

Forest Fire Detection

Deep Learning project

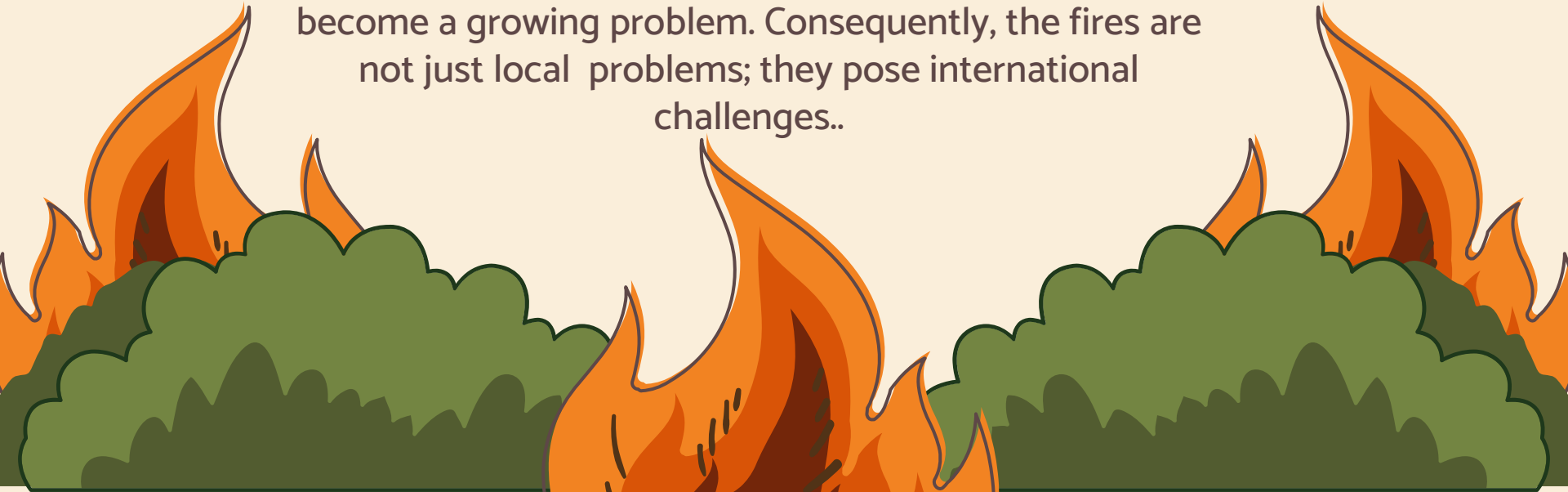


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Introduction

wildfire conditions are becoming more extreme and increasingly reflect rising global temperatures.

As the planet continues to rapidly warm, wildfires will become a growing problem. Consequently, the fires are not just local problems; they pose international challenges..



Goals

- Help our Government especially General Directorate of Civil Defense in Rapid detection of forest fire to reduce casualties and property losses.
- Doing a fire warning alert if the live camera see the fire.



Workflow

01

Load Data

02

Process image

03

Split Data

04

Model

05

Evaluation

06

Demo



Dataset

Data contains 5050 images of
Fire and Non Fire combined.



Tools

cv2

Demo

NumPy

Linear algebra

Matplotlib

Data visualization


Keras

Model

Pygame

For alert sound

Results

50 Epoch	Accuracy	Loss	
Train	0.937	0.168	
Test	0.945	0.155	

Predict Results

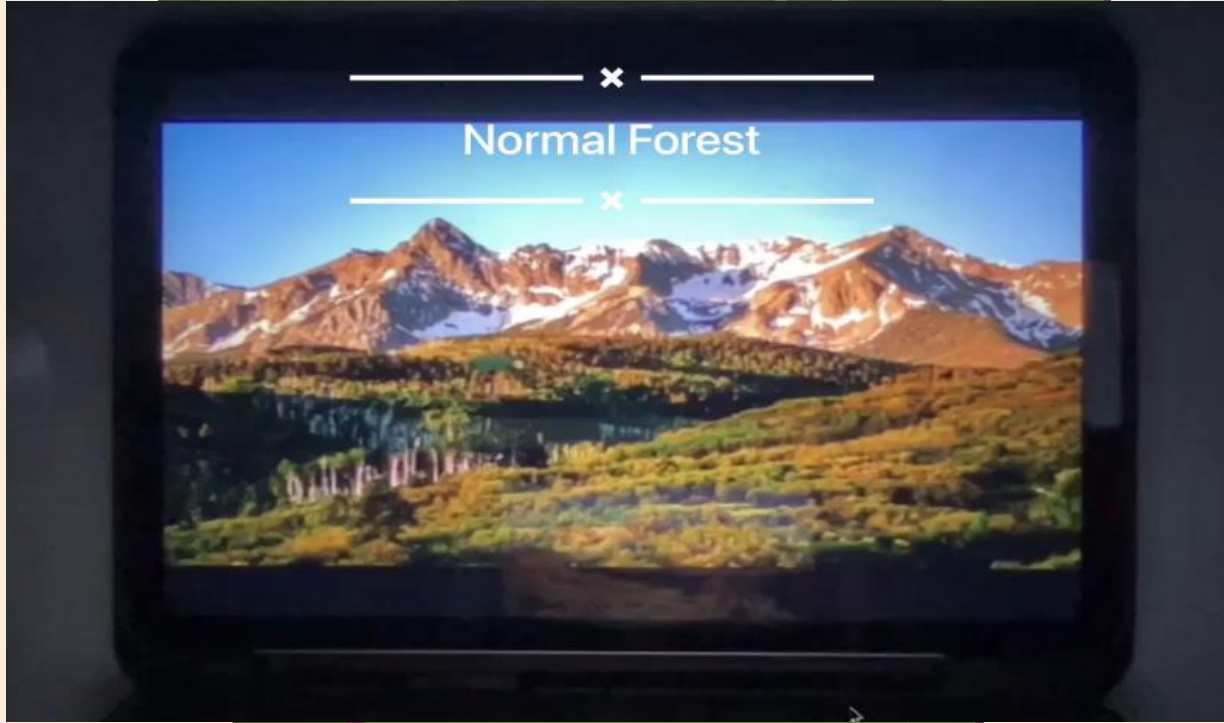
Fire



Non Fire



Demo



Future Work

Load large dataset

Improve Demo

Improve model

Recognize smoke



A photograph of a campfire in a forest. The fire is built with several logs and is contained by a ring of stones. The flames are bright orange and yellow. In the background, there are many trees and a large log lying on the ground to the right. The text "Thank you" is overlaid on the right side of the image in a large, white, sans-serif font.

Thank you