use of a combination between a fixed-wing and a rotary-wing UAVs.
- This Application and Software makes the job much more easier. This solution helps to prevent high risk of forest fire evaluations and explosions and affecting any casualties within & outside the premises.

## **Advantages:**

- Monitoring of the potential risk areas and an early detection of fire can significantly shorten the reaction time and also reduce the potential damage as well as the cost of fire fighting.

## **Disadvantages:**

- However, applying machine learning techniques to fire detection systems has many limitations, such as the limited amount of energy, the energy required for data processing, the short range of communication and limited computations, the complexity of ML algorithms when executing on sensor nodes, and the difficulty of being distributed.