
Farmland Solar Intelligent Irrigation System

What is a smart irrigation system for agricultural farmland?

In this study, an ET-based smart irrigation system for agricultural farmland was developed using LoRa and EC-IoT architecture. The system includes nodes that integrate information sensing and automatic irrigation control, as well as edge gateways that support multiple communication protocols.

What is IoT based irrigation management?

It presents the design and implementation of an IoT based smart irrigation management system that leverages embedded systems, telemetry data, and cloud computing.

Can IoT control irrigation in smart farming complexes?

Zheng et al. [27] developed an advanced IoT-based fuzzy control system for irrigation in smart farming complexes. The system employed a hierarchical two-level IoT framework and two-channel fuzzy logic control to ensure precise soil moisture and pH regulation.

How can IoT help farmers manage irrigation systems?

By integrating the Internet of Things (IoT) and wireless sensor networks (WSNs), farmers can gain real-time insights into soil and crop conditions, automate water delivery, and minimize environmental impact. IoT platforms enable remote monitoring and control of irrigation systems at a fraction of traditional costs.

To address all these issues, this paper proposes a smart agriculture monitoring and automatic irrigation system based on LoRa. The system utilizes LoRa technology for long ...

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Aiming at the problem of waste of manpower and material resources, serious waste of water resources and low utilization rate in traditional farmland irrigation, a low-cost ...

In today's world, agriculture is becoming increasingly important and the biggest challenge it faces is water scarcity. To address ...

An intelligent irrigation system, powered by Machine Learning (ML) and Internet of Things (IoT), can significantly optimize water usage ...

An edge computing analysis and decision model for smart irrigation in farmland has been established by collecting the soil moisture and real-time meteorological information ...

The use of IoT technology in irrigation systems plays a crucial role in agriculture by enabling precise monitoring and control of water resources. This paper presents the design ...

To address these core issues, this study developed a multi-source collaborative sensing-based Intelligent Precision Paddy Irrigation Control System (IPICS).

For the purpose of laying the groundwork for future research, the study starts by analyzing the body of existing literature on intelligent irrigation systems and watering practices. ...

Various studies have explored different technological approaches toward achieving intelligent irrigation. Sukriti et al. [2013] [36] implemented an IoT-based Smart Irrigation and Tank ...

Traditional irrigation methods are often inefficient, leading to significant water wastage and reduced crop productivity. This paper presents the design and implementation of an IoT-based ...

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