

# Forest Fire Detection

Deep Learning project

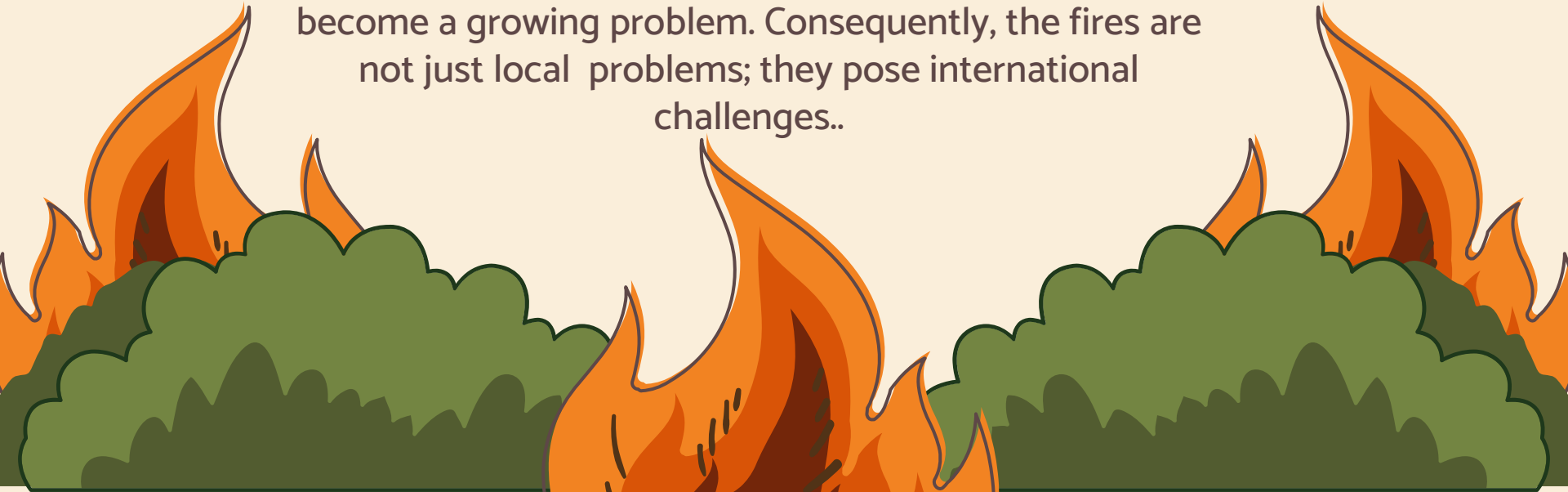


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# Introduction

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

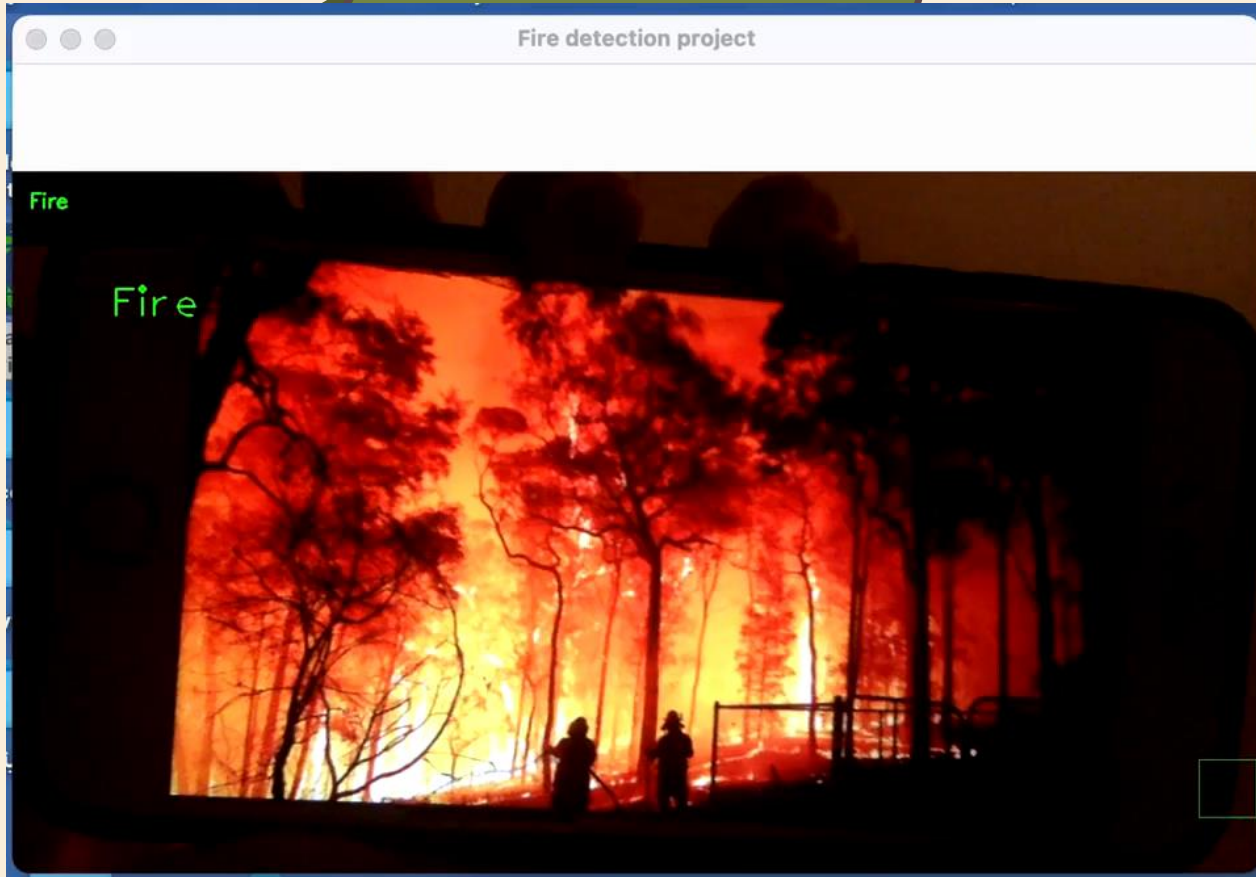


Non Fire





# 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**