Artificial Intelligence Based Smart Farming and Data Collection Using Deep Learning

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Abstract:
Smart farming enables us to assess plant growth in real-time and modify system parameters to enhance plant growth and help farmers. The Internet of Things (IoT) technologies are bridging the cyber and physical worlds through particular sensor data measurement and cognitive processing. The development and experimentation of a smart farming approach using an innovative platform that utilizes artificial intelligence (AI) technology to achieve prediction functions are presented in this study. The system is based on wireless sensor network technology, and its implementation consists of three major stages: i) data collecting by sensors distributed in the farming field, ii) data storage and cleaning, and iii) prediction processing through the use of artificial intelligence algorithms.

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I. Introduction

Smart farming is a broad application of AI incorporating several digital technologies, including the IoT, deep learning (DL), and big data. Food production must expand significantly as the world population grows [1], [2]. Modern technology must improve, ensuring global food's continuous quantity and quality without negatively impacting natural ec... field in image processing and data analysis. It has shown good outcomes, has much promise, and is used effe... ming [3], [4]. The irrigation system is automated, and the crop field is monitored in IOT -based smart greenhouse farming using sensors for light, humidity, temperature, soil moisture, and other factors.