EMERGING METHODS FOR EARLY DETECTION OF FOREST FIRES

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INTRODUCTION

Forest fires - >environmental issue - economic and ecological damage about 100,000 wildfires -US .

-> 9 million acres -destroyed - difficult - predict and detect - populated forest area- prediction -ground-based methods -Camera or Video-Based approach.

->Satellites - important source of data -reliability and efficiency.

-> low spatial resolution - low temporal resolution-drawback of

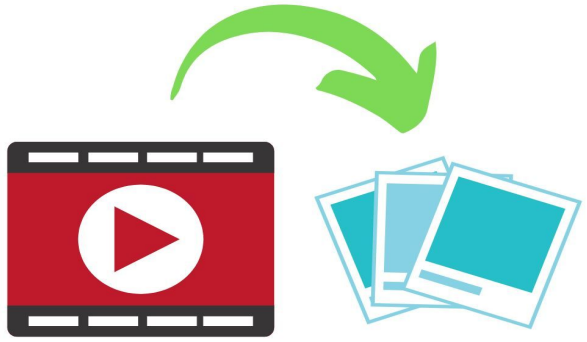
MAIN OBJECTIVE

Considering - impacts - main motive- IS

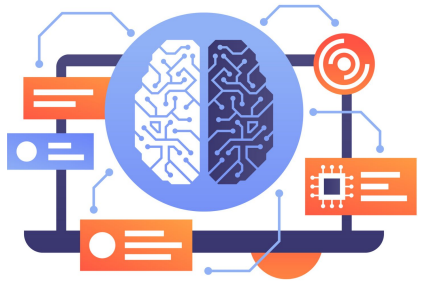
TO

1]. Detection of fire as soon as possible
2]. Fast delivery of alert message to respective person

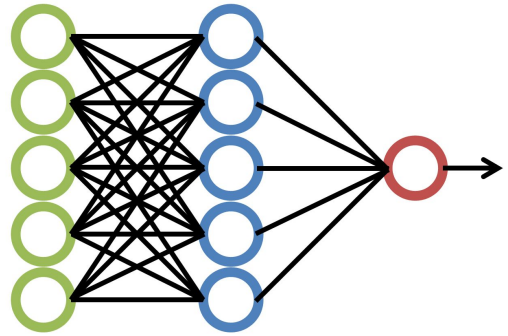
FLOW DIAGRAM



VIDEO TO FRAMES



MACHINE LEARNING



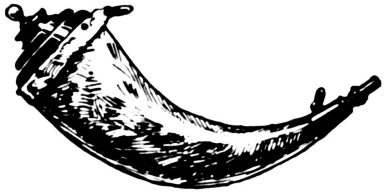
CNN

YES

ALERT

NO

METHODOLOGIES



IBM Cloud

1]. Jupyter notebook

2]. Anaconda

3]. Python 3

4]. Python flask

5]. Twilio

6].Google colab

7]. IBM watson studio

8]. IBM Cloud

CONDA

GOOGLE COLAB

=>Developed a-code - deploy a-model o- detection -patterns - forest fire

=> if - pattern - detected - succeeded - prediction module.

=> provided -conditions - satisfied - will - interlinking - model to - Twilio

IBM WATSON STUDIO

=>A part - IBM cloud - precise - used - create -model

=>Hold- test - train -phase

=>Datasets - present - cloud

=>Model - accessed - registered model id - space id - called - execution

TWILIO

=>Online - resource - used - send sms- registered - numbers

=> Project - interlinked - command prompt - jupyter notebook - proper coding - providing - account and token number -send alert -message .

=> Can - interlinked - jupyter - installing - lib functions

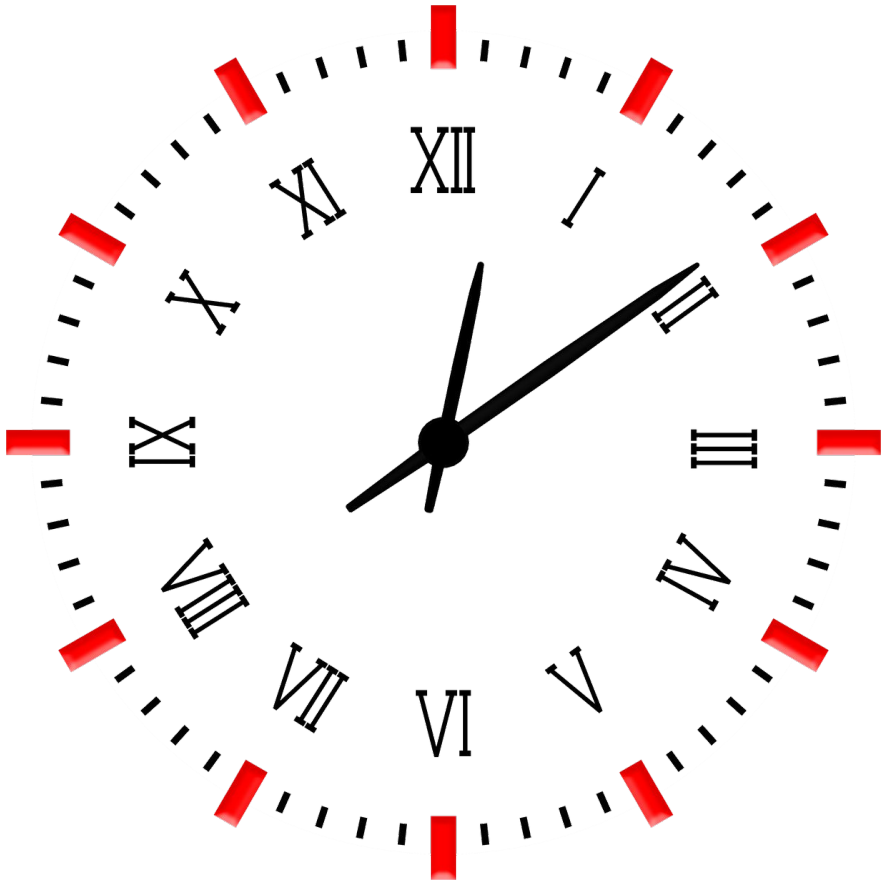
FUTURE CHALLENGES

=>Forest- protection- extinction-species

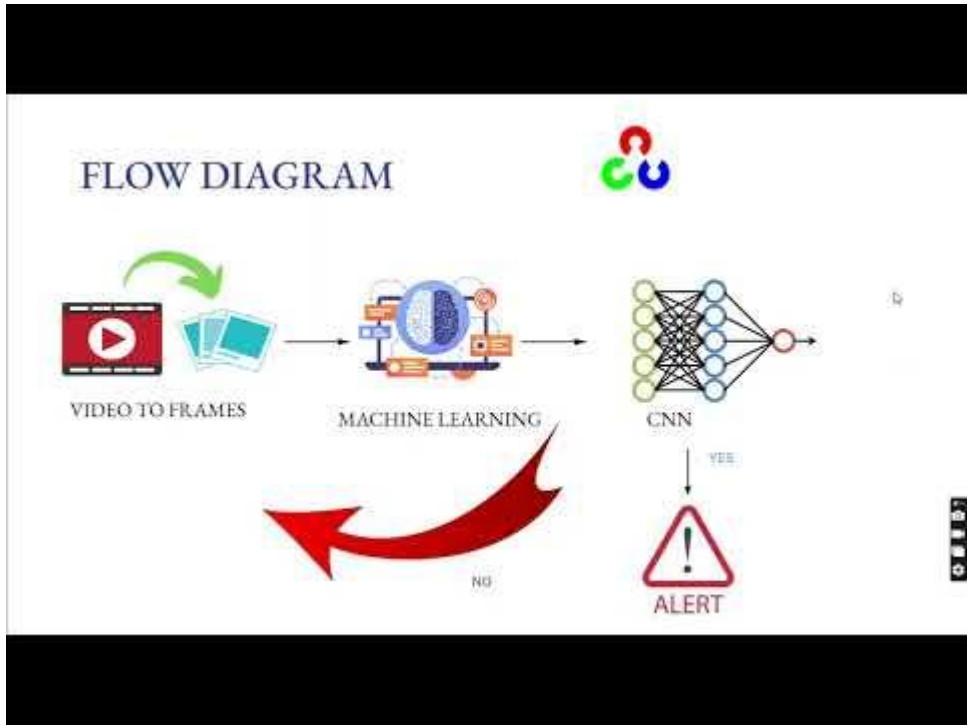
=>Model- upgrade

=> Dynamic - adaptation

=>Address - airpollution



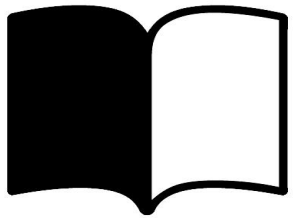
DEMONSTRATION VIDEO



LINKS - https://youtu.be/btlY61icF_A

-Drive link

REFERENCES



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3].Zhang, Q.X., Lin, G.H., Zhang, Y.M., Xu, G. and Wang, J.J., 2018. Wildland forest fire smoke detection based on faster R-CNN using synthetic smoke images. Procedia engineering, 211, pp.441-446.


Thank
You!