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Application to Predict Cattle Disease Pattern using ML

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Abstract - *With the rise in quantity of affected person and ailment each year clinical tool is overloaded and with time have become overpriced in many nations.... Most of the disease involves a consultation with doctors to get treated. With sufficient data prediction of disease by an algorithm can be very easy and cheap. Prediction of disorder by searching on the symptoms is a fundamental a part of treatment. In our assignment we've attempted precisely to predict a sickness by way of looking at the signs of the infected cattle. We have used different algorithms for these purpose and gained an accuracy of 80-95%. Such a system can have a very large potential in medical treatment of the future. We have also designed an interactive interface to facilitate interaction with the gadget. We have also attempted to show and visualized the result of our study and this project.*

Key Words**:** *eclat algorithm, lesk based algorithm,etc.*

1. INTRODUCTION

With the fast development of large facts technology and artificial intelligence, information analysis and data mining are becoming more and more widely used in animal husbandry. In this gadget, a big quantity of multi-source livestock electronic scientific file statistics are amassed And used the statistics analysis and mining era to realise the smart diagnosis machine for farm animals-diseases. Manual process of identifying the cattle disease and treatment is too complex and time consuming and also expensive. These systems simply collects the records, stores in database and retrieves the equal in destiny, but no extraction of useful information which helps the medical practitioners to handle the cattle disease in a better way. Association might be the higher regarded and most familiar and easy records technological knowledge technique. Here, we make a simple correlation between two or more items, often of the same type to identify patterns.

1.1 Existing System

Paper1

Title: "Developing Mobile Intelligent System For Cattle Disease Diagnosis and First Aid Action Suggestion"
Author: Wiwik Anggraeni,A.Muklason, A.F.Ashari,Wahyu A. and Darminto

Year of Publications: 2014

Description

The aim of this paper is to present the work of growing cellular smart gadgets for livestock illnesses diagnosis and first resource motion proposal systems. The core sensible engine of the device is evolved the use of fuzzy neural network. In the sense of ubiquity of smartphones, the user interface is developed as mobile application under Android operating system.

Methodology

fuzzy neural network

Limitations

- Only suitable for first aid action, not suitable for complex disease.
- Android app is advanced, visualization hassle on education records-units.

Paper 2

Title: "Cattle health monitoring system using Arduino and LabVIEW for early detection of diseases"
Author: Kunja Bihari Swain, Satyasopan Mahato, Merina patro,sudepta kumar pattnayak

Year of Publications: 2017

Description

Productive online cattle health monitoring can help those farmers who suffer on a regular basis due to the poor health condition of their cattle and unavailability of good veterinary doctors in their vicinity. In this paper, we gift such tools which provides an opportunity to the farmers to screen and examine the existing health parameters of the farm animals with the usual reference healthful parameters, by means of which they would be able to spot any deterioration inside the cattle's health.

Methodology

Arduino UNO, Arduino NANO, Xbee module and different types of sensors for taking the cattle body parameters have been used.

Limitations

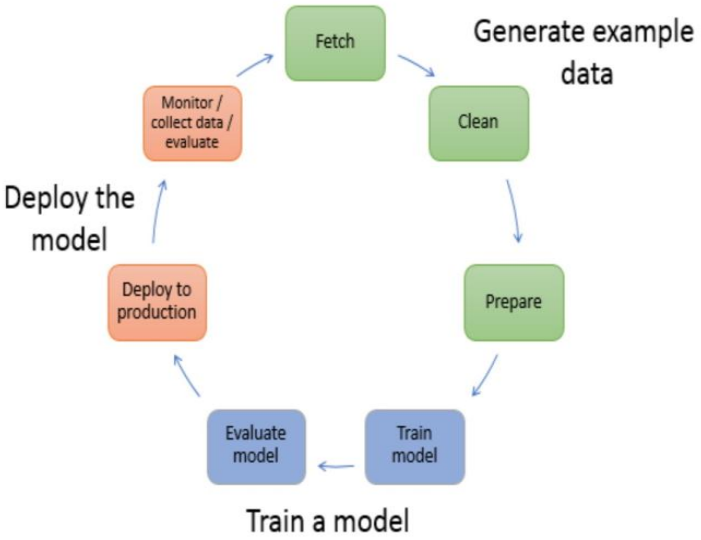
- Only used to monitor and check the cattle health condition.
- Sensors used for monitoring, results in less accurate results.

1.2 Proposed System

In real time it's far tough to address the livestock ailment signs and symptoms and ailment sorts as animals can't explain their troubles that they're going through. In medical sector finding the livestock disorder signs, illnesses is a challenging venture. Proposed device major objective is to find the farm animals sickness symptoms after which predicting the correlation between signs-sicknesses-remedies. As in current system it is difficult to identify the cattle disease and also its difficult to give the proper treatments.

Proposed system uses data science(DS) techniques to identify the cattle disease symptoms and to predict the patterns. Proposed machine used lesk based totally set of rules" to perceive the symptoms and then it makes use of records technology technique "apriori algorithm" to find the patterns. System planned to build as real time application which is useful to doctors to handle the cattle disease. We use "*Visual Studio*" as front end technology and "*SQL Server*" as back end Generation, as both technologies helps extra libraries and equipment to paintings with real time applications.

2. Methodology



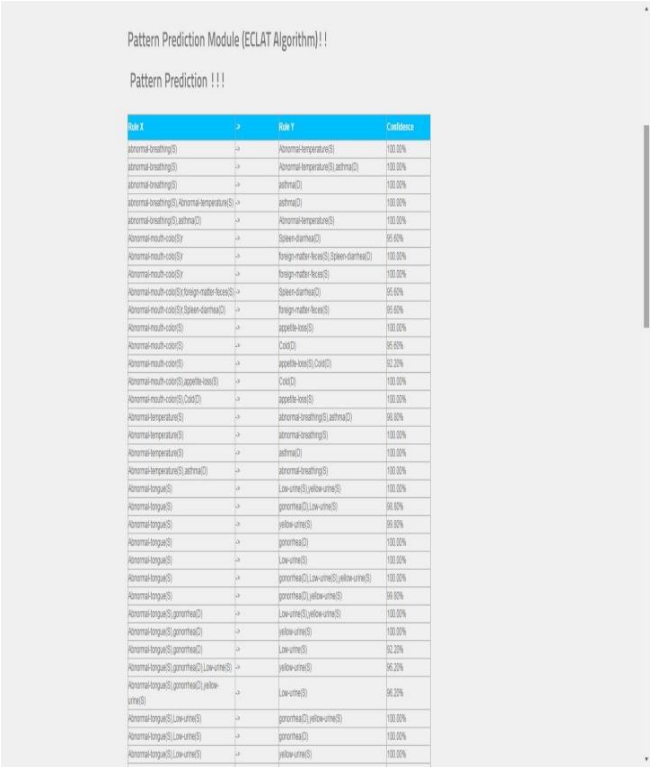
Outcome

Disease name	Symptom	Confidence
bruise	The color of the mouth is pale	0.88
Lack of milk	Breast enlargement injury	0.83
Uterine prolapse	Vaginal stench	0.7
gonorrhea	Low urine output and yellow color	0.9
trauma	Wound infection pain	0.83
...	...	...

Disease name	Symptom	Confidence
asthma	Abnormal body temperature, abnormal breathing	0.875
Spleen diarrhea	Abnormal mouth color, foreign matter in feces	0.81
Cold	Abnormal mouth color, loss of appetite	0.84
Ssis	Ruminant anomaly, Depressed	0.96
gonorrhea	Abnormal tongue,Low urine output and yellow color	0.82
...	...	...

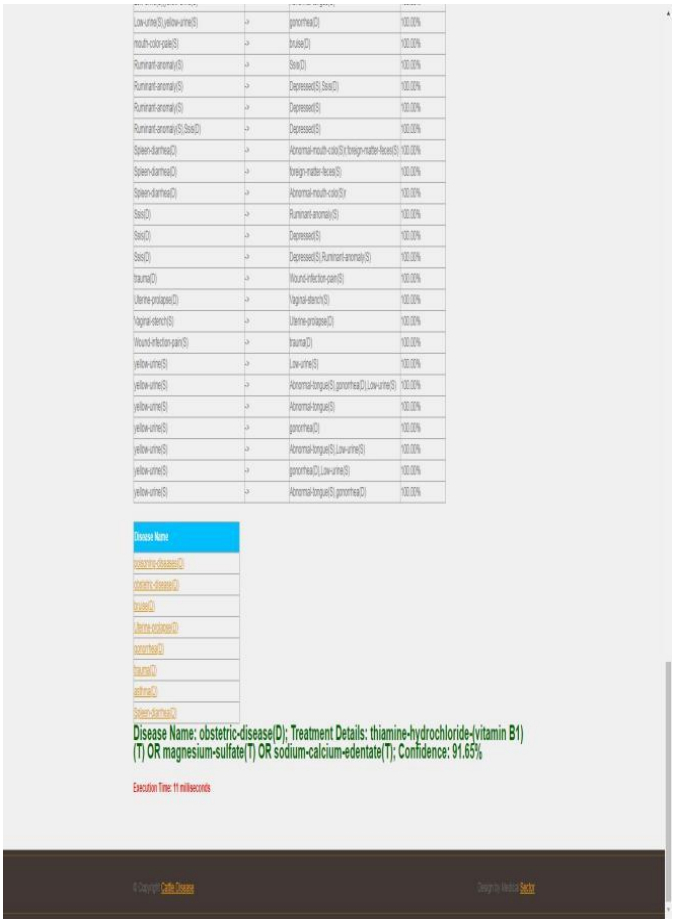
2.1 Experiment Results

Pattern Prediction



System finds correlation between cattle disease symptoms - disease types - treatment using data science algorithms. We use "Eclat algorithmm" for pattern prediction as it is one of the efficient and powerful algorithm used to find patterns. This algorithm takes very little time to process data/information and to predict all patterns.

Treatments



3. CONCLUSIONS

In real time it is difficult to handle the cattle disease symptoms and disease types as animals cant explain their problems or pain that they are facing. In medical sector finding the farm animals disease symptoms, diseases is a tough project. This system finds the cattle disease symptoms and then predicting the correlation between symptoms-diseases-treatments. As in current system it is difficult to identify the cattle disease and also its difficult to give the proper treatments. System useful for the medical sector and helps veterinary doctors to identify the cattle disease types and related symptoms and can treat in a better way.

Future Enhancements

More training datasets can be used to find more related patterns. More algorithms can be used to find the cattle disease symptoms - disease types - treatments and algorithms can be compared to identify the algorithm with better results.

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