LITERATURE SURVEY

TITLE &AUTHORS	YEAR	TECHNIQUES	FINDINGS/PROS/CONS
1. A smart fire detection system using IoT technology: (Abdulsahib, G. M. and Zghair)	2019	based on IoT technology, gas, temperature, and smoke sensors	The central unit analyses the data from the ongoing readings received over WIFI modules and starts the sprinklers. The effectiveness and efficiency of fire detection are improved by this system layout. In addition, using This system's Ubidots platform accelerated data interchange and reliable. However, the suggested strategy in this study produced an average Detecting the fire and alerting the property owner took 5 seconds.
2. Industrial Gas and Fire Detection System: (Ankitha S and Shreehari B V)	2020	NodeMCU 8266- detect fire and gas concentration	The internet should be accessible everywhere as a result of technological advancements. Using the Internet of Things, they construct an industrial gas and fire detection system. In this article, they have put up a system that offers effective and appropriate solutions for gas and fire detection. A prototype NodeMCU 8266 that can detect fire and gas concentration has been built. Various sensors have submitted real-time data to Ubidots. Alerts are started if the data obtained is discovered to be higher than the permitted limit. In addition, various characteristics are measured, including temperature and humidity. When a gas leak is discovered, the system can be further improved by using an automatic aeration fan and se-activating water sprayers to put out the fire before it spreads.

3.Aerial Images-Based Forest Fire Detection for Firefighting Using Optical Remote Sensing Techniques and Unmanned Aerial Vehicles. (Chi Yuan, Zhixiang Liu& Youmin Zhang)	2017	unmanned aerial vehicles (UAVs) with vision-based systems	Due to their fast response capability, low cost and without danger to personnel safety since there is no human pilot on-board, unmanned aerial vehicles (UAVs) with vision-based systems have great potential for monitoring and detecting forest fires. This paper proposes a novel forest fire detection method using both color and motion features for processing images captured from the camera mounted on a UAV which is moving during the whole mission period. First, a color-based fire detection algorithm with light computational demand is designed to extract fire-colored pixels as fire candidate regions by making use of chromatic feature of fire and obtaining fire candidate regions for further analysis
4. Fire-Detectors Review and Design of an Automated, Quick Responsive Fire-Alarm System Based on SMS: (Md. Belayat Hossain and Mir Toufikur Rahman)	2014	(SMS) via GSM network	The review of current fire-detector kinds has been done in this work, along with the creation of a portable, dependable, low-cost microcontroller-based automatic fire alarm system for remotely alerting any fire events in residential or commercial buildings. The system's goal is to swiftly and effectively notify the distant property owner via short messages (SMS) sent over the GSM network. A semiconductor type sensor detects the presence of smoke or gas from fire threats, whereas a linear integrated temperature sensor detects temperatures over a predefined value. The ATMega8L AVR microprocessor and sensor devices are connected by a common data line. To send alarm messages, a SIM300CZ GSM kit-based network module that can function in traditional GSM bands has been employed. The system is put into use

5. IoT-Based Intelligent Modeling of Smart Home Environment for Fire Prevention and Safety: (Paul, A., Rehman and Saeed F)	2018	GSM communication system	The primary objective of the proposed work was to design an intelligent analysis of smart home for fire prevention. Two major flaws of the currently used systems are: (a) the fire prevention systems mostly use a single sensor for event detection but problems arise if the target sensor does not detect the event; (b) false alarms can be generated. Overall our proposed method provides a solution to these problems. We introduced an efficient technique to overcome these problems. We used multi-sensors for each region in smart homes. To reduce the false alarms, we used the GSM communication system. The purpose of GSM communication was to alert the user at the very initial time of the fire. Fire detection decisions were made by the main home sink connected with all the sensors wirelessly. The decision was made on the basis of the sensor's values or the user's response. We simulated fire in FDS that was designed by NIST, and the generated results of the simulation were analyzed by our proposed algorithm that we implemented in Visual Studio using C++ libraries programming language. The energy consumption of the deployed sensors was also computed, and we noticed that it was within an acceptable limit. The results and other evaluations showed that our proposed work fulfills all the desired requirements. In the future, as we used multisensors for the detection of fire and the amount of data generated by the sensors during a fire was high, we will work to find a method that deals with this high amount of data efficiently.