

Identification Of Covid -19 Patient Through Machine Learning

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Abstract

COVID-19 is a spreading dreadful disease which is easily spreading all over the world. Many measures are being taken to avoid this. Like sanitizers are being used, facemask is also used; some precautions are also taken. To overcome this, we have also prepared our alternative purposed system. This system can solve this problem in a very easily manner. Today's covid-19 pandemic situation. our identification model will detect the covid-19 patient remotely and can tell which patient is covid-19 infected or not. Our model doesn't have to go close enough to identify a patient. our proposed sytem can easily detect covid -19 patient.

Keyword: - Neural Network, Machine Learning, Sensor, Covid-19, Public Place, Laser Thermometer.

INTRODUCTION

First of all I want to introduce my model as fully advance covid -19 patient detector system. Which works as a patient detector.It will take very little time to give the decision for weather people are infected or not. Our system will easily identify the covid-19 patient even in a large crowd. Our system will easily detect positive covid-19 patient from thousands of crowd at railway stations and airports. Our system can be used for students in any institutions or colleges or university etc. where maximum number of people can be seen.

MACHINE LEARNING

Machine learning is an application of artificial intelligence (AI) that provides system the ability to automatic learn and improve from experience without being explicitly programmed. Machine learning focuses on the development of computer programs that can access data and use it to learn for themselves. The process of learning begins with observations or data, such as examples, direct experience, or instruction, in order to look for patterns in data and make better decisions in the future based on the examples that we provide. The primary aim is to allow the computers learn automatically without human intervention or assistance and adjust actions accordingly. But, using the classic algorithms of machine learning, text is considered as a sequence of keywords; instead, an approach based on semantic analysis mimics the human ability to understand the meaning of a text.

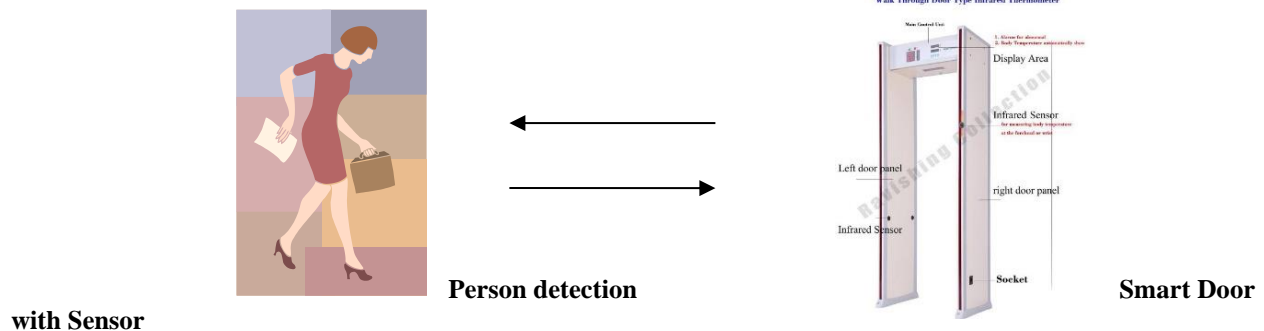
Machine learning algorithms are often categorized as supervised or unsupervised.

- **Supervised machine learning algorithms** can apply what has been learned in the past to a new data using labeled examples to predict future events. Starting from the analysis of a known training dataset, the learning algorithm produces an inferred function to make predictions about the output values. The system is able to provide targets for any new input after sufficient training. The learning algorithm can also compare its output with the correct, intended output and find errors in order to modify the model accordingly.

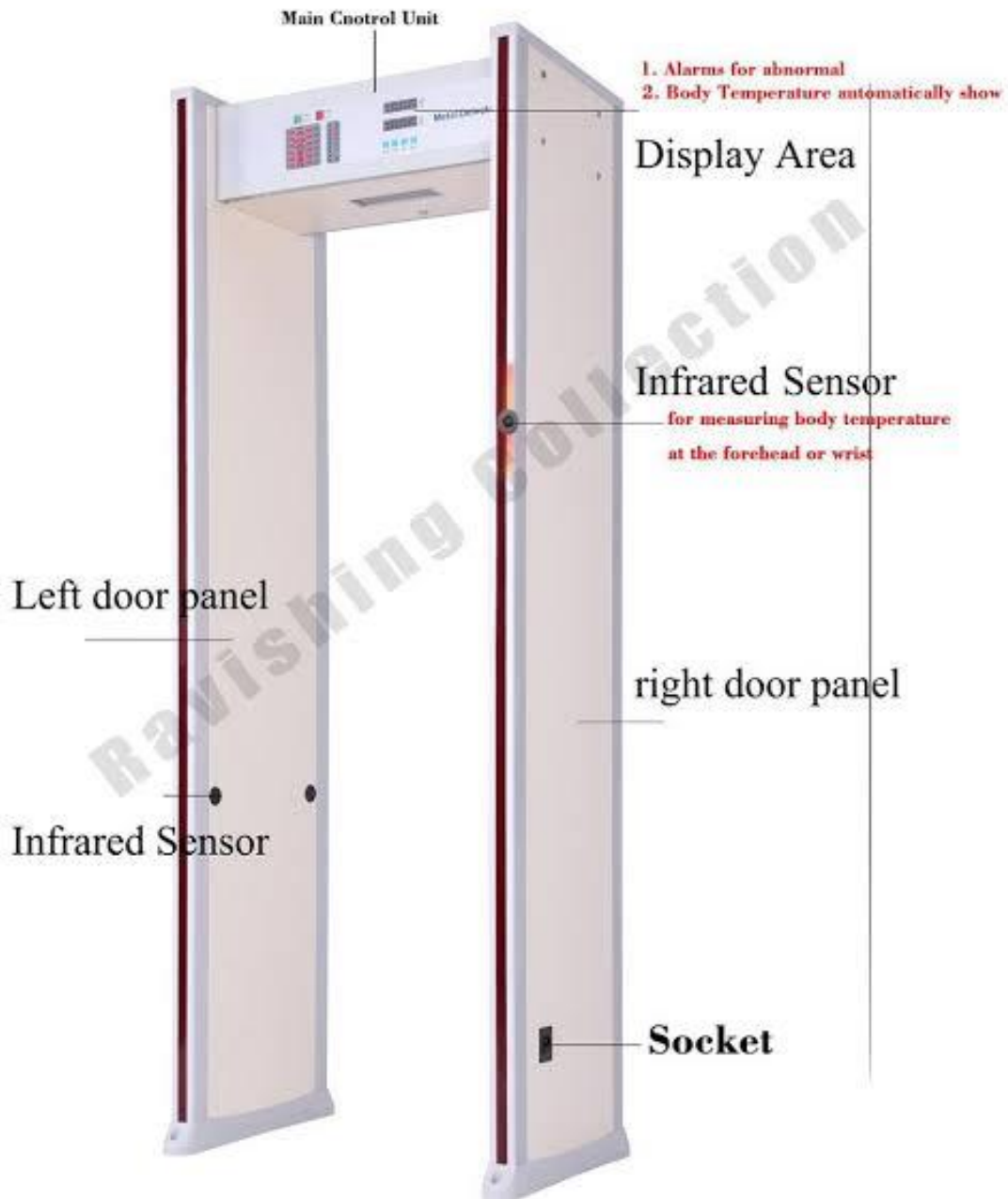
- In contrast, **unsupervised machine learning algorithms** are used when the informations are used to train is neither classified nor labeled. Unsupervised learning studies shows how a systems can infer a function to describe a hidden structure from unlabeled data. The system doesn't figure out the right output, but it explores the data and can draw inferences from datasets to describe hidden structures from unlabeled data.
- **Semi-supervised machine learning algorithms** fall somewhere in between supervised and unsupervised learning, since they use both labeled and unlabeled data for training – typically a small amount of labeled data and a large amount of unlabeled data. The systems that use this method are able to considerably improve learning accuracy. Usually, semi-supervised learning is chosen when the acquired labeled data requires skilled and relevant resources in order to train it / learn from it. Otherwise, acquiring unlabeled data generally doesn't require additional resources.
- **Reinforcement machine learning algorithms** is a learning method that interacts with its environment by producing actions and discovers errors or rewards. Trial and error search and delayed reward are the most relevant characteristics of reinforcement learning. This method allows machines and software agents to automatically determine the ideal behavior within a specific context in order to maximize its performance. Simple reward feedback is required for the agent to learn which action is best; this is known as the reinforcement signal.

METHODOLOGY

1. If a person coughs in front my machine then machine will identify those people.
2. If someone coughs in front of the machine
3. Machine easily find out those people.
4. If a person cleans the nose again & again then it will detect those people.
5. If any person want to enter from the sensor door ,the door
 - Identify those people body's temperature.
 - If body temperature is less than 98 degree or equal to 98 degree temperature then door will automatic open otherwise door will be not open for that person.
6. When person detected as fever then person is send to smart AI MACHINE learning checker room, where person's covid -19's related every kind of testing is done. Then he /she will found his/her report card .if report card is negative report card then after showing this report card in front of sensor door the door will be automatically open for the particular people.
7. After crossing the smart door .smart machine again and Again checking the all activity of people .if the person is having few symptoms of covid-19 then again machine will give the signal that intended person is suspected from Covid-19 symptoms. The person will go to the smart checker room and if he/she will be checked again.
8. If is still negative .But still,they are having the symptoms of covid-19. Then he/she will be shifted to a separate travel room or covid-19 conservative treatment room.



Walk Through Door Type Infrared Thermometer



Person Detection

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Smart Sensor Door



Checking Room with Smart Sensor



SMART SENSOR WITH SMART CAMERA

Concept  Pro



BODY TEMPERATURE DETECTION SYSTEM

ADVANTAGES

Our proposed system can easily find out covid-19 patient from huge crowd .Our system is without risk. This can be a very good way to avoid the spread of Covid-19. Here only the machine will identify the patient. That's why not many people will be required in it.

CONCLUSION

Covid-19 disease has taken a formidable form today. Many measures have been adopted to avoid it. But our remedy is the best of all those measures. By which we can easily avoid disease by using our machine learning system. Our smart intelligent machine will use its intelligence to easily identify and refer a Covid-19 patient to the treatment room. Our smart door will identify any covid-19 patient as soon as he comes in front and send him to the smart health checker room. If their report comes negative. Then he/she will have to show the report card again in front of the smart sensor door. If the smart sensor door again felt that their temperature is not changing. Then it will again shift him/her to the smart healthcare room. If his/her condition is not like fever, then he/she will be given the entry. If there is only fever and no symptoms of covid-19. Then he/she will be allowed to go away according to the report. But even after that, our built-in smart sensor detector camera will keep recognizing it the whole time. If again it seems that some of his symptoms are similar to Covid-19, then he will be referred again to the smart treatment room. Where the smart robot will also do treatment keeping in mind its complete convenience. In this way our machine learning based smart system will help from the spread of covid-19 and do its proper treatment.

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