LIVESTOCK REMOTE MONITORING USING MACHINE LEARNING

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PROBLEM STATEMENT

Problem Statement: Livestock Remote Monitoring using Machine Learning

Traditionally, farmers face challenges in closely monitoring individual livestock, leading to difficulties in early health detection and assessing overall animal welfare. To address this, an increasing number of sensors are being deployed to collect data on livestock behaviour. This project aims to leverage machine learning technique for the accurate identification of multiple unitary behaviours in livestock based on data collected from these sensors. Additionally, the project tries to implement an anomaly detection mechanism for remote monitoring, enabling early detection of improper behaviour and alerting farmers for intervention.

Project Overview:

Phase 1: Development of Machine Learning Model for Predicting Normal Behaviours.

* The initial phase focuses on creating a machine learning model capable of predicting normal behaviours exhibited by livestock.
* Leveraging data collected from livestock sensors, the model will be trained to recognize various behaviours such as sitting, standing, walking, and grazing.
* Data pre-processing techniques will be employed to enhance the model's predictive accuracy.

Phase 2: Anomaly Detection Mechanism for Remote Monitoring

* In the second phase, the project attempts to incorporate an anomaly detection mechanism to identify irregular behaviours in livestock.
* The developed model will be used to establish a baseline for normal behaviours, against which real-time data from sensors will be compared.

Expected Outcomes:

* A machine learning model capable of accurately predicting various normal behaviours in livestock.
* Attempt to develop an anomaly detection system for early identification of irregularities in livestock behaviour.

Significance:

* Improved animal welfare through remote monitoring and early detection of health issues.
* Enhanced efficiency in livestock management, allowing farmers to respond quickly to abnormal behaviour.

DATA COLLECTION