

SAFEGUARDING FOREST ECOSYSTEM FROM WILDFIRE AND SMOKE USING DEEP LEARNING TECHNIQUES

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ABSTRACT

Ecosystems, human lives and property faces threats due to wildfire. Detecting them and forming a prompt response system are crucial to mitigate the devastating impacts of wildfires. Detection of forest fire and its corresponding smoke detection using deep learning techniques has become a notable one in recent years, offering the potential for enhanced accuracy and efficiency in early fire detection systems. This project is carried out in manual net ,squeeze net , shuffle net and analyse various types of data, including satellite imagery, thermal images, and video feeds, to identify patterns indicative of fire and smoke outbreaks. By training these models on diverse datasets and incorporating advanced algorithms for feature extraction and classification, such approaches have demonstrated the capability to swiftly and accurately detect forest fires, enabling timely intervention to mitigate their devastating impacts on ecosystems and human communities.

KEYWORDS: *Forest fire, Wildlife, Smoke-detection, Temperature.*