V.S.B ENGINEERING COLLEGE, KARUR

ELECTRONICS AND COMMUNICATION ENGINEERING

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LITERATURE SURVEY

TITLE NAME : Industry-specific intelligent fire management system

DOMAIN NAME : Internet Of Things (IOT)

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ABSTRACT :

Fire is a very dangerous situation and it is very much necessary to monitor and give warning before anything untoward happens. In many developing countries, houses do not come fitted with fire alarm system as seen in developed countries like Singapore, USA etc. This results in fire being unattended and leading to lot of losses like property, human. This is the IOT (internet of things) based on intelligent fire management system which not only gives the real time information about the situation on the monitor but also takes the corrective action as per the need. This study gives the detailed view of the intelligent fire management system based on IOT.

INTRODUCTION :

The growth of population in the world are coupled in every year. The population growth increases the day-to-day basic needs of the people. Due to the increased needs, the accidents and damages are also get increased. safety is still attracting the attention of world. And in the all kinds of disaster, the fire occurrence frequency of fire is high rate and damages more. With the rapid development of science and technology, late-model fire monitor and alarm

systems are merged new semiconductor technique and artificial intelligent theory Although traditional fire detect and alarm system may be satisfied either fire detection in a certain extent, there are some defects, such as uncertainty sensitivity of fire detector, deficiency ability in self-diagnosis and self-elimination which fire detection system is adopted in structure. There is some scarcity in transport and communication , fire signal in real system is not satisfied with fire detection in modern time.

LITERATURE SURVEY :

The author [1] says that fire monitoring systems have usually been based on a single sensor such as smoke or flame. These single sensor systems have been unable to distinguish between true and false presence of fire, such as a smoke from a cigarette which might cause the fire alarm to go off. Consuming energy all day long and being dependent on one sensor that might end with false alert is not efficient and environmentally friendly. We need a system that is efficient not only in sensing fire accurately, but we also need a solution which is smart. In order to improve upon the results of existing single sensor systems, our system uses a combination of three sensors to increase the efficiency. The result from the sensor is then analysed by a specified rule-set using an IOT-based fuzzy logic algorithm; defined in the purposed research, our system detects the presence of fire.

The author [2] says that the maglev rail transit has entered a rapid development stage. In order to prevent potential safety hazards in the operation of maglev train, the related monitoring technology needs to be studied urgently. In this article, in view of the wide application of the Internet of Things (IoT) in intelligent transportation, a new method for realizing suspension control for medium-low-speed maglev trains using the IoT and an adaptive fuzzy controller is proposed. First, a mathematical model of the suspension system of medium-low-speed maglev trains is established. Then, the basic composition of the IoT and the circuit design of the key components of maglev trains are introduced. On this basis, an improved Apriori algorithm is used to extract the stored historical database and establish a trusted database. Then, according to the data of the trusted database, the suspension airgap control law is extracted, and the adaptive fuzzy rules of the maglev train suspension system are determined. An improved adaptive suspension controller is designed. Finally, the effectiveness of the method is verified by experiments utilizing a full-scale maglev train

The author [3] says that in the current scenario, the concept of Smart Cities is one of the emerging and challenging research areas. The cities are surrounded by forests, agricultural land, or open areas, where fire incidence can occur threatening human life and causing many resources to become extinct. This article aims to design an early fire detection system to get rid of fire events using the concept of senor network and UAV's technology. The architecture proposal is based on sensors for monitoring environmental parameters and to process the information through sensors and IoT application. The proposed fire detection system is the combination of wireless sensor technologies, UAVs, and cloud computing. Some image processing techniques are also integrated into the proposed fire detection system to identify the fire event with better accuracy and used as an integrated solution. To improve the true detection rate, rules are also designed. The simulation results of the proposed fire detection system are compared with several existing methods. It is observed that the proposed system has a higher fire detection rate to improve the true detection of forest fire from 95 to 98 percent.

REFERENCES :

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