Animal Disease Prediction Using Symptoms

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ABSTRACT— Animal Disease Prediction System is a system that focuses on the well-being of animals. It is a way to create a certain amount of awareness about the health of animals and how it can also affect humans. Recently animal disease can a great threat to human beings and animals themselves. Lumpy disease and monkeypox are few examples of that. It can be used for Domestic animals such as pets or livestock.

Livestock is farm animals that are raised to generate profit. But commodities such as meat, eggs, milk, fur, leather, and wool provided by livestock may harm us too if they are diagnosed with Zoonotic diseases. Livestock animals usually can be found in remote areas, with relatively poor conditions for disease diagnosis. Generally, it is complex to conduct disease diagnosis with high speed and accuracy. Livestock diseases often pose a risk to public health and even affect the economy to a large extent as we are quite dependent on the essential commodities we procure from the livestock. It is necessary to detect the disease outcome in the livestock to take precautionary measures to avoid spread amongst them. So, there is a need for a system that can help predict diseases among livestock based on symptoms and suggest that precautionary measures be taken concerning the predicted disease. Our proposed system will predict the livestock (Cow, Sheep, and Goat) disease using SVC (Support Vector Classifier) multi-class classification algorithm based on the symptoms and also provide precautionary measures based on disease prediction. Some diseases can prove to be fatal. So, our system will also alert the livestock owner if the predicted disease may cause sudden death.

Keywords— Animal Disease prediction,.
Key abbreviations— ML: Machine Learning
SVM : Support Vector Machine(Algorithm)
IoT : Internet Of Things
GUI : Graphic User Interface

I. INTRODUCTION

Most of the diseases can be predicted from the symptoms at a very early stage. This can be very helpful in the recovery and treatment of animals. As stated before animals can be pet animals or livestock such as cows buffaloes goats bulls sheep or any other animal which we use to gain profit. There are certain times when an outbreak of a certain disease is seen in animals bird flu lumpy disease and monkey box are a few common examples. In such scenarios using the system to predict the disease and to know its intensity can be very helpful to save the animal as well as to avoid financial loss.

In India, about 54.6% of the population is engaged in agriculture and allied activities. Thus, the socioeconomic development of most rural households depends on it and almost all farmers have livestock. So they can be benefited from the system by knowing about the disease before it becomes severe.

The main benefit of the system is that it can help animal owners to take precautionary measures on the basis of the disease predicted. As well as if the predicted disease can cause sudden death then the owner will be alerted.

II. MOTIVATION

- To enable farmers to know and understand their cattle better so that they can take better care of them and increase their profit as well.
- To enable pet owners to understand the symptoms and required action to be taken.
- To be able to contribute to well-being of humans as well as animals.
- Spread awareness as if the disease is zoonotic then even the owner is at risk along with the animal.

III. PROBLEM STATEMENT

A disease is a state of illness, it affects the functionality of the body parts. If the disease is present in the cattle, this intern causes problems like a reduction in the yield of milk, and the economy of the country. If the present disease is a communicable disease, then the impact is very high. That might destroy all the cattle. The early detection of the disease present is very important to overcome the above problems. In this research work, we combine data mining techniques and IoT technologies to solve the problems. The model developed takes the symptoms of the cattle and output from the IOT sensors as input, and does the analysis using data mining algorithms to predict the accurate disease. This model helps in the early detection of some dangerous diseases.

IV. OBJECTIVE

- To find out the diseases based on symptoms as well as know the intensity of the disease if it is a severe or mild disease.
- To know the precautionary measures or Provide with nearby Veterinary Doctor's information.

V. LITERATURE SURVEY

Livestock animals usually distribute in remote areas with relatively poor conditions for disease diagnosis rapidly and accurately. It is necessary to detect the disease outcome in the livestock to take precautionary measures in order to avoid spread amongst them. There is a need for a system that helps to create awareness among livestock owners about the disease prevailing in the animal and taking the necessary precautions and also making the owner aware that disease can be the reason for the death of animals.

In the existing system, the disease outbreak among the animals is predicted based on certain conditions and it is also concerned with a specific animal and disease. Animal owners are often unaware of whether the disease is mild or might prove fatal and precautions are to be taken at appropriate times. Our proposed system will predict the livestock (Cow, Sheep, and Goat) disease based on the symptoms and also provide the precautionary measures on the basis of the disease predicted. It will also alert the livestock owner if the predicted disease may cause sudden death.

As compared to human doctors availability of animal doctors are fewer charges of these doctors are also high and it is not possible all time to go to the doctor for minute symptoms of pet animals or wild animals it will become easy if we are able to predict them at home and provide them sufficient treatment at own level.

Its really important to handle ill animals carefully by considering their immunity. pet animals are under the observation of the owner so their symptoms are easily observable and from this owner can predict the disease but this is not the case with wild animals handling wild animals is extremely hard and it's really hard to notice their symptoms of diseases by physical observation and providing them proper medication is becomes a matter of risk for both animal and doctor

## VI. PROPOSED SYSTEM

a)Introduction

As health is the most important factor of the good life. A diseases free body is considered as a healthy body but these terms are not only related to human health. Animal health is also important Animals also suffer from lots of diseases. But common peoples are unaware of the symptoms of animal diseases Human diseases are different from animal diseases For particular bacteria if humans are weak may that same bacteria won't affect animal or some bacteria which are dangerous for animals may be ineffective for humans To study the symptoms of animals diseases and try to predict the actual disease from those symptoms and provide better consultation is the goal of our project.

We want our project to help owners of animal to understand whether their pets suffering from any major disease by just observing their regular behaviour, diet and symptoms of particular diseases Not only on pet animals but our focus in on wild animals as well Not physically going to the doctor through our application we are decided to provide better first aid and according to determined disease inform the owner about best vet near him Every living thing on this planet have right to live a good and healthy life and providing this to them by the simplest way is our Mantra

b) Architecture/ Framework

c) Working

Process Design
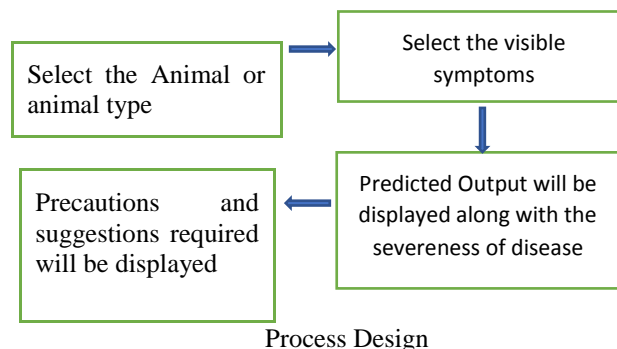
d) Details of Hardware & Software
Software Requirements (Minimum) :
- Windows 7 or above
- Google chrome or any other browser

Hardware Requirements (Minimum) :
- Intel i3 Processor
- 4 GB RAM
- Stable internet connection

e) Methodology used
• Livestock disease prediction system is used to predict multiple diseases. In order to predict multiple diseases or different types of disease, we require a multi-class classification algorithm. Therefore, we have used the SVM algorithm to prepare the model. Data is collected from various data sources and placed in a single excel file.

• It contains multiple sets of symptoms depending on the animal i.e., Cow, Sheep, Goat. Each dataset contains a large number of instances. A different Model is prepared for each animal by training with the appropriate dataset.
• Once the user selects the animal the model for that animal will be loaded and the application will show the list of symptoms.
• User selects the symptoms he had observed in the animal and submits the data. Then the data from the front end is passed to the trained model for prediction. The model then predicts the disease and also provides precautionary measures. In case if the disease is dangerous it will also alert the user. The user also has the option to access the web page in Hindi or English language.
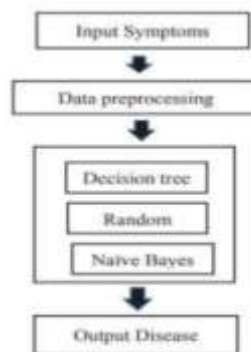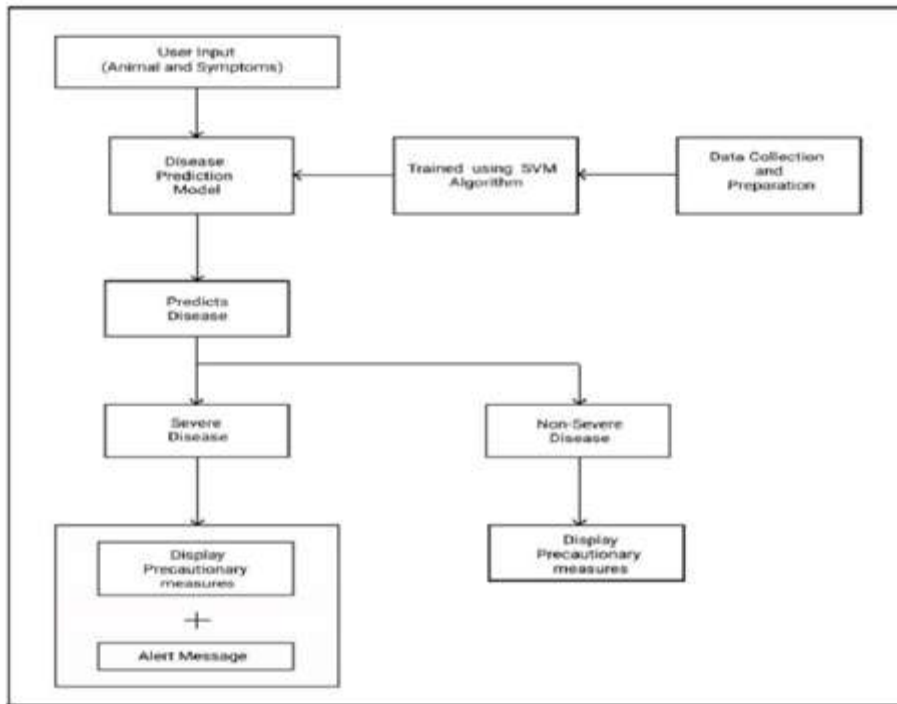
VII.   CONCLUSION

The multiclass classification algorithm is used to predict the disease among livestock. The dataset contains the various symptoms and the name of the diseases based on the symptoms. The proposed system will be helpful for livestock owners to identify diseases among livestock based on the symptoms observed by them. They don't have to search for the precautionary measures to be taken as this system will provide it based on the disease predicted. The veterinaries are experts in a particular domain (for e.g., skin disease specialist), so it will be difficult for them to diagnose the disease of different domains. This system will be helpful to predict every type of disease and human errors are also reduced to a great extent as the system makes decisions by learning through training using a large dataset.

Also, the time taken to predict the diseases is comparatively less and the system is user-friendly.

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