Ideation Phase
Brainstorm & Idea Prioritization Template

Date	19/09/2022
Team ID	PNT2022TMID47488
Project Name	EMERGING METHODS FOR EARLY DETECTION OF FOREST FIRE
Maximum Marks	4 Marks

PROBLEM

How can we detect the forest fire?

Team Leader

The forest fire is detected by using cameras which is incorporated with CV (computer vision) and AI (Artificial Intelligence)

the machine is trained using SVM, KNN, Decision Tree, Random Forest fire

background subtraction is applied to movement containing region detection

The use of self-built dataset containing video frames with fire

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Detection of forest fire is done through the deployment of YOLOv4 to UAV – based aerial images

The system should also provide the range that was affected by the forest fire It should also predict the future.(range)

Detection of forest fire is done through remote sensing-based methods such as satellites, high-resolution static cameras

event detection information is passed to the base station and decision is taken with this we can detect the forest fire.

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(CCTV) cameras to detect forest fires using digital image processing and computer vision technology

The use of Unmanned Aerial Vehicles (UAVs) helps to recognize the forest fire

The Digital snapshots can be taken and then segmented by utilizing anisotropic diffusion to identify the presence of fires

Using algorithms like SVM,KNN decision tree and extra tree recursion tree helps in predicting the forest fire

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The Gaussian Mixture model (GMM)helps to detect the forest. fire

temporal variation is then employed to differentiate between fire and fire-color objects

The use of smoke and temperature sensor helps to detect fire

Reduction in human error

Brainstorm

Reports

The digital image processing technique pattern- recognition technology and reinforcement learning can greatly improve the sensing of forest fire

Image segmentation algorithm helps to breakdown or make the image into small subgroups in a 24fps video there are 24 images per sec.

Computer vision algorithm are a mathematical model for digital image processing. It gives computer a vision to see in which the computer can interpret what is happening and get knowledge from images instead of data.

Future planning

By monitoring the whole forest for 24/7 hours we can analyze the habitat of the living organism. With this we can find out their needs and satisfied it.

Alerts and Notifications

The forest fire is detected by using camera which is incorporated with CV and AI

The forest id continuously monitored by cameras. the camera is provide with many pictures which are related to forest fire. With the reference of the picture the camera will detect whether there happens forest fire or not

This helps the user to get instantaneous message regarding the forest fire

Motivation for financialmanagement

The implementation cost is usually high but it will be replaced by the use of CMOS sensor based cameras it is comparatively cheaper.

Automation

Artificial Intelligence is the ability of the computer or robot controlled by a computer to do tasks that are usually done by humans because they require human intelligence and environment .

Group Ideas

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Feasibility

Regardless of their importance, which tasks are more feasible than others? (Cost, time, effort, complexity, etc.)

Prioritize