



399 Research paper

Machine learning based fog computing assisted data-driven approach for early lameness detection in dairy cattle

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In Significant Impact Groups:

Precision Livestock Farming & Early detection \ Sensor technology

Species targeted: Dairy;

Age: Not stated;

Summary:

Timely lameness detection is one of the major and costliest health problems in dairy cattle. This poses a concern with increasing herd sizes, as prolonged or undetected lameness severely compromises cows' health and welfare, and ultimately affects the milk productivity of the farm. To tackle this, an end-to-end IoT application that leverages advanced machine learning and data analytics techniques to monitor the cattle in real-time and identify lame cattle at an early stage has been developed. The proposed approach has been validated on a real world smart dairy farm setup consisting of a dairy herd of 150 cows in Waterford, Ireland. The detected lameness anomalies are further sent to farmer's mobile device. The results indicate that lameness can be detected 3 days before it can be visually captured by the farmer with an overall accuracy of 87%. This means that the animal can either be isolated or treated immediately.

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Where to find the original material:

https://www.researchgate.net/publication/339914936_Machine_learning_based_fog_computing_assisted_data-driven_approach_for_early_lameness_detection_in_dairy_cattle;

<https://doi.org/10.1016/j.compag.2020.105286>

Country: IE