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Smart Agriculture Optimization for Potato Crop Yield Through Deep Learning and IoT Technologies

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Abstract:

The integration of Internet of Things (IoT) technologies and deep learning techniques in smart agriculture has significantly transformed the way crop yield optimization is approached. This research focuses on enhancing potato crop yield by utilizing IoT-based sensors and deep learning algorithms to collect and analyze real-time agricultural data. By monitoring environmental variables such as soil moisture, temperature, and humidity, the proposed system offers predictive insights into crop health and growth patterns. Deep learning models are trained to identify optimal growing conditions and early signs of disease or nutrient deficiencies, allowing for targeted interventions. The results demonstrate a substantial increase in potato yield, resource efficiency, and sustainability, making this approach a promising solution for modern agricultural challenges.

Keywords:

Smart agriculture, potato crop yield, IoT technologies, deep learning, precision farming, crop optimization.

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