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Patent Search

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Abstract:

The invention applies to the area of artificial intelligence that relies on aquaculture management systems. Specifically, the invention concerns a method and system fo shrimp health conditions and disease risks based on multimodal data from shrimp farms, including water quality factors, shrimp behavioural signs, shrimp feeding a visual information from aquaculture environments. The invention leverages artificial intelligence, data analysis, and decision-making capabilities to enable proactive s monitoring and management.

Complete Specification

Description:Shrimp farming is highly responsive to environmental factors, management practices, and various biological stress factors. Sudden changes in water qu such as water temperature, oxygen levels, salinity, and pH, can cause stress on the shrimp, disease outbreaks, and resulting death, which can cost the farmer a lot o money. Sometimes, symptoms of infections only appear after the damage has been done.
Traditional health monitoring practices heavily depend on manual observation of the water, periodic water testing, and responding only after disease occurs. These processes take some time before diseases can be recognized. Digital processes currently used in monitoring can detect only individual conditions and do not effect integrate environmental conditions, shrimp behavior, and visual signs.
Though there are options such as sensor- and camera-based monitoring, they generally run independently and may not include a unified health monitoring facility. Similarly, when machine learning is employed independently, it is highly likely that it will not effectively capture the full extent of variation across farms and seasons underscores the necessity for a robust, powerful analytical facility that effectively integrates all such data sources and provides accurate shrimp health prediction. Ir nutshell, there is a growing need for an intelligent, scalable, and flexible facility that enables effective shrimp health prediction through real-time analysis of data fro farms, with minimal manual/ expert intervention.

The invention relates to an artificial intelligence-based method for processing various types of data from shrimp farms to forecast the health status and disease risk shrimp. To achieve this, it collects data of different types from various sources, including water quality sensors, shrimp farm operational log data, shrimp feeding be measurements, and camera images from around the pond.

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