Special Issue

Machine Learning in Precision Livestock Farming: From Animal Activity Forecasting to Environmental Control

Message from the Guest Editors

The integration of machine learning (ML) into precision livestock farming (PLF) represents a significant leap forward in managing livestock populations more efficiently and sustainably. ML in precision livestock farming (PLF) helps to predict animal behavior by analyzing past data, allowing farmers to prevent issues like overcrowding or food shortages. It also forecasts disease risks, enabling early treatment. Additionally, ML optimizes barn conditions (temperature, airflow) to reduce animal stress and adjusts feeding schedules for better health and productivity. This Special Issue aims to explore the latest advancements in ML applications in precision livestock farming, from animal housing management to activity forecasting and predictive health monitoring. We invite contributions that examine the intersection of data analytics, sensor technologies, and AI models, as well as studies focusing on the sustainability and ethical considerations of implementing these technologies in livestock farming. By fostering interdisciplinary collaboration, this Special Issue aims to contribute to the development of more efficient, ethical, and sustainable farming practices.

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Agriculture (ISSN 2077-0472) is an international, cross-disciplinary and scholarly journal on the science and technology of crop and animal production, and management of the natural resource base for agricultural production. We invite submissions from authors according to the aims and scope of the journal described in more detail on this page. *Agriculture* is published in an open access format – articles are published on the journal's website immediately after acceptance, giving the scientific community and the public unlimited and free access to the content.

Editor-in-Chief

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