ABSTRACT

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DEVELOPMENT OF CHICKEN LIVESTOCK *IOT* SYSTEM THROUGH THE APPLICATION OF *RANDOM FOREST ALGORITHM* TO PREDICT *MORTALITY* RATE.
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IoT (Internet of Things) in chicken farming offers innovative solutions to improve efficiency and productivity. The use of IoT sensors allows real-time monitoring of the cage environment, such as temperature, humidity, and air quality. Data collected from sensors can be analyzed to maintain optimal conditions for chicken health. With the help of this technology, farmers can automate feeding and drinking, and monitor daily chicken activities. The use of machine learning with a random forest classifier algorithm to predict mortality rates. The purpose of this study is to develop a chicken farming IoT system through the application of a random forest algorithm to predict the mortality rate of chickens. The target achieved in order to predict the mortality rate. The research method consists of system design, data collection and creation, data processing, implementation and analysis. System design containing hardware design, tool work system, flowcharts to understand the sequence of steps in the decision identification process and software collection and creation of datasets where this dataset is made synthetically dataset processing makes classification of mortality rates implementation of system design, dataset collection and creation, dataset processing, random forest machine learning model analysis of the implementation carried out. IoT device developers by adding machine learning features with random forest classifier algorithms to predict mortality rates. This study shows that the analysis of machine learning models on IoT devices for chicken farming has been successful, with a mortality prediction accuracy of 98.4%. The use of temperature, humidity, and mortality prediction features meets the objectives, and blynk helps monitor conditions in real time. This system helps farmers reduce mortality and increase yields effectively. The function of the tool works according to the design that has been made.

Reference (2015-2023)