Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	16 October 2022
Team ID	PNT2022TMID51669
Project Name	Emerging Methods for Early Detection of Forest Fire
Maximum Marks	4 Marks

Technical Architecture:

The Deliverable shall include the architectural diagram as below and the information as per the table1 & table 2

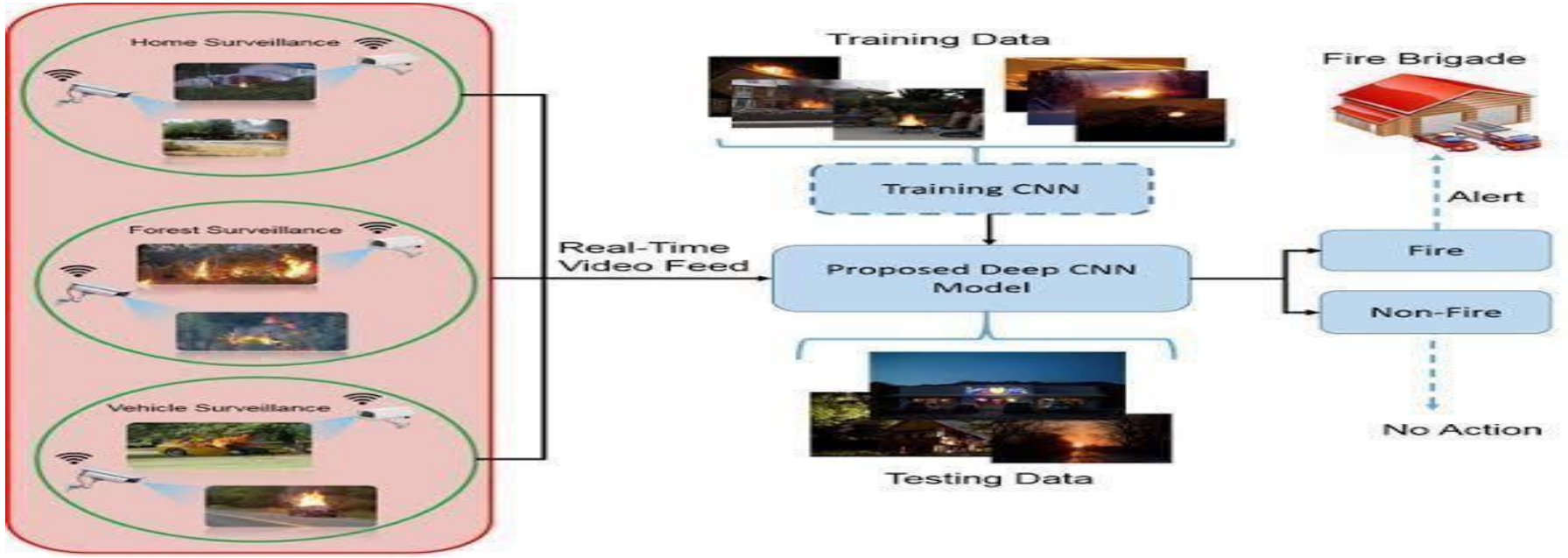

Table-1 : Components & Technologies:

S.No	Component	Description	Technology
1.	User Interface (Camera)	How user interacts or see the video feed into the computer	High quality camera
2.	Camera and Drones	Watching the Forest ; surveillance provided (24*7) all the time	Pan tilt zoom cameras can be used
3.	Fire System	Identifying smoke by clustering motions with a time input to reduce the number of false alarm	Ura Fire System
4.	Communication	To send the videos from camera to the system	Network Tower
5.	Cloud Database	Database Service on Cloud	IBM Cloud
6.	Application to get the video feed	It gets the image and helps the CNN so check whether fire is present	IBM Watson assistant
7.	Sensor	Rotates the camera 360 degree every 4 to 6 minutes in a day OSS at the tower has a wireless connection to the user computer	Optical Sensor can be used
8.	Image recognizer	It learn and extract complex image features effectively	CNN algorithms can be used
9.	Detector	It will send an alert sound if the CNN detects the fire	Sound Alarm
10.	CNN	Gets the image Process it and finds whether fire occurs or not	Four algorithms are used Faster-RCNN , R-FCN , SDD , YOLO V3

Table-2: Application Characteristics:

S.No	Characteristics	Description	Technology
1.	Open CV	Open – Source Library for image processing	PYTHON PROGRAMING LANGUAGE